Instructions - Form A

Residential Lending

Home Purchase Loans

(For loans closed in calendar year 2022)

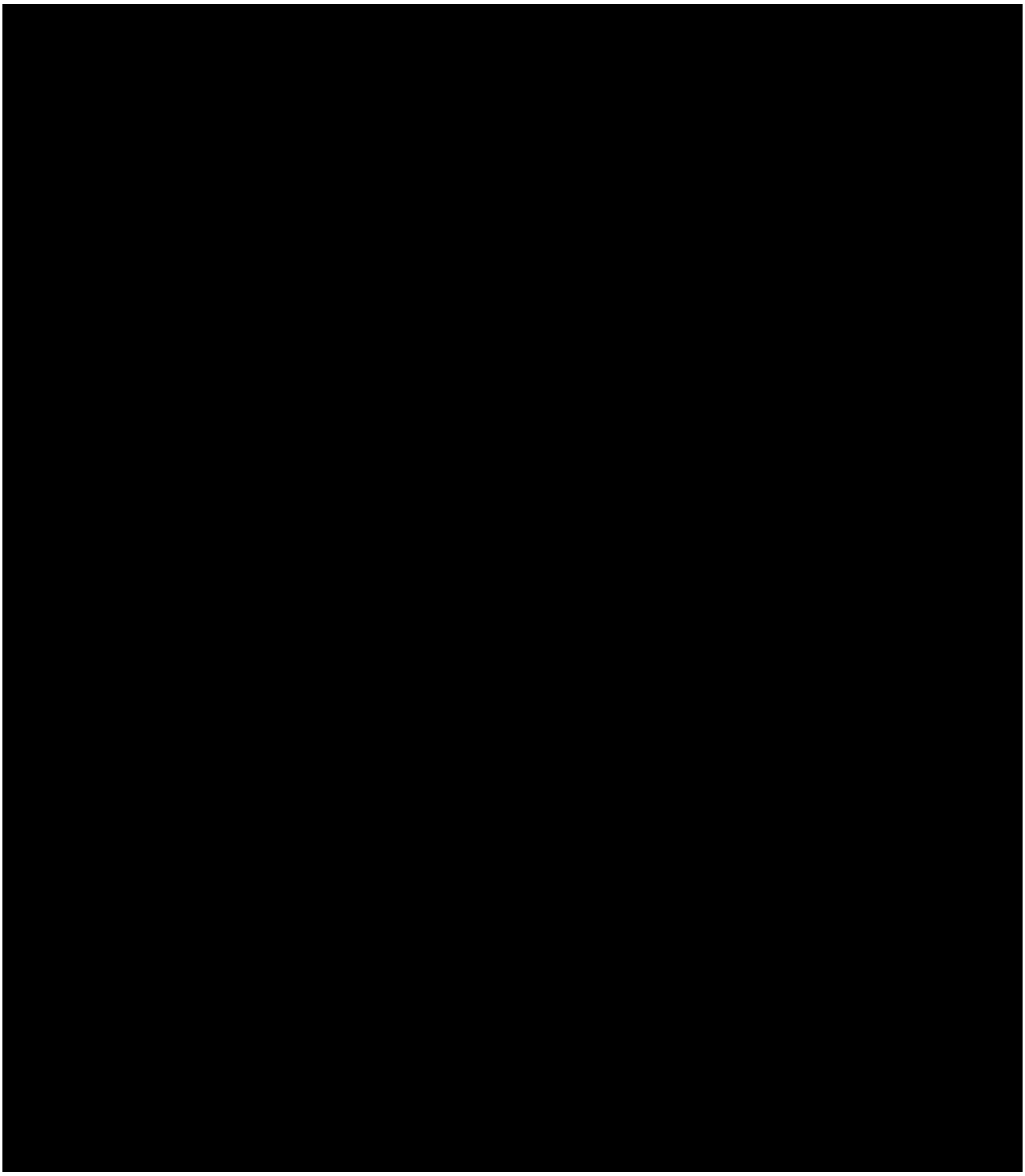
Instructions: Applicant's must provide only the requested fields and only the filtered records as described below under "Data Filters".
In this Form A-1, include FHA, VA- insured loans, and conventional loans made for the purpose of purchasing residential real property as categorized by HMDA - Regulation C.
The data is to be sourced from your institution's 2022 data submission to the Consumer Financial Protection Bureau to comply with the HMDA act.

NOTE: Columns E and F correlate to **Attachment A - Filing Instructions Guide for HMDA data collected in 2022**

Column	Field Name	Description	Data Filters	2022 HDMA Data Field Number
1	Census Tract	Specify the 11 digit census tract code for each property's location within Chicago city limits. Multiple loans within a given census tract are to be listed separately. Do not include loans with census tract information outside of Chicago.	Census Tract within City of Chicago City limits	15
2	Action Taken	Filter to only include loans that were originated or purchased	Action Taken = 1 or 3 or 6	10
3	Total Units	Indicate the number of total units		41
4	Loan Type	Indicate how loans are classified as: FHA, VA, or conventional loans.		4
5	Loan Purpose	Filter to only include loans that were originated, refinanced or home improvement loans	Loan Purpose = 1 or 2 or 31 or 32	5
6	Open End Line of Credit	Indicate if loan is a line of credit		47
7	Loan Amount	Indicate the principal amount of each loan.		9
8	Application Date	Indicate the loan application date.		3
9	Interest Rate	Indicate the effective interest rate on the loan.		31
10	Loan Term (Months)	Indicate the term in months of each loan.		35
11	Total Points and Fees	Indicate the total dollar amount of points and fees charges for each loan.		27
12	Lien Status	Indicate whether the loan is a first lien loan or a subordinate lien loan.		24
13	Property Value	Indicate the assessed property value.		38
14	Combined-Loan-value Ratio	Indicate the combined-loan-Value Ratio		34
15	Purchase Price (optional)	Indicate the purchase price of the property.		NA
16	Down Payment Amount (optional)	Indicate the down payment amount.		NA
17	Reason for Denial (1)	Indicate the reason for denial (if applicable)		26
18	Reason for Denial (2)	Indicate the second reason for denial (if applicable)		26
19	Reason for Denial (3)	Indicate the third reason for denial (if applicable)		26
20	Reason for Denial (4)	Indicate the fourth reason for denial (if applicable)		26
21	Race of Applicant or Borrower (1)	Indicate the race of the applicant		17
22	Race of Applicant or Borrower (2)	Indicate additional race of the applicant		17
23	Race of Applicant or Borrower (3)	Indicate additional race of the applicant		17
24	Race of Applicant or Borrower (4)	Indicate additional race of the applicant		17
25	Race of Applicant or Borrower (5)	Indicate additional race of the applicant		17
26	Race of Co-Applicant or Borrower (1)	Indicate the race of the co-applicant (if applicable)		17
27	Race of Co-Applicant or Borrower (2)	Indicate additional race of the co-applicant (if applicable)		17
28	Race of Co-Applicant or Borrower (3)	Indicate additional race of the co-applicant (if applicable)		17
29	Race of Co-Applicant or Borrower (4)	Indicate additional race of the co-applicant (if applicable)		17
30	Race of Co-Applicant or Borrower (5)	Indicate additional race of the co-applicant (if applicable)		17
31	Sex of Applicant or Borrower	Indicate the sex of the applicant		18
32	Sex of Co-Applicant or Borrower	Indicate the sex of the co-applicant (if applicable)		18
33	Ethnicity of Applicant or Borrower (1)	Indicate the ethnicity of the applicant		15
34	Ethnicity of Applicant or Borrower (2)	Indicate additional ethnicity of the applicant		15
35	Ethnicity of Applicant or Borrower (3)	Indicate additional ethnicity of the applicant		15
36	Ethnicity of Applicant or Borrower (4)	Indicate additional ethnicity of the applicant		15
37	Ethnicity of Applicant or Borrower (5)	Indicate additional ethnicity of the applicant		15
38	Ethnicity of Co-Applicant or Borrower (1)	Indicate the ethnicity of the co-applicant (if applicable)		15
39	Ethnicity of Co-Applicant or Borrower (2)	Indicate additional ethnicity of the co-applicant (if applicable)		15
40	Ethnicity of Co-Applicant or Borrower (3)	Indicate additional ethnicity of the co-applicant (if applicable)		15
41	Ethnicity of Co-Applicant or Borrower (4)	Indicate additional ethnicity of the co-applicant (if applicable)		15
42	Ethnicity of Co-Applicant or Borrower (5)	Indicate additional ethnicity of the co-applicant (if applicable)		15

Disclaimer: Columns 21-32 are optional for loans that do not have a value of "6" in column 4

Disclaimer: Columns 15,16, and 33-42 are optional.



Instructions - Form A-2

Residential Lending

Construction Loans

(For loans closed or purchased in calendar year 2022)

Instructions: In this Form A2, provide construction loan data sourced from the submitting institution's internal records.

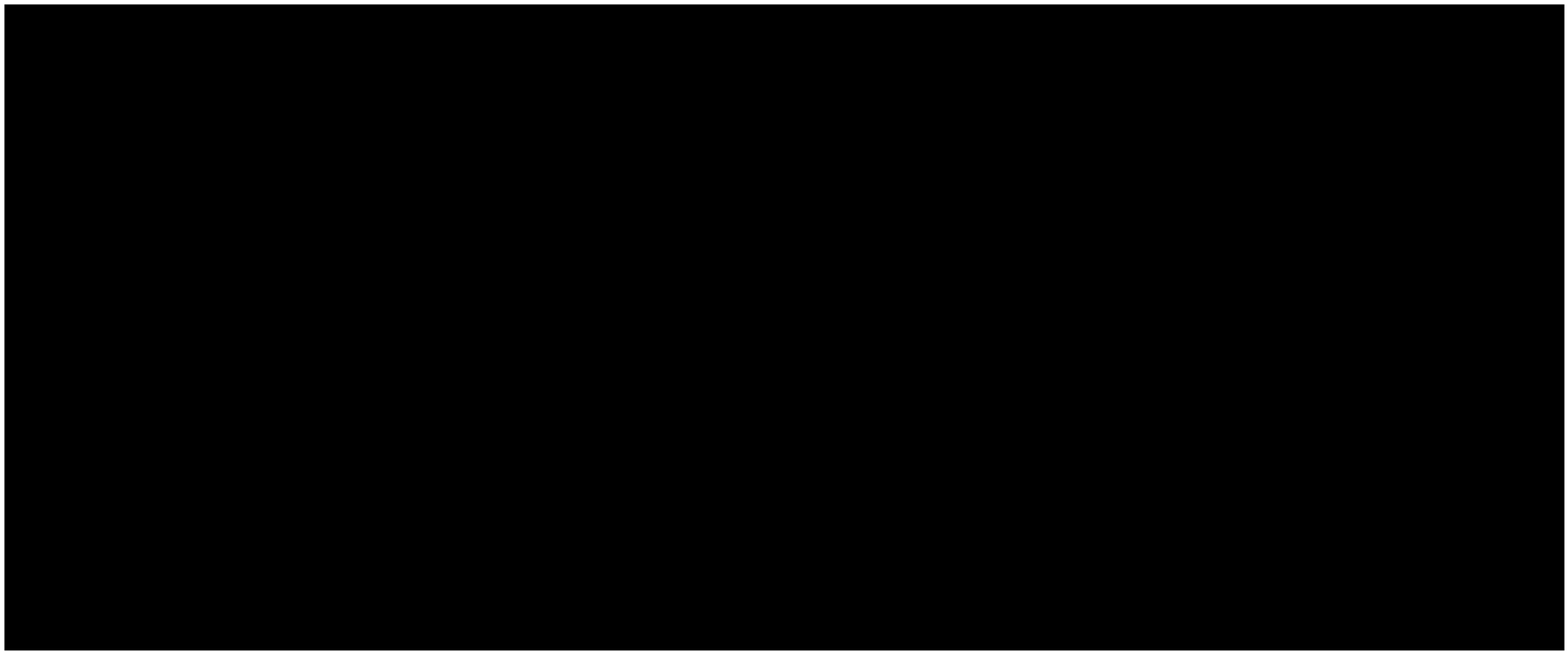
Column	Field Name	Description	Data Filters	2022 HDMA Data Field Number	Municipal Code (2-32-440)
1	Census Tract	Specify the 11 digit census tract code for each property's location within Chicago city limits. Multiple loans within a given census tract are to be listed separately. Do not include loans with census tract information outside of Chicago.	Census Tract within City limits	15	a-7, g-3
2	Loan Amount	Indicate the principal amount of each loan.		9	a-7, g-3
3	Application Date	Indicate the loan application.		3	g-3
4	Interest Rate	Indicate the effective interest rate on the loan.		31	g-4
5	Loan Term (Months)	Indicate the term in months of each loan.		35	g-3
6	Total Points and Fees	Indicate the total dollar amount of points and fees charges for each loan.		27	g-4
7	Lien Status	Indicate whether the loan is a first lien loan or a subordinate lien loan.		24	g-4
8	Total Units	Indicate the number of total units		41	

Instructions- Form B Residential Loan Foreclosures and Insurance Financed (1-4 Units) Condominium or Cooperative Units. Include Loans for Properties Located in Chicago Only. (For loans Closed within the 12-month Period Ending December 31, 2022)		
Question	Description	Municipal Code
1	(Number) Indicate the total number of secured residential loans closed in 2022.	g-5-A
2	(Number) Indicate the total number of secured loans closed in 2022 where the premium of any single premium credit life, credit disability, credit unemployment or any other life or health insurance was financed directly or indirectly into the loan.	g-5-C
3	(Number) Indicate the number of loans foreclosed in 2022 where the premium of any single premium credit life, credit disability, credit unemployment or any other life or health insurance was financed directly or indirectly with the loan, regardless of when the loan was closed.	g-5-D
4	(Number) Indicate the total number of loans, by census tract, in which foreclosure proceedings were completed in the 12-month period ending December 31, 2022 regardless of when the loan was closed.	g-5-B

INSTRUCTIONS- FORM C
COMMERCIAL LENDING
(FOR LOANS CLOSED IN CALENDAR YEAR 2022)

Instructions: In this Form C, include loans (secured and unsecured) made to businesses to finance short or long-term needs, such as inventory purchases, the movement of goods, plant and equipment and all other loans recorded by your institution as commercial loans. Note: Rollovers should be counted only once in each calendar year (provided that there is no increase in the outstanding principal and that the parties to the loan remain the same). The data is to be sourced from the submitting institution's internal records.

Column	Field Name	Description	Data Filters	Municipal Code (2-32-440)
1	Census Tract	Specify the 11 digit census tract code for each property's location within Chicago city limits. Multiple loans within a given census tract are to be listed separately. Do not include loans with census tract information outside of Chicago.	Census Tract within City of Chicago City limits	C-2
2	Number of Loans	Indicate number of commercial loans made within the specified census tracts.		C-2
3	Loan Amount	Indicate the aggregate principal amount of the loans within the specified census tracts.		C-2



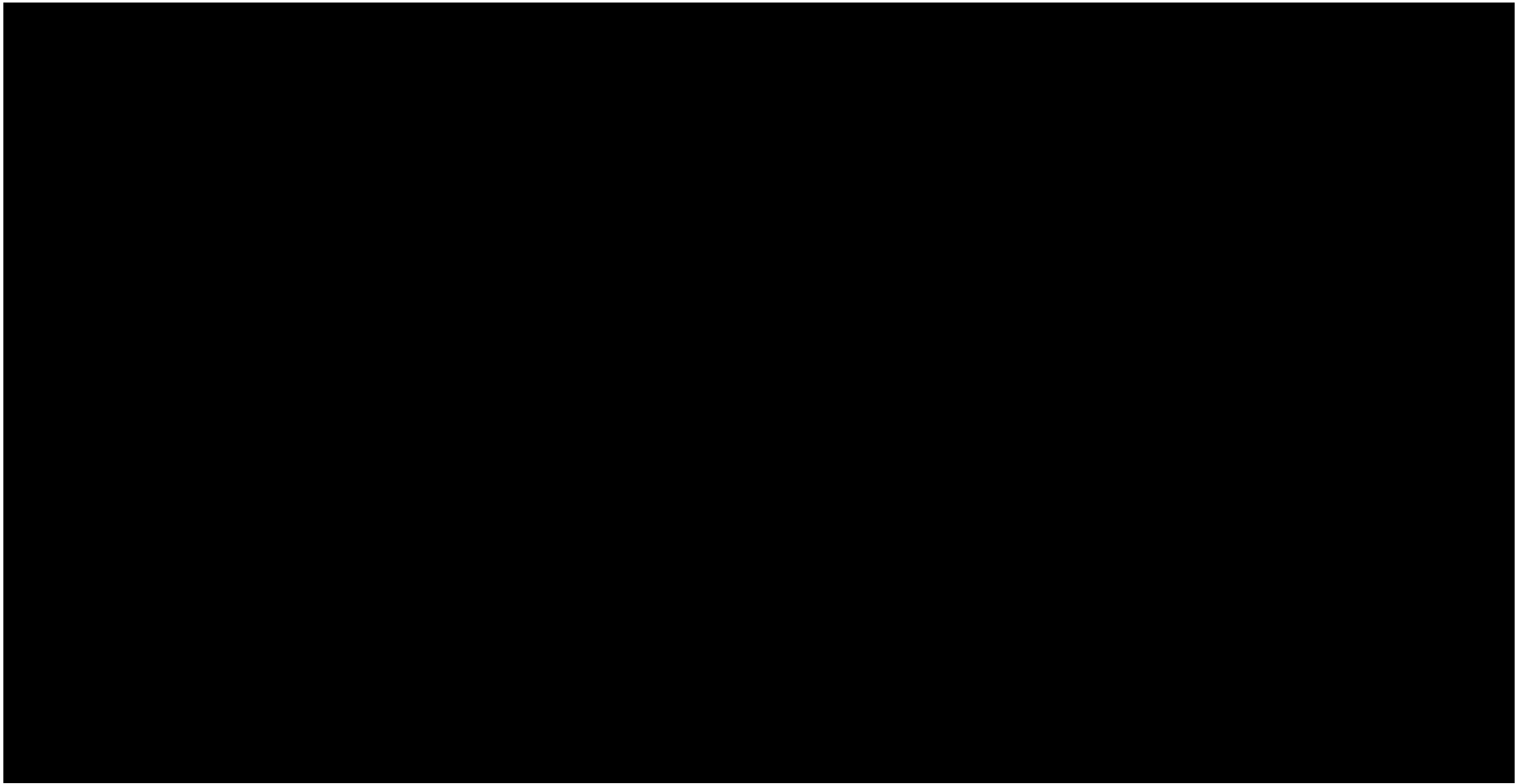
INSTRUCTIONS- FORM D

CONSUMER LENDING

(FOR LOANS CLOSED IN CALENDAR YEAR 2022)

Instructions: In this Form D, include loans to individuals or families to finance personal consumption (as opposed to some business or investment purpose), such as the purchase of a household appliance, and all other loans recorded by your institution as consumer loans. The data is to be sourced from the submitting institution's internal records.

Column	Field Name	Description	Data Filters	Municipal Code (2-32-440)
1	Census Tract	Specify the 11 digit census tract code for each property's location within Chicago city limits. Multiple loans within a given census tract are to be listed separately. Do not include loans with census tract information outside of Chicago.	Census Tract within City of Chicago City limits	B-2
2	Number of Loans	Indicate the number of consumer loans made within the specified census tracts.		B-2
3	Loan Amount	Indicate the aggregate principal amount of the loans within the specified census tracts.		B-2



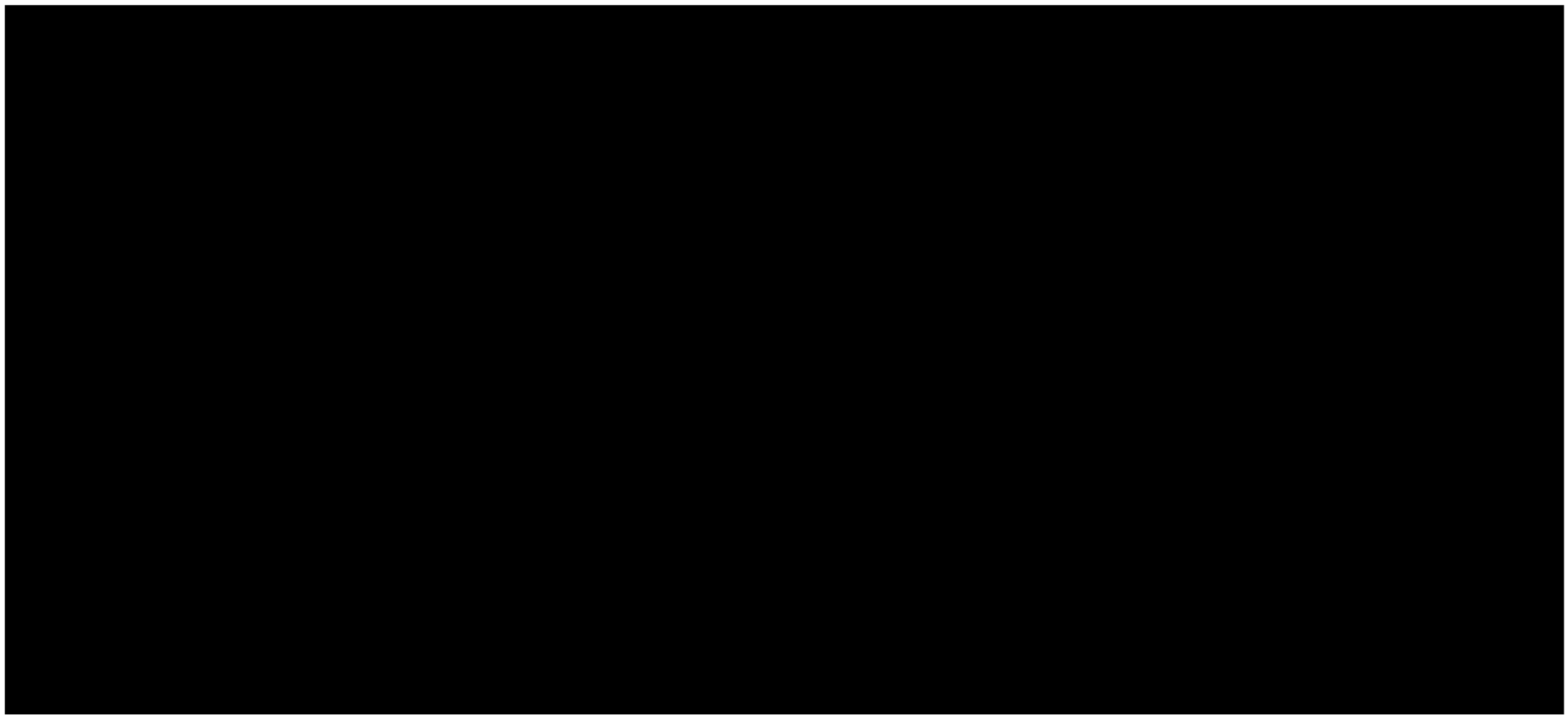
INSTRUCTIONS- FORM E

SAVINGS ACCOUNT DATA

(Balance as of December 31, 2022)

Instructions: In this Form E, include all accounts recorded by your institution as savings accounts, such as regular savings (both passbook and statement), money market, and certificate of deposit accounts. The data is to be sourced from the submitting institution's internal records.

Column	Field Name	Description	Data Filters	Municipal Code (2-32-440)
1	Census Tract	Specify the 11 digit census tract code for each property's location within Chicago city limits. Multiple loans within a given census tract are to be listed separately. Do not include loans with census tract information outside of Chicago.	Census Tract within City of Chicago City limits	d
2	Number of Accounts	Indicate the number of savings accounts made within the specified census tracts.		d
3	Total Combined Balance	Indicate the aggregate account balance within the specified census tracts.		d



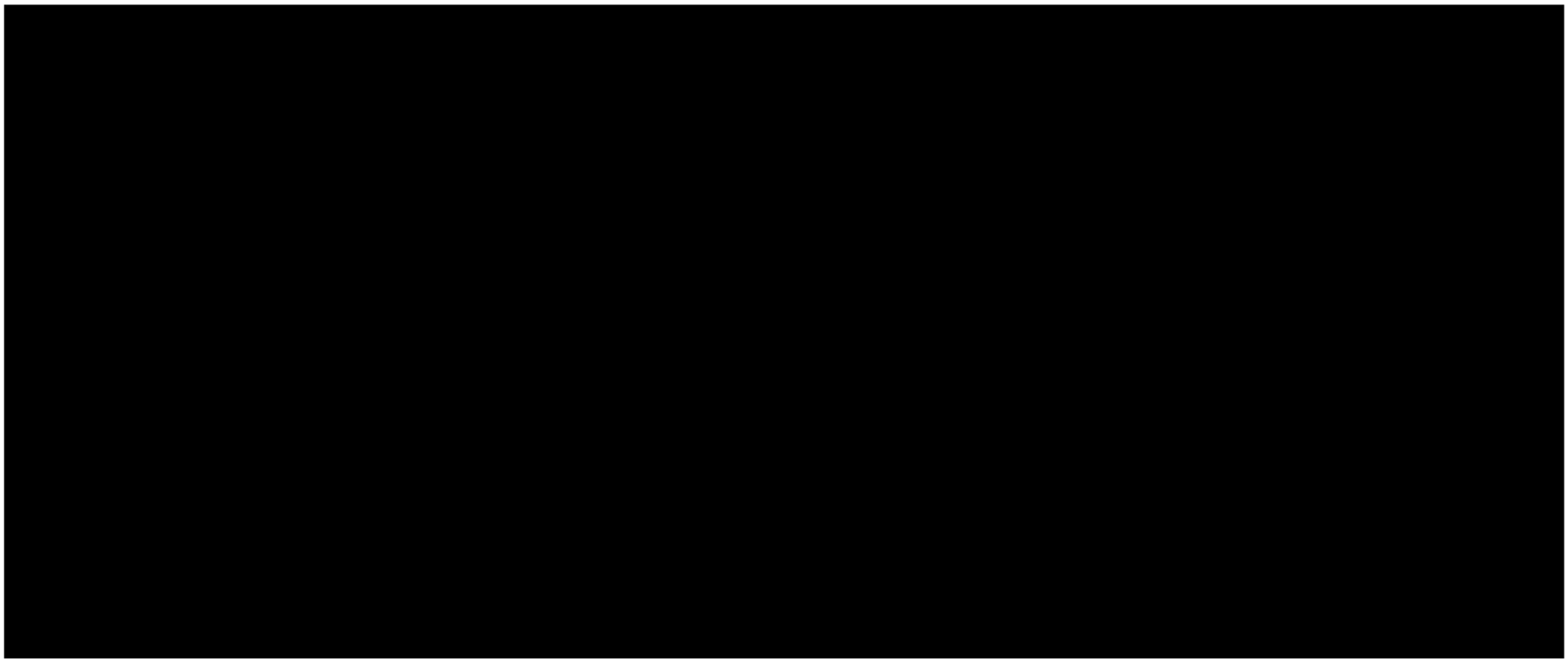
INSTRUCTIONS- FORM F

CHECKING ACCOUNT DATA

(Balance as of December 31, 2022)

Instructions: In this Form F, include all account recorded by your institution as checking accounts.

Column	Field Name	Description	Required Value	Municipal Code (2-32-440)
1	Census Tract	Specify the 11 digit census tract code for each property's location within Chicago city limits. Multiple loans within a given census tract are to be listed separately. Do not include loans with census tract information outside of Chicago.	Census Tract within City of Chicago City limits	d
2	Number of Accounts	Indicate the number of checking accounts within the specified census tracts that were active as of December 31, 2022.	NA	d
3	Total Combined Balance	Indicate the aggregate principal amount of the loans within the specified census tracts.	NA	d



Instruction - Form G

Depository Information

(Balance as of December 31, 2022)

Instructions: In this Form G, Include the number and location of your institution's facilities within the City of Chicago, and the census tract of each facility, as reported to the Community Reinvestment Act. Only include customer-facing deposit-taking banking centers.

Column	Field Name	Description	Municipal Code (2-32-440)
1	Census Tract	Specify, by 11 digit census tract, the Chicago location of each of your facilities.	i
2	Office Address	Indicate the street address of each of your facilities	i

[redacted]

Instructions - Form H
Summary of All Lending Activity and Savings/ Checking Accounts
(For Loans Closed in Calendar Year 2022)

Residential Lending (1-4 Units)

Line Number	Description	Information Source	2
1	(Number) Total Loans Made in Chicago	Refer to your institutions internal records.	
	(Amount) Sum of all loan amounts made in Chicago	Refer to your institutions internal records.	
2	(Number) Total Loans Made Outside Chicago	Refer to your institutions internal records.	
	(Amount) Sum of all loan amounts made outside Chicago but in the "Chicago MSA"	Refer to your institutions internal records.	
3	Average Effective Interest Rates - In Chicago	Calculate the average effective interest rate on the following types of loans.	
	(a) Home Purchase Loans	Refer to your institutions internal records.	
	(b) Refinancing Loans	Refer to your institutions internal records.	
	(c) Home Improvement Loans	Refer to your institutions internal records.	
	(d) Construction Loans	Refer to your institutions internal records.	
	(e) Home Equity Loans	Refer to your institutions internal records.	
4	Average Effective Interest Rate -Outside Chicago but within the "Chicago MSA"	Refer to your institutions internal records. For Loans Made outside Chicago in Calendar Year 2022, provide the average effective interest rate for the following type of loans	
	(a) Home Purchase Loans	Refer to your institutions internal records.	
	(b) Refinancing Loans	Refer to your institutions internal records.	
	(c) Home Improvement Loans	Refer to your institutions internal records.	
	(d) Construction Loans	Refer to your institutions internal records.	
	(e) Home Equity Loans	Refer to your institutions internal records.	
5	Average Down Payment on Home Purchase Loans - In Chicago	Refer to your institutions internal records.	
6	Average Down Payment on Home Purchase Loans - Outside Chicago but within the "Chicago MSA"	Refer to your institutions internal records.	

Residential Lending (More than 4 Units)

Line Number	Description	Information Source	2
7	(Number) Total Loans Made in Chicago	Refer to your institutions internal records.	
	(Amount) Sum of all loan amounts made in Chicago	Refer to your institutions internal records.	
8	(Number) Total Loans Made Outside Chicago	Refer to your institutions internal records.	
	(Amount) Sum of all loan amounts made outside Chicago but in the "Chicago MSA"	Refer to your institutions internal records.	
9	Average Effective Interest Rates - In Chicago	Calculate the average effective interest rate on the following types of loans.	
	(a) Home Purchase Loans	Refer to your institutions internal records.	
	(b) Refinancing Loans	Refer to your institutions internal records.	
	(c) Home Improvement Loans	Refer to your institutions internal records.	
	(d) Construction Loans	Refer to your institutions internal records.	
	(e) Home Equity Loans	Refer to your institutions internal records.	

10	Average Effective Interest Rate -Outside Chicago but within the "Chicago MSA"	Refer to your institutions internal records. For Loans Made outside Chicago in Calendar Year 2022, provide the average effective interest rate for the following type of loans	
	(a) Home Purchase Loans	Refer to your institutions internal records.	
	(b) Refinancing Loans	Refer to your institutions internal records.	
	(c) Home Improvement Loans	Refer to your institutions internal records.	
	(d) Construction Loans	Refer to your institutions internal records.	
	(e) Home Equity Loans	Refer to your institutions internal records.	
11	Average Down Payment on Home Purchase Loans - In Chicago	Refer to your institution's internal records. Provide the average down payment as a percentage of purchase price for all home purchase loans made on properties located within Chicago.	
12	Average Down Payment on Home Purchase Loans - Outside Chicago but within the "Chicago MSA"	Refer to your institution's internal records. Provide the average down payment as a percentage of purchase price for all home purchase loans made on properties located outside Chicago but within Chicago MSA.	

Commercial Lending			
13		Refer to Form C	
	(Number) Total Loans Made in Chicago	Number: Provide the sum of column 2	
	(Amount) Sum of all loan amounts made in Chicago	Amount: Provide the sum of column 3	
14	(Number) Total Loans Made in Chicago Outside Chicago but within the "Chicago MSA"	Refer to your institution's internal records. Provide the total number and dollar amount of all commercial loans made outside Chicago calendar year 2022.	
	(Amount) Sum of all loan amounts made in Chicago Outside Chicago but within the "Chicago MSA"		

Consumer Lending			
15		Refer to Form D	
	(Number) Total Loans Made in Chicago	Number: Provide the sum of column 2	
	(Amount) Sum of all loan amounts made in Chicago	Amount: Provide the sum of column 3	
16	(Number) Total Loans Made in Chicago Outside Chicago but within the "Chicago MSA"	Refer to your institution's internal records. Provide the total number and dollar amount of all consumer loans made outside Chicago calendar year 2022.	
	(Amount) Sum of all loan amounts made in Chicago Outside Chicago but within the "Chicago MSA"		

Savings and Checking Accounts			
17		Refer to Form E	
	(Number) Total Savings Accounts in Chicago	Number: Provide the sum of column 2	
	(Amount) Total Amount in Savings Account in Chicago	Amount: Provide the sum of column 3	
18		Refer to Form F	
	(Number) Total Checking Accounts in Chicago Outside Chicago but within the "Chicago MSA"	Number: Provide the sum of column 2	
	(Amount) Total Amount in Checking Account in Chicago Outside Chicago but within the "Chicago MSA"	Number: Provide the sum of column 3	

CITY OF CHICAGO
ECONOMIC DISCLOSURE STATEMENT
AND AFFIDAVIT

SECTION I -- GENERAL INFORMATION

A. Legal name of the Disclosing Party submitting this EDS. Include d/b/a/ if applicable:

Citibank, N.A.

Check ONE of the following three boxes:

Indicate whether the Disclosing Party submitting this EDS is:

1. [x] the Applicant

OR

2. [ ] a legal entity currently holding, or anticipated to hold within six months after City action on the contract, transaction or other undertaking to which this EDS pertains (referred to below as the "Matter"), a direct or indirect interest in excess of 7.5% in the Applicant. State the Applicant's legal name: _____

OR

3. [ ] a legal entity with a direct or indirect right of control of the Applicant (see Section II(B)(1)) State the legal name of the entity in which the Disclosing Party holds a right of control:

_____

B. Business address of the Disclosing Party: 388 Greenwich Street, New York, NY 10013

C. Telephone: [redacted] Fax: [redacted] Email: [redacted]

D. Name of contact person: [redacted]

E. Federal Employer Identification No. (if you have one): [redacted]

F. Brief description of the Matter to which this EDS pertains. (Include project number and location of property, if applicable):

2024 Municipal Depository RFP

G. Which City agency or department is requesting this EDS? Department of Finance

If the Matter is a contract being handled by the City's Department of Procurement Services, please complete the following:

Specification # _____ and Contract # _____

SECTION II -- DISCLOSURE OF OWNERSHIP INTERESTS

A. NATURE OF THE DISCLOSING PARTY

1. Indicate the nature of the Disclosing Party:

[ ] Person
[ ] Publicly registered business corporation
[ ] Privately held business corporation
[ ] Sole proprietorship
[ ] General partnership
[ ] Limited partnership
[ ] Trust
[ ] Limited liability company
[ ] Limited liability partnership
[ ] Joint venture
[ ] Not-for-profit corporation
(Is the not-for-profit corporation also a 501(c)(3))?
[ ] Yes [ ] No
[x] Other (please specify)
National Association

2. For legal entities, the state (or foreign country) of incorporation or organization, if applicable:

_____

3. For legal entities not organized in the State of Illinois: Has the organization registered to do business in the State of Illinois as a foreign entity?

Citibank, N.A. is a national banking association under the laws of the United States and therefore is not required to register as a foreign organization in IL.

[ ] Yes [ ] No [ ] Organized in Illinois

B. IF THE DISCLOSING PARTY IS A LEGAL ENTITY:

1. List below the full names and titles, if applicable, of: (i) all executive officers and all directors of the entity; (ii) **for not-for-profit corporations**, all members, if any, which are legal entities (if there are no such members, write "no members which are legal entities"); (iii) **for trusts, estates or other similar entities**, the trustee, executor, administrator, or similarly situated party; (iv) **for general or limited partnerships, limited liability companies, limited liability partnerships or joint ventures**, each general partner, managing member, manager or any other person or legal entity that directly or indirectly controls the day-to-day management of the Applicant.

NOTE: Each legal entity listed below must submit an EDS on its own behalf.

Name Title

See Attachment A for a list of Citibank, N.A. officers and directors

_____

_____

_____

2. Please provide the following information concerning each person or legal entity having a direct or indirect, current or prospective (i.e. within 6 months after City action) beneficial interest (including ownership) in excess of 7.5% of the Applicant. Examples of such an interest include shares in a corporation, partnership interest in a partnership or joint venture, interest of a member or manager in a

limited liability company, or interest of a beneficiary of a trust, estate or other similar entity. If none, state "None."

NOTE: Each legal entity listed below may be required to submit an EDS on its own behalf.

Name	Business Address	Percentage Interest in the Applicant
Citicorp LLC	388 Greenwich St. New York, NY 10013	100%

SECTION III -- INCOME OR COMPENSATION TO, OR OWNERSHIP BY, CITY ELECTED OFFICIALS

Has the Disclosing Party provided any income or compensation to any City elected official during the 12-month period preceding the date of this EDS? [ ] Yes [x] No

Does the Disclosing Party reasonably expect to provide any income or compensation to any City elected official during the 12-month period following the date of this EDS? [ ] Yes [x] No

If "yes" to either of the above, please identify below the name(s) of such City elected official(s) and describe such income or compensation:

Does any City elected official or, to the best of the Disclosing Party's knowledge after reasonable inquiry, any City elected official's spouse or domestic partner, have a financial interest (as defined in Chapter 2-156 of the Municipal Code of Chicago ("MCC")) in the Disclosing Party?

[ ] Yes [x] No

If "yes," please identify below the name(s) of such City elected official(s) and/or spouse(s)/domestic partner(s) and describe the financial interest(s).

SECTION IV -- DISCLOSURE OF SUBCONTRACTORS AND OTHER RETAINED PARTIES

The Disclosing Party must disclose the name and business address of each subcontractor, attorney, lobbyist (as defined in MCC Chapter 2-156), accountant, consultant and any other person or entity whom the Disclosing Party has retained or expects to retain in connection with the Matter, as well as the nature of the relationship, and the total amount of the fees paid or estimated to be paid. The Disclosing Party is not required to disclose employees who are paid solely through the Disclosing Party's regular payroll. If the Disclosing Party is uncertain whether a disclosure is required under this Section, the Disclosing Party must either ask the City whether disclosure is required or make the disclosure.

Name (indicate whether retained or anticipated to be retained)	Business Address	Relationship to Disclosing Party (subcontractor, attorney, lobbyist, etc.)	Fees (indicate whether paid or estimated.) **NOTE:** "hourly rate" or "t.b.d." is not an acceptable response.

(Add sheets if necessary)

[x] Check here if the Disclosing Party has not retained, nor expects to retain, any such persons or entities.

SECTION V -- CERTIFICATIONS

A. COURT-ORDERED CHILD SUPPORT COMPLIANCE

Under MCC Section 2-92-415, substantial owners of business entities that contract with the City must remain in compliance with their child support obligations throughout the contract's term.

Has any person who directly or indirectly owns 10% or more of the Disclosing Party been declared in arrearage on any child support obligations by any Illinois court of competent jurisdiction?

[ ] Yes [ ] No [x] No person directly or indirectly owns 10% or more of the Disclosing Party.

If "Yes," has the person entered into a court-approved agreement for payment of all support owed and is the person in compliance with that agreement?

[ ] Yes [ ] No

B. FURTHER CERTIFICATIONS

1. [This paragraph 1 applies only if the Matter is a contract being handled by the City's Department of Procurement Services.] In the 5-year period preceding the date of this EDS, neither the Disclosing Party nor any Affiliated Entity [see definition in (5) below] has engaged, in connection with the performance of any public contract, the services of an integrity monitor, independent private sector inspector general, or integrity compliance consultant (i.e., an individual or entity with legal, auditing, investigative, or other similar skills, designated by a public agency to help the agency monitor the activity of specified agency vendors as well as help the vendors reform their business practices so they can be considered for agency contracts in the future, or continue with a contract in progress).

2. The Disclosing Party and its Affiliated Entities are not delinquent in the payment of any fine, fee, tax or other source of indebtedness owed to the City of Chicago, including, but not limited to, water and sewer charges, license fees, parking tickets, property taxes and sales taxes, nor is the Disclosing Party delinquent in the payment of any tax administered by the Illinois Department of Revenue.

3. The Disclosing Party and, if the Disclosing Party is a legal entity, all of those persons or entities identified in Section II(B)(1) of this EDS:

a. are not presently debarred, suspended, proposed for debarment, declared ineligible or voluntarily excluded from any transactions by any federal, state or local unit of government;

b. have not, during the 5 years before the date of this EDS, been convicted of a criminal offense, adjudged guilty, or had a civil judgment rendered against them in connection with: obtaining, attempting to obtain, or performing a public (federal, state or local) transaction or contract under a public transaction; a violation of federal or state antitrust statutes; fraud; embezzlement; theft; forgery; bribery; falsification or destruction of records; making false statements; or receiving stolen property;

c. are not presently indicted for, or criminally or civilly charged by, a governmental entity (federal, state or local) with committing any of the offenses set forth in subparagraph (b) above;

d. have not, during the 5 years before the date of this EDS, had one or more public transactions (federal, state or local) terminated for cause or default; and

e. have not, during the 5 years before the date of this EDS, been convicted, adjudged guilty, or found liable in a civil proceeding, or in any criminal or civil action, including actions concerning environmental violations, instituted by the City or by the federal government, any state, or any other unit of local government.

4. The Disclosing Party understands and shall comply with the applicable requirements of MCC Chapters 2-56 (Inspector General) and 2-156 (Governmental Ethics).

5. Certifications (5), (6) and (7) concern:
   - the Disclosing Party;
   - any “Contractor” (meaning any contractor or subcontractor used by the Disclosing Party in connection with the Matter, including but not limited to all persons or legal entities disclosed under Section IV, “Disclosure of Subcontractors and Other Retained Parties”);
   - any "Affiliated Entity" (meaning a person or entity that, directly or indirectly: controls the Disclosing Party, is controlled by the Disclosing Party, or is, with the Disclosing Party, under common control of another person or entity). Indicia of control include, without limitation: interlocking management or ownership; identity of interests among family members, shared facilities and equipment; common use of employees; or organization of a business entity following the ineligibility of a business entity to do business with federal or state or local government, including the City, using substantially the same management, ownership, or principals as the ineligible entity. With respect to Contractors, the term Affiliated Entity means a person or entity that directly or indirectly controls the Contractor, is controlled by it, or, with the Contractor, is under common control of another person or entity;
   - any responsible official of the Disclosing Party, any Contractor or any Affiliated Entity or any other official, agent or employee of the Disclosing Party, any Contractor or any Affiliated Entity, acting pursuant to the direction or authorization of a responsible official of the Disclosing Party, any Contractor or any Affiliated Entity (collectively "Agents").

Neither the Disclosing Party, nor any Contractor, nor any Affiliated Entity of either the Disclosing Party or any Contractor, nor any Agents have, during the 5 years before the date of this EDS, or, with respect to a Contractor, an Affiliated Entity, or an Affiliated Entity of a Contractor during the 5 years before the date of such Contractor's or Affiliated Entity's contract or engagement in connection with the Matter:

a. bribed or attempted to bribe, or been convicted or adjudged guilty of bribery or attempting to bribe, a public officer or employee of the City, the State of Illinois, or any agency of the federal government or of any state or local government in the United States of America, in that officer's or employee's official capacity;

b. agreed or colluded with other bidders or prospective bidders, or been a party to any such agreement, or been convicted or adjudged guilty of agreement or collusion among bidders or prospective bidders, in restraint of freedom of competition by agreement to bid a fixed price or otherwise; or

c. made an admission of such conduct described in subparagraph (a) or (b) above that is a matter of record, but have not been prosecuted for such conduct; or

d. violated the provisions referenced in MCC Subsection 2-92-320(a)(4)(Contracts Requiring a Base Wage); (a)(5)(Debarment Regulations); or (a)(6)(Minimum Wage Ordinance).

6. Neither the Disclosing Party, nor any Affiliated Entity or Contractor, or any of their employees, officials, agents or partners, is barred from contracting with any unit of state or local government as a result of engaging in or being convicted of (1) bid-rigging in violation of 720 ILCS 5/33E-3; (2) bid-rotating in violation of 720 ILCS 5/33E-4; or (3) any similar offense of any state or of the United States of America that contains the same elements as the offense of bid-rigging or bid-rotating.

7. Neither the Disclosing Party nor any Affiliated Entity is listed on a Sanctions List maintained by the United States Department of Commerce, State, or Treasury, or any successor federal agency.

8. [FOR APPLICANT ONLY] (i) Neither the Applicant nor any "controlling person" [see MCC Chapter 1-23, Article I for applicability and defined terms] of the Applicant is currently indicted or charged with, or has admitted guilt of, or has ever been convicted of, or placed under supervision for, any criminal offense involving actual, attempted, or conspiracy to commit bribery, theft, fraud, forgery, perjury, dishonesty or deceit against an officer or employee of the City or any "sister agency"; and (ii) the Applicant understands and acknowledges that compliance with Article I is a continuing requirement for doing business with the City. NOTE: If MCC Chapter 1-23, Article I applies to the Applicant, that Article's permanent compliance timeframe supersedes 5-year compliance timeframes in this Section V.

9. [FOR APPLICANT ONLY] The Applicant and its Affiliated Entities will not use, nor permit their subcontractors to use, any facility listed as having an active exclusion by the U.S. EPA on the federal System for Award Management ("SAM").

10. [FOR APPLICANT ONLY] The Applicant will obtain from any contractors/subcontractors hired or to be hired in connection with the Matter certifications equal in form and substance to those in Certifications (2) and (9) above and will not, without the prior written consent of the City, use any such

contractor/subcontractor that does not provide such certifications or that the Applicant has reason to believe has not provided or cannot provide truthful certifications.

11. If the Disclosing Party is unable to certify to any of the above statements in this Part B (Further Certifications), the Disclosing Party must explain below:

See Attachment B in support of the above.

If the letters "NA," the word "None," or no response appears on the lines above, it will be conclusively presumed that the Disclosing Party certified to the above statements.

12. To the best of the Disclosing Party's knowledge after reasonable inquiry, the following is a complete list of all current employees of the Disclosing Party who were, at any time during the 12-month period preceding the date of this EDS, an employee, or elected or appointed official, of the City of Chicago (if none, indicate with "N/A" or "none").

N/A

13. To the best of the Disclosing Party's knowledge after reasonable inquiry, the following is a complete list of all gifts that the Disclosing Party has given or caused to be given, at any time during the 12-month period preceding the execution date of this EDS, to an employee, or elected or appointed official, of the City of Chicago. For purposes of this statement, a "gift" does not include: (i) anything made generally available to City employees or to the general public, or (ii) food or drink provided in the course of official City business and having a retail value of less than $25 per recipient, or (iii) a political contribution otherwise duly reported as required by law (if none, indicate with "N/A" or "none"). As to any gift listed below, please also list the name of the City recipient.

N/A

C. CERTIFICATION OF STATUS AS FINANCIAL INSTITUTION

1. The Disclosing Party certifies that the Disclosing Party (check one)

[x] is [ ] is not

a "financial institution" as defined in MCC Section 2-32-455(b).

2. If the Disclosing Party IS a financial institution, then the Disclosing Party pledges:

"We are not and will not become a predatory lender as defined in MCC Chapter 2-32. We further pledge that none of our affiliates is, and none of them will become, a predatory lender as defined in MCC Chapter 2-32. We understand that becoming a predatory lender or becoming an affiliate of a predatory lender may result in the loss of the privilege of doing business with the City."

If the Disclosing Party is unable to make this pledge because it or any of its affiliates (as defined in MCC Section 2-32-455(b)) is a predatory lender within the meaning of MCC Chapter 2-32, explain here (attach additional pages if necessary):

_____

_____

Type text here

If the letters "NA," the word "None," or no response appears on the lines above, it will be conclusively presumed that the Disclosing Party certified to the above statements.

D. CERTIFICATION REGARDING FINANCIAL INTEREST IN CITY BUSINESS

Any words or terms defined in MCC Chapter 2-156 have the same meanings if used in this Part D.

1. In accordance with MCC Section 2-156-110: To the best of the Disclosing Party's knowledge after reasonable inquiry, does any official or employee of the City have a financial interest in his or her own name or in the name of any other person or entity in the Matter?

[ ] Yes [x] No

NOTE: If you checked "Yes" to Item D(1), proceed to Items D(2) and D(3). If you checked "No" to Item D(1), skip Items D(2) and D(3) and proceed to Part E.

2. Unless sold pursuant to a process of competitive bidding, or otherwise permitted, no City elected official or employee shall have a financial interest in his or her own name or in the name of any other person or entity in the purchase of any property that (i) belongs to the City, or (ii) is sold for taxes or assessments, or (iii) is sold by virtue of legal process at the suit of the City (collectively, "City Property Sale"). Compensation for property taken pursuant to the City's eminent domain power does not constitute a financial interest within the meaning of this Part D.

Does the Matter involve a City Property Sale?

[ ] Yes [ ] No

3. If you checked "Yes" to Item D(1), provide the names and business addresses of the City officials or employees having such financial interest and identify the nature of the financial interest:

Name Business Address Nature of Financial Interest

_____

_____

_____

4. The Disclosing Party further certifies that no prohibited financial interest in the Matter will be acquired by any City official or employee.

E. CERTIFICATION REGARDING SLAVERY ERA BUSINESS

Please check either (1) or (2) below. If the Disclosing Party checks (2), the Disclosing Party must disclose below or in an attachment to this EDS all information required by (2). Failure to comply with these disclosure requirements may make any contract entered into with the City in connection with the Matter voidable by the City.

____1. The Disclosing Party verifies that the Disclosing Party has searched any and all records of the Disclosing Party and any and all predecessor entities regarding records of investments or profits from slavery or slaveholder insurance policies during the slavery era (including insurance policies issued to slaveholders that provided coverage for damage to or injury or death of their slaves), and the Disclosing Party has found no such records.

____2. The Disclosing Party verifies that, as a result of conducting the search in step (1) above, the Disclosing Party has found records of investments or profits from slavery or slaveholder insurance policies. The Disclosing Party verifies that the following constitutes full disclosure of all such records, including the names of any and all slaves or slaveholders described in those records:
Please see attached Citigroup affidavit and disclosure statement.

SECTION VI -- CERTIFICATIONS FOR FEDERALLY FUNDED MATTERS

NOTE: **If the Matter is federally funded**, complete this Section VI. **If the Matter is not federally funded**, proceed to Section VII. For purposes of this Section VI, tax credits allocated by the City and proceeds of debt obligations of the City are not federal funding.

A. CERTIFICATION REGARDING LOBBYING

1. List below the names of all persons or entities registered under the federal Lobbying Disclosure Act of 1995, as amended, who have made lobbying contacts on behalf of the Disclosing Party with respect to the Matter: (Add sheets if necessary):

(If no explanation appears or begins on the lines above, or if the letters "NA" or if the word "None" appear, it will be conclusively presumed that the Disclosing Party means that NO persons or entities registered under the Lobbying Disclosure Act of 1995, as amended, have made lobbying contacts on behalf of the Disclosing Party with respect to the Matter.)

2. The Disclosing Party has not spent and will not expend any federally appropriated funds to pay any person or entity listed in paragraph A(1) above for his or her lobbying activities or to pay any person or entity to influence or attempt to influence an officer or employee of any agency, as defined by applicable federal law, a member of Congress, an officer or employee of Congress, or an employee

of a member of Congress, in connection with the award of any federally funded contract, making any federally funded grant or loan, entering into any cooperative agreement, or to extend, continue, renew, amend, or modify any federally funded contract, grant, loan, or cooperative agreement.

3. The Disclosing Party will submit an updated certification at the end of each calendar quarter in which there occurs any event that materially affects the accuracy of the statements and information set forth in paragraphs A(1) and A(2) above.

4. The Disclosing Party certifies that either: (i) it is not an organization described in section 501(c)(4) of the Internal Revenue Code of 1986; or (ii) it is an organization described in section 501(c)(4) of the Internal Revenue Code of 1986 but has not engaged and will not engage in "Lobbying Activities," as that term is defined in the Lobbying Disclosure Act of 1995, as amended.

5. If the Disclosing Party is the Applicant, the Disclosing Party must obtain certifications equal in form and substance to paragraphs A(1) through A(4) above from all subcontractors before it awards any subcontract and the Disclosing Party must maintain all such subcontractors' certifications for the duration of the Matter and must make such certifications promptly available to the City upon request.

B. CERTIFICATION REGARDING EQUAL EMPLOYMENT OPPORTUNITY

If the Matter is federally funded, federal regulations require the Applicant and all proposed subcontractors to submit the following information with their bids or in writing at the outset of negotiations.

Is the Disclosing Party the Applicant?
[ ] Yes [ ] No

If "Yes," answer the three questions below:

1. Have you developed and do you have on file affirmative action programs pursuant to applicable federal regulations? (See 41 CFR Part 60-2.)
[ ] Yes [ ] No

2. Have you filed with the Joint Reporting Committee, the Director of the Office of Federal Contract Compliance Programs, or the Equal Employment Opportunity Commission all reports due under the applicable filing requirements?
[ ] Yes [ ] No [ ] Reports not required

3. Have you participated in any previous contracts or subcontracts subject to the equal opportunity clause?
[ ] Yes [ ] No

If you checked "No" to question (1) or (2) above, please provide an explanation:

_____

_____

SECTION VII -- FURTHER ACKNOWLEDGMENTS AND CERTIFICATION

The Disclosing Party understands and agrees that:

A. The certifications, disclosures, and acknowledgments contained in this EDS will become part of any contract or other agreement between the Applicant and the City in connection with the Matter, whether procurement, City assistance, or other City action, and are material inducements to the City's execution of any contract or taking other action with respect to the Matter. The Disclosing Party understands that it must comply with all statutes, ordinances, and regulations on which this EDS is based.

B. The City's Governmental Ethics Ordinance, MCC Chapter 2-156, imposes certain duties and obligations on persons or entities seeking City contracts, work, business, or transactions. The full text of this ordinance and a training program is available on line at www.cityofchicago.org/Ethics, and may also be obtained from the City's Board of Ethics, 740 N. Sedgwick St., Suite 500, Chicago, IL 60610, (312) 744-9660. The Disclosing Party must comply fully with this ordinance.

C. If the City determines that any information provided in this EDS is false, incomplete or inaccurate, any contract or other agreement in connection with which it is submitted may be rescinded or be void or voidable, and the City may pursue any remedies under the contract or agreement (if not rescinded or void), at law, or in equity, including terminating the Disclosing Party's participation in the Matter and/or declining to allow the Disclosing Party to participate in other City transactions. Remedies at law for a false statement of material fact may include incarceration and an award to the City of treble damages.

D. It is the City's policy to make this document available to the public on its Internet site and/or upon request. Some or all of the information provided in, and appended to, this EDS may be made publicly available on the Internet, in response to a Freedom of Information Act request, or otherwise. By completing and signing this EDS, the Disclosing Party waives and releases any possible rights or claims which it may have against the City in connection with the public release of information contained in this EDS and also authorizes the City to verify the accuracy of any information submitted in this EDS.

E. The information provided in this EDS must be kept current. In the event of changes, the Disclosing Party must supplement this EDS up to the time the City takes action on the Matter. If the Matter is a contract being handled by the City's Department of Procurement Services, the Disclosing Party must update this EDS as the contract requires. **NOTE:** With respect to Matters subject to MCC Chapter 1-23, Article I (imposing **PERMANENT INELIGIBILITY** for certain specified offenses), the information provided herein regarding eligibility must be kept current for a longer period, as required by MCC Chapter 1-23 and Section 2-154-020.

CERTIFICATION

Under penalty of perjury, the person signing below: (1) warrants that he/she is authorized to execute this EDS, and all applicable Appendices, on behalf of the Disclosing Party, and (2) warrants that all certifications and statements contained in this EDS, and all applicable Appendices, are true, accurate and complete as of the date furnished to the City.

[redacted]

(Print or type exact legal name of Disclosing Party)

By: [redacted]

(Sign here)

[redacted]

(Print or type name of person signing)

[redacted]

(Print or type title of person signing)

Signed and sworn to before me on (date) [redacted]

at [redacted] County [redacted] (state).

[redacted]

[redacted]

Commission expires: [redacted]

CITY OF CHICAGO
ECONOMIC DISCLOSURE STATEMENT AND AFFIDAVIT
APPENDIX A

FAMILIAL RELATIONSHIPS WITH ELECTED CITY OFFICIALS AND DEPARTMENT HEADS

This Appendix is to be completed only by (a) the Applicant, and (b) any legal entity which has a direct ownership interest in the Applicant exceeding 7.5%. It is not to be completed by any legal entity which has only an indirect ownership interest in the Applicant.

Under MCC Section 2-154-015, the Disclosing Party must disclose whether such Disclosing Party or any "Applicable Party" or any Spouse or Domestic Partner thereof currently has a "familial relationship" with any elected city official or department head. A "familial relationship" exists if, as of the date this EDS is signed, the Disclosing Party or any "Applicable Party" or any Spouse or Domestic Partner thereof is related to the mayor, any alderman, the city clerk, the city treasurer or any city department head as spouse or domestic partner or as any of the following, whether by blood or adoption: parent, child, brother or sister, aunt or uncle, niece or nephew, grandparent, grandchild, father-in-law, mother-in-law, son-in-law, daughter-in-law, stepfather or stepmother, stepson or stepdaughter, stepbrother or stepsister or half-brother or half-sister.

"Applicable Party" means (1) all executive officers of the Disclosing Party listed in Section II.B.1.a., if the Disclosing Party is a corporation; all partners of the Disclosing Party, if the Disclosing Party is a general partnership; all general partners and limited partners of the Disclosing Party, if the Disclosing Party is a limited partnership; all managers, managing members and members of the Disclosing Party, if the Disclosing Party is a limited liability company; (2) all principal officers of the Disclosing Party; and (3) any person having more than a 7.5% ownership interest in the Disclosing Party. "Principal officers" means the president, chief operating officer, executive director, chief financial officer, treasurer or secretary of a legal entity or any person exercising similar authority.

Does the Disclosing Party or any "Applicable Party" or any Spouse or Domestic Partner thereof currently have a "familial relationship" with an elected city official or department head?

[ ] Yes [x] No

If yes, please identify below (1) the name and title of such person, (2) the name of the legal entity to which such person is connected; (3) the name and title of the elected city official or department head to whom such person has a familial relationship, and (4) the precise nature of such familial relationship.

_____

_____

_____

CITY OF CHICAGO
ECONOMIC DISCLOSURE STATEMENT AND AFFIDAVIT
APPENDIX B

BUILDING CODE SCOFFLAW/PROBLEM LANDLORD CERTIFICATION

This Appendix is to be completed only by (a) the Applicant, and (b) any legal entity which has a direct ownership interest in the Applicant exceeding 7.5% (an "Owner"). It is not to be completed by any legal entity which has only an indirect ownership interest in the Applicant.

1. Pursuant to MCC Section 2-154-010, is the Applicant or any Owner identified as a building code scofflaw or problem landlord pursuant to MCC Section 2-92-416?

[ ] Yes [x] No

Citi has exited the loan servicing business and all ongoing service has been outsourced to a vendor. The vendor is contractually obligatedd to comply with all federal, state, county and local; regulatory requirmetns regarding mortgage servicing.

2. If the Applicant is a legal entity publicly traded on any exchange, is any officer or director of the Applicant identified as a building code scofflaw or problem landlord pursuant to MCC Section 2-92-416?

Citi has exited the loan servicing business and all ongoing service has been outsourced to a vendor. The vendor is contractually obligatedd to comply with all federal, state, county and local; regulatory requirmetns regarding mortgage servicing.

[ ] Yes [ ] No [x] The Applicant is not publicly traded on any exchange.

3. If yes to (1) or (2) above, please identify below the name of each person or legal entity identified as a building code scofflaw or problem landlord and the address of each building or buildings to which the pertinent code violations apply.

_____

_____

_____

CITY OF CHICAGO
ECONOMIC DISCLOSURE STATEMENT AND AFFIDAVIT
APPENDIX C

PROHIBITION ON WAGE & SALARY HISTORY SCREENING - CERTIFICATION

This Appendix is to be completed only by an Applicant that is completing this EDS as a "contractor" as defined in MCC Section 2-92-385. That section, which should be consulted (www.amlegal.com), generally covers a party to any agreement pursuant to which they: (i) receive City of Chicago funds in consideration for services, work or goods provided (including for legal or other professional services), or (ii) pay the City money for a license, grant or concession allowing them to conduct a business on City premises.

On behalf of an Applicant that is a contractor pursuant to MCC Section 2-92-385, I hereby certify that the Applicant is in compliance with MCC Section 2-92-385(b)(1) and (2), which prohibit: (i) screening job applicants based on their wage or salary history, or (ii) seeking job applicants' wage or salary history from current or former employers. I also certify that the Applicant has adopted a policy that includes those prohibitions.

[x] Yes

[ ] No

[ ] N/A – I am not an Applicant that is a "contractor" as defined in MCC Section 2-92-385.

This certification shall serve as the affidavit required by MCC Section 2-92-385(c)(1).

If you checked "no" to the above, please explain.

_____

_____

_____

ATTACHMENT A:
DIRECTORS & PRINCIPAL OFFICERS
As of October 30, 2023

CITIBANK, N.A.

CITIGROUP INC. AND ITS AFFILIATES:
LITIGATION AND REGULATORY MATTERS
Attachment B

[redacted]

[redacted]

[redacted]

m.

Affidavit of Citigroup Inc.

I, [redacted]m an authorized representative of Citigroup Inc. ("Citi"). I hereby certify that Citi has searched, or caused to be searched, its records and those of its predecessor companies for information relating to participation or investments in, or profits derived from slavery or slaveholder insurance policies, as described in Appendix I below.

[redacted]

Appendix I

Citi Historic Records Review Summary

The history of Citigroup Inc. ("Citi") dates back to the founding of the City Bank of New York in 1812. As identified in Attachment A, most of Citi's pre-1866 predecessor institutions were founded in the Northeastern United States, including in New York, Rhode Island, and Connecticut. Although a large majority of Citi's pre-1866 predecessors were founded in the Northeast, certain predecessor institutions interacted with individuals and entities located outside of the region, including individuals, companies, and other financial institutions in areas of the country where slavery was legal until December 1865.

Citi has reviewed records of its predecessor entities within its possession and control in the Citi Heritage Collection, as well as select external sources as described below, for evidence that any Citi predecessor entity participated in the U.S. Slave Trade or received profits from the institution of slavery in the United States. Citi's review of these materials did not identify any records demonstrating that a Citi predecessor entity directly purchased, sold or held enslaved persons, issued insurance policies to slaveholders to insure enslaved persons, issued insurance policies for business transactions or operations related to the trafficking of enslaved persons, used enslaved persons as collateral for insurance policies, loans or other transactions, facilitated the traffic of enslaved persons, or otherwise provided capital or other services to facilitate the U.S. slave trade or institution of slavery in the United States.

However, as discussed in Section III below, as financial institutions operating in the Early National and Antebellum periods, some Citi predecessor entities may have indirectly profited from the institution of slavery in the United States. In particular, Citi's review of its records indicates that Citi predecessors likely profited from financial transactions and relationships with individuals and entities located or operating in slaveholding states in the United States before 1866 that owned enslaved persons, relied on the labor of enslaved persons, or otherwise were involved in or connected to the U.S. slave trade. Citi records indicate, for example, that individuals and entities located or operating in slaveholding states were accountholders of predecessor entities, that predecessor entities had agents located or operating in the Southern United States, and that predecessor entities had financial relationships with some banking institutions, individuals, and entities located or operating in slaveholding states.

I. Overview of Citigroup Inc.'s Origins

Citi's corporate lineage includes more than 400 predecessor institutions, 21 of which were established before 1866. Citi's internal corporate archives include records relating to 12 of these 21 entities. In the 211 years since its founding, Citi has undergone several name changes and completed numerous acquisitions and mergers. Attachment A contains a list of Citi predecessor entities.

II. Research Methodology

Citi previously researched potential connections between its predecessor entities and the institution of slavery in the United States in the early 2000s. This research did not identify evidence of any business dealings or investments that could be discerned as involving slavery or insurance on enslaved persons. In 2022, a team of professional historians ("the review team" or "the historians") working on Citi's behalf updated this research. The review team examined Citi's corporate genealogy to ensure that it reflected all of Citi's predecessor entities and reviewed all potentially relevant pre-1866 documents contained in the Citi Heritage Collection, an internal corporate archive of Citi's historical records.

Review of Predecessor Records

Records in the Citi Heritage Collection document the founding and evolution of the City Bank of New York, the formation of First National City Corporation, as well as various other predecessor institutions including Farmers' Loan and Trust Company (formerly named Farmers' Fire Insurance and Loan Company); First National Bank of the City of New York; Second National Bank of New York; Bank of America, New York; Nassau Bank of Brooklyn, Merchants' Exchange National Bank (formerly named Merchants' Exchange Bank); and East River National Bank. The historians had unrestricted access to the entire historical collection and reviewed thousands of pages of materials including account ledger books, Board of Directors' meeting minutes, letter books, incorporation papers, by-laws, statements of condition, stock certificates, bonds, correspondence, and other legal documents.

The Citi Heritage Collection is not a complete repository of all Citi predecessor records. When Citi acquired or merged with other entities, some but not all of those companies' records were transferred to Citi. As a result, not all material created by the firm's own activities or those of its predecessor entities that became part of Citi's corporate lineage have been preserved in the Citi Heritage Collection. Even where Citi has records for a particular entity and materials have been preserved, there are significant gaps in the collection. The historians' review of the Citi Heritage Collection involved a comprehensive review of relevant records to identify indications of predecessor involvement in or potential profits from the institution of slavery in the United States.

The review also included records contained in eight public repositories: New York Public Library's Manuscript and Archives Division, Cornell University Library's Division of Rare and Manuscript Collection, the Probate Court of Mobile County, Alabama, the Historic Mobile Preservation Society Archives, the History Museum of Mobile, the Mobile Public Library; the Alabama Supreme Court and State Law Library; and the Library of Congress.

The Manuscripts and Archives Division at the New York Public Library holds a collection of materials relating to Moses Taylor, a Director and President of City Bank of New York, who, as described below, profited from the institution of slavery. Although the finding aid for the collection identified documents that appeared to be City Bank of New York and National City Bank of New York records, the historians reviewed these documents and determined that

the documents were not Citi predecessor records, but rather personal records of Moses Taylor and his businesses.

The historians also reviewed certain records related to Henry Hitchcock, who, as described below, owned enslaved persons in Alabama. This review included records at the Division of Rare and Manuscript Collections at Cornell University, which holds records of Farmers' Loan and Trust Company (1829 – 1866), one of Citi's predecessor entities that conducted business with Hitchcock. The collection includes abstracts of title, agreements of sale and articles of trust, copies of the deeds and the contract schedules used to transfer title, detailed maps of townships where the transfers took place, resolutions by officers of the company, powers of attorney to company agents, schedules of land and of mortgage foreclosures, bills of costs, accounts of cattle received in payments on mortgages, and other material relating to the management of the business. The historians completed a comprehensive review of the Farmers' collection at Cornell.

The historians also reviewed materials at the Probate Court of Mobile Alabama, History Museum of Mobile Alabama, and Mobile Public Library's Local History & Genealogy Library related to Hitchcock. The Alabama Supreme Court and State Law Library maintains a set of records concerning Henry Hitchcock, which were obtained from the Missouri Historical Society's Hitchcock Family Collection. The historians reviewed correspondence, estate records, and secondary source materials concerning Hitchcock, as well as genealogical databases, historical court cases, and benchmark secondary sources at the Library of Congress. Their conclusions related to this review are discussed in Section III below.

III. Potential Connections to the Institution of Slavery in the United States

The review of Citi's internal records, supplemented by the review of materials in the external collections described above, found no record indicating that a Citi predecessor entity directly purchased, sold, or held enslaved persons, issued insurance policies to slaveholders to insure enslaved persons, issued insurance policies for business transactions and operations related to the trafficking of enslaved persons, used enslaved persons as collateral for insurance policies, loans or other transactions, facilitated the traffic of enslaved persons, or otherwise provided capital or other services to facilitate the Slave Trade. The records do suggest, however, that some of Citi's predecessor entities may have profited from financial transactions and relationships with individuals and entities located or operating in slaveholding states in the United States prior to 1866 that enslaved persons, relied on the labor of enslaved persons, or otherwise were involved in the institution of slavery in the United States.

Farmers' Loan and Trust Company[1]

The review considered whether a transaction between Farmers' Loan and Trust Company, a Citi predecessor company, and Henry Hitchcock might have resulted in Farmer's

[1] Farmers' Fire Insurance and Loan Company changed its name to Farmers' Loan and Trust Company in 1836. For ease of reference, this document refers to the entity as Farmers' Loan and Trust Company.

owning some of the persons enslaved by Hitchcock. The review ultimately concluded that the transaction reflected in Citi's records did not result in the Citi predecessor owning any persons enslaved by Hitchcock.

Records contained in the Citi Heritage Collection reflect transactions between a Citi predecessor entity, Farmers' Loan and Trust Company, and Henry Hitchcock from 1832 – 1838, related to the creation of a trust on real estate in Mobile, Alabama in 1836, the renewal of two insurance policies for Hitchcock in 1832, and the acquisition of shares of the stock of the Alabama Life Insurance & Trust Company. Henry Hitchcock was one of the wealthiest men in Alabama during the time period and held positions as the first Attorney General of Alabama, the first Secretary of the Alabama Territory, and Chief Justice on the Alabama Supreme Court. 1830 U.S. Decennial Census records indicate that Hitchcock enslaved twenty-four persons. The names of the persons are not identified in the census.

The Farmers' Loan and Trust Company Minute Book, which is part of the Citi Heritage Collection, covers the 1835 through 1839 period and includes minutes that document the creation of a real estate trust for Hitchcock. According to these records, on October 3, 1836, the Committee of Trusts reviewed, and later accepted, an application by Henry Hitchcock for a trust in the amount of $600,000 on real estate in Mobile, Alabama, valued at $1.9 million. On March 20, 1837, the Committee of Trusts approved an agreement and declaration of trust between the Company and Hitchcock, confirming the extension of an $800,000 trust to Hitchcock and the Committee's satisfaction with the security. On May 18, 1838, the Committee of Trusts reviewed a letter from Henry Hitchcock requesting to cancel the contract and return the Company's Certificates, after the Company re-conveyed the property in Mobile held under the trust. The Committee accepted the cancelation of the trust.

Given the value of the real estate of $1.9 million in 1836 dollars and the location of the property in Mobile, Alabama, the review team considered the possibility that the property may have included persons enslaved by Hitchcock. Neither the Citi Heritage Collection nor Cornell University collection contain any additional details relating to the Hitchcock trust, including the contents of the trust or what real estate in Mobile, Alabama was conveyed. However, the collections maintained by the Probate Court of Mobile Alabama and the Alabama Supreme Court and State Law Library do include documents describing Hitchcock's transactions with Farmers' Loan and Trust Company and the extent of his real estate holdings and financial investments. These documents indicate that the trust was composed of several parcels of real estate and did not include enslaved persons, as do additional documents maintained by the Probate Court of Mobile Alabama and the Alabama Supreme Court and State Law Library related to the property's conveyance back to Hitchcock and later to another bank as collateral.

In addition to the trust discussed above, the Farmers' Loan and Trust Company Letter Book from 1832 – 1838 in the Citi Heritage Collection includes a letter from January 4, 1832, which discusses renewal of an insurance policy to Hitchcock and the lack of renewal of a second insurance policy. The letter does not identify the scope or contents of either insurance policy. There are no other records in the Citi Heritage Collection or at Cornell University that discuss insurance policies issued to Hitchcock.

Lehman Brothers

Citi's corporate timeline identifies Lehman Brothers, which was founded in 1850, as a predecessor entity to Travelers Group. In 1998 Travelers Group (previously Primerica) merged with Citicorp to become Citigroup Inc. Prior to that 1998 merger, Primerica had acquired certain assets connected to Shearson Lehman Hutton, a corporate descendant of Lehman Brothers, from American Express. However, at the time of Primerica's acquisition of those assets, American Express retained Lehman Brothers and thereafter spun it off as an independent entity. In 2003, the independent Lehman Brothers entity filed an affidavit pursuant to the Chicago Slavery Disclosure Ordinance identifying ties to the Slave Trade based on the predecessor of the same name founded in 1850. Although Lehman Brothers' disclosure was reported on publicly, Citi does not have a copy of Lehman Brothers' disclosure or affidavit, and the Citi Heritage Collection does not include records relating to Lehman Brothers because Citi did not acquire any Lehman Brothers records as a result of the merger with Travelers Group described above. However, based on public information regarding Lehman Brothers' affidavit, the 1850 Lehman Brothers entity likely profited from the institution of slavery in the United States.

City Bank of New York (National City Bank of New York as of 1865)

Between 1837 and 1882, Moses Taylor was a director, controlling shareholder, and President (1856-1882) of City Bank of New York. Taylor was also a director of Farmers' Loan and Trust Company. Taylor was a significant figure in the New York merchant economy and built a large fortune from shipping sugarcane and other commodities from Cuban plantations to the rest of the world, as well as investing in industries such as railroads, coffee, steel, coal, and utilities. Taylor was the largest stockholder and a director in both the Delaware Lackawanna and Western Railroad and the Central Railroad and Bank Company of the Georgia railroad system, as well as a leading stock and bond holder of numerous other Midwestern and Southern railroads.

Previous research undertaken on Moses Taylor indicates that Taylor utilized the bank as a private treasury for his own enterprises and required his companies to keep their principal accounts at City Bank of New York.[2] According to that research, Taylor himself, his business associates, and the firms they controlled supplied most of the bank's deposits during this period.[3] The review team did not identify any records in the Citi Heritage Collection suggesting that City Bank of New York directly purchased, sold or held enslaved persons, provided insurance

[2] HAROLD VAN B. CLEVELAND & THOMAS HUERTAS, CITIBANK: 1812-1970 (Harvard University Press 1985); DANIEL HODAS, THE BUSINESS CAREER OF MOSES TAYLOR: MERCHANT, FINANCE CAPITALIST, AND INDUSTRIALIST (Ishi Press 2010); Daniel Hodas, *Moses Taylor - New York Merchant American Industrialist and Finance Capitalist: A Case Study in Success*, 2 PROCEEDINGS OF THE BUSINESS HISTORY CONFERENCE 95 (1974); Maeve Glass, *Moses Taylor Pyne and the Sugar Trade*, 77 THE PRINCETON UNIVERSITY LIBRARY CHRONICLE 95 (Winter 2016); John Moody & George Kibbe Turner, *Masters of Capital in America Wall Street: The City Bank - The Federation of the Great Merchants*, XXXVII MCCLURE'S MAGAZINE 73 (May - Oct. 1911).

[3] *See supra* note 2.

policies to Taylor or his company that used enslaved persons as collateral, or provided loans or other capital to facilitate the trafficking of enslaved persons. However, given that a significant portion of Taylor's business was connected to the trade of sugar and its derivatives from Cuban plantations that used enslaved labor, City Bank of New York likely profited indirectly from enslaved labor in Cuba by engaging in transactions with Taylor and his businesses.

Potential Indirect Profits

Some of Citi's predecessor entities were financial institutions that operated in the Early National and Antebellum periods. Records contained in the Citi Heritage Collection and Cornell University indicate that some of these entities operated in slaveholding states in the United States prior to 1866, or that they did business with individuals and entities located or operating in slaveholding states prior to 1866. These predecessor entities likely derived indirect financial benefits from the institution of slavery in the United States through financial transactions or other business relationships with individuals and entities located or operating in slaveholding states prior to 1866 that owned enslaved persons, relied on the labor of enslaved persons, or otherwise were involved in the institution of slavery in the United States.

Citi's records indicate, for example:

a. Individuals and entities located or operating in slaveholding states of the United States were accountholders of predecessor entities;

b. A predecessor entity created land and property trusts for individuals and companies located or operating in slaveholding states;

c. Predecessor entities had business dealings with financial institutions located or operating in slaveholding states;

d. Predecessor entities accepted, held or purchased stock, shares, or bonds in financial institutions located or operating in slaveholding states;

e. A predecessor held or purchased bonds or shares for certain Southern states and municipalities known to have enslaved persons;

f. Predecessor entities extended credit to financial institutions, individuals, and entities located or operating in slaveholding states;

g. Predecessor entities accepted, held or purchased bonds or stock in companies located or operating in slaveholding states; and

h. Predecessors had agents located or operating in slaveholding states.

Attachment A: List of Pre-1866 Citi Predecessors

Predecessor Entity Name	Location	Date Founded	Successor Entity
Quilter	United Kingdom	1771	Citigroup
Citibank, National Association (Current entity)	Originally NY, Currently SD	1812	Current Entity
The Bank of America, New York	NY	1812	National City Bank of New York
J. Henry Schroder & Co. Ltd.	Unknown	1818	Citigroup
Farmers' Loan and Trust Company	Unknown	1822	First National City Trust Company
Helbert, Wagg & Co.	England	1823	J. Henry Schroder & Co. Ltd.
Atlantic National Bank of the City of New York	NY	1829	The Bank of America, New York
Lehman Brothers	Originally AL, later NY	1850	Travelers Group Inc. (1993) Citigroup (1998)
Connecticut Fire Insurance Co.	CT	1850	Phoenix Insurance Co The Travelers Corp
Bank of the Republic	NY	1851	First National Bank of the City of New York
East River National Bank	NY	1852	Bowery and East River National Bank of New York
Phoenix Insurance Co.	CT	1854	The Travelers Indemnity Co. (Hartford, Conn.) The Travelers Corp.
H. Hentz & Co.	Unknown	1856	Hayden, Stone & Co.
Nassau Bank of Brooklyn	NY	1859	Bank of America, National Association
Equitable Fire & Marine Insurance Co.	RI	1859	Phoenix Insurance Co The Travelers Corp
Third National Bank of the City of New York	NY	1863	The National City Bank of New York
Second National Bank of the City of New York	NY	1863	The National City Bank of New York
First National Bank of the City of New York	NY	1863	City Bank of New York
The Travelers Life and Accident Insurance Company	CT	1863	Primerica Corporation
Bowery National Bank of New York	NY	1865	Bowery and East River National Bank of New York

Cantoni & Co.	NY	1865	Lionello Perera & Co. / Commercial Exchange National Bank

ASSISTANT SECRETARY CERTIFICATE

CITIBANK, N.A.

[redacted]

[redacted]

[redacted]

[redacted]

[redacted] WITNESS WHEREOF, I have hereunto affixed my official signature and seal of the Bank on this 8th day of November **2023.**

citibank
CITIBANK, N.A.

[redacted]

CITY OF CHICAGO
ECONOMIC DISCLOSURE STATEMENT
AND AFFIDAVIT

SECTION I -- GENERAL INFORMATION

A. Legal name of the Disclosing Party submitting this EDS. Include d/b/a/ if applicable:

Citicorp LLC

Check ONE of the following three boxes:

Indicate whether the Disclosing Party submitting this EDS is:

1. [ ] the Applicant

OR

2. [x] a legal entity currently holding, or anticipated to hold within six months after City action on the contract, transaction or other undertaking to which this EDS pertains (referred to below as the "Matter"), a direct or indirect interest in excess of 7.5% in the Applicant. State the Applicant's legal name: Citibank, N.A.

OR

3. [ ] a legal entity with a direct or indirect right of control of the Applicant (see Section II(B)(1)) State the legal name of the entity in which the Disclosing Party holds a right of control:

B. Business address of the Disclosing Party: [redacted]

C. Telephone: [redacted] Fax: N/A Email: [redacted]

D. Name of contact person: [redacted]

E. Federal Employer Identification No. (if you have one): [redacted]

F. Brief description of the Matter to which this EDS pertains. (Include project number and location of property, if applicable):

2024 Municipal Depository RFP

G. Which City agency or department is requesting this EDS? Department of Finance

If the Matter is a contract being handled by the City's Department of Procurement Services, please complete the following:

Specification # _____ and Contract # _____

SECTION II -- DISCLOSURE OF OWNERSHIP INTERESTS

A. NATURE OF THE DISCLOSING PARTY

1. Indicate the nature of the Disclosing Party:

[ ] Person
[ ] Publicly registered business corporation
[ ] Privately held business corporation
[ ] Sole proprietorship
[ ] General partnership
[ ] Limited partnership
[ ] Trust
[x] Limited liability company
[ ] Limited liability partnership
[ ] Joint venture
[ ] Not-for-profit corporation
(Is the not-for-profit corporation also a 501(c)(3))?
[ ] Yes [ ] No
[ ] Other (please specify)

_____

2. For legal entities, the state (or foreign country) of incorporation or organization, if applicable:

Delaware

3. For legal entities not organized in the State of Illinois: Has the organization registered to do business in the State of Illinois as a foreign entity?

[ ] Yes [x] No [ ] Organized in Illinois

B. IF THE DISCLOSING PARTY IS A LEGAL ENTITY:

1. List below the full names and titles, if applicable, of: (i) all executive officers and all directors of the entity; (ii) **for not-for-profit corporations**, all members, if any, which are legal entities (if there are no such members, write "no members which are legal entities"); (iii) **for trusts, estates or other similar entities**, the trustee, executor, administrator, or similarly situated party; (iv) **for general or limited partnerships, limited liability companies, limited liability partnerships or joint ventures**, each general partner, managing member, manager or any other person or legal entity that directly or indirectly controls the day-to-day management of the Applicant.

NOTE: Each legal entity listed below must submit an EDS on its own behalf.

Name Title

See Attachment A for a list of Citicorp LLC officers and directors

2. Please provide the following information concerning each person or legal entity having a direct or indirect, current or prospective (i.e. within 6 months after City action) beneficial interest (including ownership) in excess of 7.5% of the Applicant. Examples of such an interest include shares in a corporation, partnership interest in a partnership or joint venture, interest of a member or manager in a

limited liability company, or interest of a beneficiary of a trust, estate or other similar entity. If none, state "None."

NOTE: Each legal entity listed below may be required to submit an EDS on its own behalf.

Name	Business Address	Percentage Interest in the Applicant
Citigroup Inc.	388 Greenwich St. New York, NY 10013	100%

SECTION III -- INCOME OR COMPENSATION TO, OR OWNERSHIP BY, CITY ELECTED OFFICIALS

Has the Disclosing Party provided any income or compensation to any City elected official during the 12-month period preceding the date of this EDS? [ ] Yes [x] No

Does the Disclosing Party reasonably expect to provide any income or compensation to any City elected official during the 12-month period following the date of this EDS? [ ] Yes [x] No

If "yes" to either of the above, please identify below the name(s) of such City elected official(s) and describe such income or compensation:

Does any City elected official or, to the best of the Disclosing Party's knowledge after reasonable inquiry, any City elected official's spouse or domestic partner, have a financial interest (as defined in Chapter 2-156 of the Municipal Code of Chicago ("MCC")) in the Disclosing Party?

[ ] Yes [x] No

If "yes," please identify below the name(s) of such City elected official(s) and/or spouse(s)/domestic partner(s) and describe the financial interest(s).

SECTION IV -- DISCLOSURE OF SUBCONTRACTORS AND OTHER RETAINED PARTIES

The Disclosing Party must disclose the name and business address of each subcontractor, attorney, lobbyist (as defined in MCC Chapter 2-156), accountant, consultant and any other person or entity whom the Disclosing Party has retained or expects to retain in connection with the Matter, as well as the nature of the relationship, and the total amount of the fees paid or estimated to be paid. The Disclosing Party is not required to disclose employees who are paid solely through the Disclosing Party's regular payroll. If the Disclosing Party is uncertain whether a disclosure is required under this Section, the Disclosing Party must either ask the City whether disclosure is required or make the disclosure.

Name (indicate whether retained or anticipated to be retained)	Business Address	Relationship to Disclosing Party (subcontractor, attorney, lobbyist, etc.)	Fees (indicate whether paid or estimated.) **NOTE:** "hourly rate" or "t.b.d." is not an acceptable response.

(Add sheets if necessary)

[x] Check here if the Disclosing Party has not retained, nor expects to retain, any such persons or entities.

SECTION V -- CERTIFICATIONS

A. COURT-ORDERED CHILD SUPPORT COMPLIANCE

Under MCC Section 2-92-415, substantial owners of business entities that contract with the City must remain in compliance with their child support obligations throughout the contract's term.

Has any person who directly or indirectly owns 10% or more of the Disclosing Party been declared in arrearage on any child support obligations by any Illinois court of competent jurisdiction?

[ ] Yes [x] No [ ] No person directly or indirectly owns 10% or more of the Disclosing Party.

If "Yes," has the person entered into a court-approved agreement for payment of all support owed and is the person in compliance with that agreement?

[ ] Yes [ ] No

B. FURTHER CERTIFICATIONS

1. [This paragraph 1 applies only if the Matter is a contract being handled by the City's Department of Procurement Services.] In the 5-year period preceding the date of this EDS, neither the Disclosing Party nor any Affiliated Entity [see definition in (5) below] has engaged, in connection with the performance of any public contract, the services of an integrity monitor, independent private sector inspector general, or integrity compliance consultant (i.e., an individual or entity with legal, auditing, investigative, or other similar skills, designated by a public agency to help the agency monitor the activity of specified agency vendors as well as help the vendors reform their business practices so they can be considered for agency contracts in the future, or continue with a contract in progress).

2. The Disclosing Party and its Affiliated Entities are not delinquent in the payment of any fine, fee, tax or other source of indebtedness owed to the City of Chicago, including, but not limited to, water and sewer charges, license fees, parking tickets, property taxes and sales taxes, nor is the Disclosing Party delinquent in the payment of any tax administered by the Illinois Department of Revenue.

3. The Disclosing Party and, if the Disclosing Party is a legal entity, all of those persons or entities identified in Section II(B)(1) of this EDS:

a. are not presently debarred, suspended, proposed for debarment, declared ineligible or voluntarily excluded from any transactions by any federal, state or local unit of government;

b. have not, during the 5 years before the date of this EDS, been convicted of a criminal offense, adjudged guilty, or had a civil judgment rendered against them in connection with: obtaining, attempting to obtain, or performing a public (federal, state or local) transaction or contract under a public transaction; a violation of federal or state antitrust statutes; fraud; embezzlement; theft; forgery; bribery; falsification or destruction of records; making false statements; or receiving stolen property;

c. are not presently indicted for, or criminally or civilly charged by, a governmental entity (federal, state or local) with committing any of the offenses set forth in subparagraph (b) above;

d. have not, during the 5 years before the date of this EDS, had one or more public transactions (federal, state or local) terminated for cause or default; and

e. have not, during the 5 years before the date of this EDS, been convicted, adjudged guilty, or found liable in a civil proceeding, or in any criminal or civil action, including actions concerning environmental violations, instituted by the City or by the federal government, any state, or any other unit of local government.

4. The Disclosing Party understands and shall comply with the applicable requirements of MCC Chapters 2-56 (Inspector General) and 2-156 (Governmental Ethics).

5. Certifications (5), (6) and (7) concern:
   - the Disclosing Party;
   - any “Contractor” (meaning any contractor or subcontractor used by the Disclosing Party in connection with the Matter, including but not limited to all persons or legal entities disclosed under Section IV, “Disclosure of Subcontractors and Other Retained Parties”);
   - any "Affiliated Entity" (meaning a person or entity that, directly or indirectly: controls the Disclosing Party, is controlled by the Disclosing Party, or is, with the Disclosing Party, under common control of another person or entity). Indicia of control include, without limitation: interlocking management or ownership; identity of interests among family members, shared facilities and equipment; common use of employees; or organization of a business entity following the ineligibility of a business entity to do business with federal or state or local government, including the City, using substantially the same management, ownership, or principals as the ineligible entity. With respect to Contractors, the term Affiliated Entity means a person or entity that directly or indirectly controls the Contractor, is controlled by it, or, with the Contractor, is under common control of another person or entity;
   - any responsible official of the Disclosing Party, any Contractor or any Affiliated Entity or any other official, agent or employee of the Disclosing Party, any Contractor or any Affiliated Entity, acting pursuant to the direction or authorization of a responsible official of the Disclosing Party, any Contractor or any Affiliated Entity (collectively "Agents").

Neither the Disclosing Party, nor any Contractor, nor any Affiliated Entity of either the Disclosing Party or any Contractor, nor any Agents have, during the 5 years before the date of this EDS, or, with respect to a Contractor, an Affiliated Entity, or an Affiliated Entity of a Contractor during the 5 years before the date of such Contractor's or Affiliated Entity's contract or engagement in connection with the Matter:

a. bribed or attempted to bribe, or been convicted or adjudged guilty of bribery or attempting to bribe, a public officer or employee of the City, the State of Illinois, or any agency of the federal government or of any state or local government in the United States of America, in that officer's or employee's official capacity;

b. agreed or colluded with other bidders or prospective bidders, or been a party to any such agreement, or been convicted or adjudged guilty of agreement or collusion among bidders or prospective bidders, in restraint of freedom of competition by agreement to bid a fixed price or otherwise; or

c. made an admission of such conduct described in subparagraph (a) or (b) above that is a matter of record, but have not been prosecuted for such conduct; or

d. violated the provisions referenced in MCC Subsection 2-92-320(a)(4)(Contracts Requiring a Base Wage); (a)(5)(Debarment Regulations); or (a)(6)(Minimum Wage Ordinance).

6. Neither the Disclosing Party, nor any Affiliated Entity or Contractor, or any of their employees, officials, agents or partners, is barred from contracting with any unit of state or local government as a result of engaging in or being convicted of (1) bid-rigging in violation of 720 ILCS 5/33E-3; (2) bid-rotating in violation of 720 ILCS 5/33E-4; or (3) any similar offense of any state or of the United States of America that contains the same elements as the offense of bid-rigging or bid-rotating.

7. Neither the Disclosing Party nor any Affiliated Entity is listed on a Sanctions List maintained by the United States Department of Commerce, State, or Treasury, or any successor federal agency.

8. [FOR APPLICANT ONLY] (i) Neither the Applicant nor any "controlling person" [see MCC Chapter 1-23, Article I for applicability and defined terms] of the Applicant is currently indicted or charged with, or has admitted guilt of, or has ever been convicted of, or placed under supervision for, any criminal offense involving actual, attempted, or conspiracy to commit bribery, theft, fraud, forgery, perjury, dishonesty or deceit against an officer or employee of the City or any "sister agency"; and (ii) the Applicant understands and acknowledges that compliance with Article I is a continuing requirement for doing business with the City. NOTE: If MCC Chapter 1-23, Article I applies to the Applicant, that Article's permanent compliance timeframe supersedes 5-year compliance timeframes in this Section V.

9. [FOR APPLICANT ONLY] The Applicant and its Affiliated Entities will not use, nor permit their subcontractors to use, any facility listed as having an active exclusion by the U.S. EPA on the federal System for Award Management ("SAM").

10. [FOR APPLICANT ONLY] The Applicant will obtain from any contractors/subcontractors hired or to be hired in connection with the Matter certifications equal in form and substance to those in Certifications (2) and (9) above and will not, without the prior written consent of the City, use any such

contractor/subcontractor that does not provide such certifications or that the Applicant has reason to believe has not provided or cannot provide truthful certifications.

11. If the Disclosing Party is unable to certify to any of the above statements in this Part B (Further Certifications), the Disclosing Party must explain below:

See Attachment B in support of the above.

If the letters "NA," the word "None," or no response appears on the lines above, it will be conclusively presumed that the Disclosing Party certified to the above statements.

12. To the best of the Disclosing Party's knowledge after reasonable inquiry, the following is a complete list of all current employees of the Disclosing Party who were, at any time during the 12-month period preceding the date of this EDS, an employee, or elected or appointed official, of the City of Chicago (if none, indicate with "N/A" or "none").

N/A

13. To the best of the Disclosing Party's knowledge after reasonable inquiry, the following is a complete list of all gifts that the Disclosing Party has given or caused to be given, at any time during the 12-month period preceding the execution date of this EDS, to an employee, or elected or appointed official, of the City of Chicago. For purposes of this statement, a "gift" does not include: (i) anything made generally available to City employees or to the general public, or (ii) food or drink provided in the course of official City business and having a retail value of less than $25 per recipient, or (iii) a political contribution otherwise duly reported as required by law (if none, indicate with "N/A" or "none"). As to any gift listed below, please also list the name of the City recipient.

N/A

C. CERTIFICATION OF STATUS AS FINANCIAL INSTITUTION

1. The Disclosing Party certifies that the Disclosing Party (check one)

[x] is [ ] is not

a "financial institution" as defined in MCC Section 2-32-455(b).

2. If the Disclosing Party IS a financial institution, then the Disclosing Party pledges:

"We are not and will not become a predatory lender as defined in MCC Chapter 2-32. We further pledge that none of our affiliates is, and none of them will become, a predatory lender as defined in MCC Chapter 2-32. We understand that becoming a predatory lender or becoming an affiliate of a predatory lender may result in the loss of the privilege of doing business with the City."

If the Disclosing Party is unable to make this pledge because it or any of its affiliates (as defined in MCC Section 2-32-455(b)) is a predatory lender within the meaning of MCC Chapter 2-32, explain here (attach additional pages if necessary):

_____

_____

If the letters "NA," the word "None," or no response appears on the lines above, it will be conclusively presumed that the Disclosing Party certified to the above statements.

D. CERTIFICATION REGARDING FINANCIAL INTEREST IN CITY BUSINESS

Any words or terms defined in MCC Chapter 2-156 have the same meanings if used in this Part D.

1. In accordance with MCC Section 2-156-110: To the best of the Disclosing Party's knowledge after reasonable inquiry, does any official or employee of the City have a financial interest in his or her own name or in the name of any other person or entity in the Matter?

[ ] Yes [x] No

NOTE: If you checked "Yes" to Item D(1), proceed to Items D(2) and D(3). If you checked "No" to Item D(1), skip Items D(2) and D(3) and proceed to Part E.

2. Unless sold pursuant to a process of competitive bidding, or otherwise permitted, no City elected official or employee shall have a financial interest in his or her own name or in the name of any other person or entity in the purchase of any property that (i) belongs to the City, or (ii) is sold for taxes or assessments, or (iii) is sold by virtue of legal process at the suit of the City (collectively, "City Property Sale"). Compensation for property taken pursuant to the City's eminent domain power does not constitute a financial interest within the meaning of this Part D.

Does the Matter involve a City Property Sale?

[ ] Yes [ ] No

3. If you checked "Yes" to Item D(1), provide the names and business addresses of the City officials or employees having such financial interest and identify the nature of the financial interest:

Name Business Address Nature of Financial Interest

_____

_____

_____

4. The Disclosing Party further certifies that no prohibited financial interest in the Matter will be acquired by any City official or employee.

E. CERTIFICATION REGARDING SLAVERY ERA BUSINESS

Please check either (1) or (2) below. If the Disclosing Party checks (2), the Disclosing Party must disclose below or in an attachment to this EDS all information required by (2). Failure to comply with these disclosure requirements may make any contract entered into with the City in connection with the Matter voidable by the City.

____1. The Disclosing Party verifies that the Disclosing Party has searched any and all records of the Disclosing Party and any and all predecessor entities regarding records of investments or profits from slavery or slaveholder insurance policies during the slavery era (including insurance policies issued to slaveholders that provided coverage for damage to or injury or death of their slaves), and the Disclosing Party has found no such records.

____2. The Disclosing Party verifies that, as a result of conducting the search in step (1) above, the Disclosing Party has found records of investments or profits from slavery or slaveholder insurance policies. The Disclosing Party verifies that the following constitutes full disclosure of all such records, including the names of any and all slaves or slaveholders described in those records:
Please see attached Citigroup affidavit and disclosure statement.

SECTION VI -- CERTIFICATIONS FOR FEDERALLY FUNDED MATTERS

NOTE: **If the Matter is federally funded**, complete this Section VI. **If the Matter is not federally funded**, proceed to Section VII. For purposes of this Section VI, tax credits allocated by the City and proceeds of debt obligations of the City are not federal funding.

A. CERTIFICATION REGARDING LOBBYING

1. List below the names of all persons or entities registered under the federal Lobbying Disclosure Act of 1995, as amended, who have made lobbying contacts on behalf of the Disclosing Party with respect to the Matter: (Add sheets if necessary):

(If no explanation appears or begins on the lines above, or if the letters "NA" or if the word "None" appear, it will be conclusively presumed that the Disclosing Party means that NO persons or entities registered under the Lobbying Disclosure Act of 1995, as amended, have made lobbying contacts on behalf of the Disclosing Party with respect to the Matter.)

2. The Disclosing Party has not spent and will not expend any federally appropriated funds to pay any person or entity listed in paragraph A(1) above for his or her lobbying activities or to pay any person or entity to influence or attempt to influence an officer or employee of any agency, as defined by applicable federal law, a member of Congress, an officer or employee of Congress, or an employee

of a member of Congress, in connection with the award of any federally funded contract, making any federally funded grant or loan, entering into any cooperative agreement, or to extend, continue, renew, amend, or modify any federally funded contract, grant, loan, or cooperative agreement.

3. The Disclosing Party will submit an updated certification at the end of each calendar quarter in which there occurs any event that materially affects the accuracy of the statements and information set forth in paragraphs A(1) and A(2) above.

4. The Disclosing Party certifies that either: (i) it is not an organization described in section 501(c)(4) of the Internal Revenue Code of 1986; or (ii) it is an organization described in section 501(c)(4) of the Internal Revenue Code of 1986 but has not engaged and will not engage in "Lobbying Activities," as that term is defined in the Lobbying Disclosure Act of 1995, as amended.

5. If the Disclosing Party is the Applicant, the Disclosing Party must obtain certifications equal in form and substance to paragraphs A(1) through A(4) above from all subcontractors before it awards any subcontract and the Disclosing Party must maintain all such subcontractors' certifications for the duration of the Matter and must make such certifications promptly available to the City upon request.

B. CERTIFICATION REGARDING EQUAL EMPLOYMENT OPPORTUNITY

If the Matter is federally funded, federal regulations require the Applicant and all proposed subcontractors to submit the following information with their bids or in writing at the outset of negotiations.

Is the Disclosing Party the Applicant?
[ ] Yes [ ] No

If “Yes,” answer the three questions below:

1. Have you developed and do you have on file affirmative action programs pursuant to applicable federal regulations? (See 41 CFR Part 60-2.)
[ ] Yes [ ] No

2. Have you filed with the Joint Reporting Committee, the Director of the Office of Federal Contract Compliance Programs, or the Equal Employment Opportunity Commission all reports due under the applicable filing requirements?
[ ] Yes [ ] No [ ] Reports not required

3. Have you participated in any previous contracts or subcontracts subject to the equal opportunity clause?
[ ] Yes [ ] No

If you checked “No” to question (1) or (2) above, please provide an explanation:

_____

_____

SECTION VII -- FURTHER ACKNOWLEDGMENTS AND CERTIFICATION

The Disclosing Party understands and agrees that:

A. The certifications, disclosures, and acknowledgments contained in this EDS will become part of any contract or other agreement between the Applicant and the City in connection with the Matter, whether procurement, City assistance, or other City action, and are material inducements to the City's execution of any contract or taking other action with respect to the Matter. The Disclosing Party understands that it must comply with all statutes, ordinances, and regulations on which this EDS is based.

B. The City's Governmental Ethics Ordinance, MCC Chapter 2-156, imposes certain duties and obligations on persons or entities seeking City contracts, work, business, or transactions. The full text of this ordinance and a training program is available on line at www.cityofchicago.org/Ethics, and may also be obtained from the City's Board of Ethics, 740 N. Sedgwick St., Suite 500, Chicago, IL 60610, (312) 744-9660. The Disclosing Party must comply fully with this ordinance.

C. If the City determines that any information provided in this EDS is false, incomplete or inaccurate, any contract or other agreement in connection with which it is submitted may be rescinded or be void or voidable, and the City may pursue any remedies under the contract or agreement (if not rescinded or void), at law, or in equity, including terminating the Disclosing Party's participation in the Matter and/or declining to allow the Disclosing Party to participate in other City transactions. Remedies at law for a false statement of material fact may include incarceration and an award to the City of treble damages.

D. It is the City's policy to make this document available to the public on its Internet site and/or upon request. Some or all of the information provided in, and appended to, this EDS may be made publicly available on the Internet, in response to a Freedom of Information Act request, or otherwise. By completing and signing this EDS, the Disclosing Party waives and releases any possible rights or claims which it may have against the City in connection with the public release of information contained in this EDS and also authorizes the City to verify the accuracy of any information submitted in this EDS.

E. The information provided in this EDS must be kept current. In the event of changes, the Disclosing Party must supplement this EDS up to the time the City takes action on the Matter. If the Matter is a contract being handled by the City's Department of Procurement Services, the Disclosing Party must update this EDS as the contract requires. **NOTE:** With respect to Matters subject to MCC Chapter 1-23, Article I (imposing **PERMANENT INELIGIBILITY** for certain specified offenses), the information provided herein regarding eligibility must be kept current for a longer period, as required by MCC Chapter 1-23 and Section 2-154-020.

CERTIFICATION

Under penalty of perjury, the person signing below: (1) warrants that he/she is authorized to execute this EDS, and all applicable Appendices, on behalf of the Disclosing Party, and (2) warrants that all certifications and statements contained in this EDS, and all applicable Appendices, are true, accurate and complete as of the date furnished to the City.

[redacted]

(Print or type exact legal name of Disclosing Party)

By: [redacted]

(Print or type name of person signing)

[redacted]

(Print or type title of person signing)

Signed and sworn to before me on (date) [redacted]

at [redacted] County, [redacted] State).

[redacted]

Notary Public

Commission expires: [redacted]

[redacted]

CITY OF CHICAGO
ECONOMIC DISCLOSURE STATEMENT AND AFFIDAVIT
APPENDIX A

FAMILIAL RELATIONSHIPS WITH ELECTED CITY OFFICIALS AND DEPARTMENT HEADS

This Appendix is to be completed only by (a) the Applicant, and (b) any legal entity which has a direct ownership interest in the Applicant exceeding 7.5%. It is not to be completed by any legal entity which has only an indirect ownership interest in the Applicant.

Under MCC Section 2-154-015, the Disclosing Party must disclose whether such Disclosing Party or any "Applicable Party" or any Spouse or Domestic Partner thereof currently has a "familial relationship" with any elected city official or department head. A "familial relationship" exists if, as of the date this EDS is signed, the Disclosing Party or any "Applicable Party" or any Spouse or Domestic Partner thereof is related to the mayor, any alderman, the city clerk, the city treasurer or any city department head as spouse or domestic partner or as any of the following, whether by blood or adoption: parent, child, brother or sister, aunt or uncle, niece or nephew, grandparent, grandchild, father-in-law, mother-in-law, son-in-law, daughter-in-law, stepfather or stepmother, stepson or stepdaughter, stepbrother or stepsister or half-brother or half-sister.

"Applicable Party" means (1) all executive officers of the Disclosing Party listed in Section II.B.1.a., if the Disclosing Party is a corporation; all partners of the Disclosing Party, if the Disclosing Party is a general partnership; all general partners and limited partners of the Disclosing Party, if the Disclosing Party is a limited partnership; all managers, managing members and members of the Disclosing Party, if the Disclosing Party is a limited liability company; (2) all principal officers of the Disclosing Party; and (3) any person having more than a 7.5% ownership interest in the Disclosing Party. "Principal officers" means the president, chief operating officer, executive director, chief financial officer, treasurer or secretary of a legal entity or any person exercising similar authority.

Does the Disclosing Party or any "Applicable Party" or any Spouse or Domestic Partner thereof currently have a "familial relationship" with an elected city official or department head?

[ ] Yes [x] No

If yes, please identify below (1) the name and title of such person, (2) the name of the legal entity to which such person is connected; (3) the name and title of the elected city official or department head to whom such person has a familial relationship, and (4) the precise nature of such familial relationship.

_____

_____

_____

CITY OF CHICAGO
ECONOMIC DISCLOSURE STATEMENT AND AFFIDAVIT
APPENDIX B

BUILDING CODE SCOFFLAW/PROBLEM LANDLORD CERTIFICATION

This Appendix is to be completed only by (a) the Applicant, and (b) any legal entity which has a direct ownership interest in the Applicant exceeding 7.5% (an "Owner"). It is not to be completed by any legal entity which has only an indirect ownership interest in the Applicant.

1. Pursuant to MCC Section 2-154-010, is the Applicant or any Owner identified as a building code scofflaw or problem landlord pursuant to MCC Section 2-92-416?

[ ] Yes [x] No

Citi has exited the loan servicing business and all ongoing service has been outsourced to a vendor. The vendor is contractually obligatedd to comply with all federal, state, county and local; regulatory requirmetns regarding mortgage servicing.

2. If the Applicant is a legal entity publicly traded on any exchange, is any officer or director of the Applicant identified as a building code scofflaw or problem landlord pursuant to MCC Section 2-92-416?

Citi has exited the loan servicing business and all ongoing service has been outsourced to a vendor. The vendor is contractually obligatedd to comply with all federal, state, county and local; regulatory requirmetns regarding mortgage servicing.

[ ] Yes [ ] No [x] The Applicant is not publicly traded on any exchange.

3. If yes to (1) or (2) above, please identify below the name of each person or legal entity identified as a building code scofflaw or problem landlord and the address of each building or buildings to which the pertinent code violations apply.

_____

_____

_____

CITY OF CHICAGO
ECONOMIC DISCLOSURE STATEMENT AND AFFIDAVIT
APPENDIX C

PROHIBITION ON WAGE & SALARY HISTORY SCREENING - CERTIFICATION

This Appendix is to be completed only by an Applicant that is completing this EDS as a "contractor" as defined in MCC Section 2-92-385. That section, which should be consulted (www.amlegal.com), generally covers a party to any agreement pursuant to which they: (i) receive City of Chicago funds in consideration for services, work or goods provided (including for legal or other professional services), or (ii) pay the City money for a license, grant or concession allowing them to conduct a business on City premises.

On behalf of an Applicant that is a contractor pursuant to MCC Section 2-92-385, I hereby certify that the Applicant is in compliance with MCC Section 2-92-385(b)(1) and (2), which prohibit: (i) screening job applicants based on their wage or salary history, or (ii) seeking job applicants' wage or salary history from current or former employers. I also certify that the Applicant has adopted a policy that includes those prohibitions.

[x] Yes

[ ] No

[ ] N/A – I am not an Applicant that is a "contractor" as defined in MCC Section 2-92-385.

This certification shall serve as the affidavit required by MCC Section 2-92-385(c)(1).

If you checked "no" to the above, please explain.

_____

_____

_____

ATTACHMENT A:
DIRECTORS & PRINCIPAL OFFICERS
As of October 30, 2023

CITICORP LLC

CITIGROUP INC. AND ITS AFFILIATES:
LITIGATION AND REGULATORY MATTERS
Attachment B

Affidavit of Citigroup Inc.

I, [redacted], am an authorized representative of Citigroup Inc. ("Citi"). I hereby certify that Citi has searched, or caused to be searched, its records and those of its predecessor companies for information relating to participation or investments in, or profits derived from slavery or slaveholder insurance policies, as described in Appendix I below.

Appendix I

Citi Historic Records Review Summary

The history of Citigroup Inc. ("Citi") dates back to the founding of the City Bank of New York in 1812. As identified in Attachment A, most of Citi's pre-1866 predecessor institutions were founded in the Northeastern United States, including in New York, Rhode Island, and Connecticut. Although a large majority of Citi's pre-1866 predecessors were founded in the Northeast, certain predecessor institutions interacted with individuals and entities located outside of the region, including individuals, companies, and other financial institutions in areas of the country where slavery was legal until December 1865.

Citi has reviewed records of its predecessor entities within its possession and control in the Citi Heritage Collection, as well as select external sources as described below, for evidence that any Citi predecessor entity participated in the U.S. Slave Trade or received profits from the institution of slavery in the United States. Citi's review of these materials did not identify any records demonstrating that a Citi predecessor entity directly purchased, sold or held enslaved persons, issued insurance policies to slaveholders to insure enslaved persons, issued insurance policies for business transactions or operations related to the trafficking of enslaved persons, used enslaved persons as collateral for insurance policies, loans or other transactions, facilitated the traffic of enslaved persons, or otherwise provided capital or other services to facilitate the U.S. slave trade or institution of slavery in the United States.

However, as discussed in Section III below, as financial institutions operating in the Early National and Antebellum periods, some Citi predecessor entities may have indirectly profited from the institution of slavery in the United States. In particular, Citi's review of its records indicates that Citi predecessors likely profited from financial transactions and relationships with individuals and entities located or operating in slaveholding states in the United States before 1866 that owned enslaved persons, relied on the labor of enslaved persons, or otherwise were involved in or connected to the U.S. slave trade. Citi records indicate, for example, that individuals and entities located or operating in slaveholding states were accountholders of predecessor entities, that predecessor entities had agents located or operating in the Southern United States, and that predecessor entities had financial relationships with some banking institutions, individuals, and entities located or operating in slaveholding states.

I. Overview of Citigroup Inc.'s Origins

Citi's corporate lineage includes more than 400 predecessor institutions, 21 of which were established before 1866. Citi's internal corporate archives include records relating to 12 of these 21 entities. In the 211 years since its founding, Citi has undergone several name changes and completed numerous acquisitions and mergers. Attachment A contains a list of Citi predecessor entities.

II. Research Methodology

Citi previously researched potential connections between its predecessor entities and the institution of slavery in the United States in the early 2000s. This research did not identify evidence of any business dealings or investments that could be discerned as involving slavery or insurance on enslaved persons. In 2022, a team of professional historians ("the review team" or "the historians") working on Citi's behalf updated this research. The review team examined Citi's corporate genealogy to ensure that it reflected all of Citi's predecessor entities and reviewed all potentially relevant pre-1866 documents contained in the Citi Heritage Collection, an internal corporate archive of Citi's historical records.

Review of Predecessor Records

Records in the Citi Heritage Collection document the founding and evolution of the City Bank of New York, the formation of First National City Corporation, as well as various other predecessor institutions including Farmers' Loan and Trust Company (formerly named Farmers' Fire Insurance and Loan Company); First National Bank of the City of New York; Second National Bank of New York; Bank of America, New York; Nassau Bank of Brooklyn, Merchants' Exchange National Bank (formerly named Merchants' Exchange Bank); and East River National Bank. The historians had unrestricted access to the entire historical collection and reviewed thousands of pages of materials including account ledger books, Board of Directors' meeting minutes, letter books, incorporation papers, by-laws, statements of condition, stock certificates, bonds, correspondence, and other legal documents.

The Citi Heritage Collection is not a complete repository of all Citi predecessor records. When Citi acquired or merged with other entities, some but not all of those companies' records were transferred to Citi. As a result, not all material created by the firm's own activities or those of its predecessor entities that became part of Citi's corporate lineage have been preserved in the Citi Heritage Collection. Even where Citi has records for a particular entity and materials have been preserved, there are significant gaps in the collection. The historians' review of the Citi Heritage Collection involved a comprehensive review of relevant records to identify indications of predecessor involvement in or potential profits from the institution of slavery in the United States.

The review also included records contained in eight public repositories: New York Public Library's Manuscript and Archives Division, Cornell University Library's Division of Rare and Manuscript Collection, the Probate Court of Mobile County, Alabama, the Historic Mobile Preservation Society Archives, the History Museum of Mobile, the Mobile Public Library; the Alabama Supreme Court and State Law Library; and the Library of Congress.

The Manuscripts and Archives Division at the New York Public Library holds a collection of materials relating to Moses Taylor, a Director and President of City Bank of New York, who, as described below, profited from the institution of slavery. Although the finding aid for the collection identified documents that appeared to be City Bank of New York and National City Bank of New York records, the historians reviewed these documents and determined that

the documents were not Citi predecessor records, but rather personal records of Moses Taylor and his businesses.

The historians also reviewed certain records related to Henry Hitchcock, who, as described below, owned enslaved persons in Alabama. This review included records at the Division of Rare and Manuscript Collections at Cornell University, which holds records of Farmers' Loan and Trust Company (1829 – 1866), one of Citi's predecessor entities that conducted business with Hitchcock. The collection includes abstracts of title, agreements of sale and articles of trust, copies of the deeds and the contract schedules used to transfer title, detailed maps of townships where the transfers took place, resolutions by officers of the company, powers of attorney to company agents, schedules of land and of mortgage foreclosures, bills of costs, accounts of cattle received in payments on mortgages, and other material relating to the management of the business. The historians completed a comprehensive review of the Farmers' collection at Cornell.

The historians also reviewed materials at the Probate Court of Mobile Alabama, History Museum of Mobile Alabama, and Mobile Public Library's Local History & Genealogy Library related to Hitchcock. The Alabama Supreme Court and State Law Library maintains a set of records concerning Henry Hitchcock, which were obtained from the Missouri Historical Society's Hitchcock Family Collection. The historians reviewed correspondence, estate records, and secondary source materials concerning Hitchcock, as well as genealogical databases, historical court cases, and benchmark secondary sources at the Library of Congress. Their conclusions related to this review are discussed in Section III below.

III. Potential Connections to the Institution of Slavery in the United States

The review of Citi's internal records, supplemented by the review of materials in the external collections described above, found no record indicating that a Citi predecessor entity directly purchased, sold, or held enslaved persons, issued insurance policies to slaveholders to insure enslaved persons, issued insurance policies for business transactions and operations related to the trafficking of enslaved persons, used enslaved persons as collateral for insurance policies, loans or other transactions, facilitated the traffic of enslaved persons, or otherwise provided capital or other services to facilitate the Slave Trade. The records do suggest, however, that some of Citi's predecessor entities may have profited from financial transactions and relationships with individuals and entities located or operating in slaveholding states in the United States prior to 1866 that enslaved persons, relied on the labor of enslaved persons, or otherwise were involved in the institution of slavery in the United States.

Farmers' Loan and Trust Company[1]

The review considered whether a transaction between Farmers' Loan and Trust Company, a Citi predecessor company, and Henry Hitchcock might have resulted in Farmer's

[1] Farmers' Fire Insurance and Loan Company changed its name to Farmers' Loan and Trust Company in 1836. For ease of reference, this document refers to the entity as Farmers' Loan and Trust Company.

owning some of the persons enslaved by Hitchcock. The review ultimately concluded that the transaction reflected in Citi's records did not result in the Citi predecessor owning any persons enslaved by Hitchcock.

Records contained in the Citi Heritage Collection reflect transactions between a Citi predecessor entity, Farmers' Loan and Trust Company, and Henry Hitchcock from 1832 – 1838, related to the creation of a trust on real estate in Mobile, Alabama in 1836, the renewal of two insurance policies for Hitchcock in 1832, and the acquisition of shares of the stock of the Alabama Life Insurance & Trust Company. Henry Hitchcock was one of the wealthiest men in Alabama during the time period and held positions as the first Attorney General of Alabama, the first Secretary of the Alabama Territory, and Chief Justice on the Alabama Supreme Court. 1830 U.S. Decennial Census records indicate that Hitchcock enslaved twenty-four persons. The names of the persons are not identified in the census.

The Farmers' Loan and Trust Company Minute Book, which is part of the Citi Heritage Collection, covers the 1835 through 1839 period and includes minutes that document the creation of a real estate trust for Hitchcock. According to these records, on October 3, 1836, the Committee of Trusts reviewed, and later accepted, an application by Henry Hitchcock for a trust in the amount of $600,000 on real estate in Mobile, Alabama, valued at $1.9 million. On March 20, 1837, the Committee of Trusts approved an agreement and declaration of trust between the Company and Hitchcock, confirming the extension of an $800,000 trust to Hitchcock and the Committee's satisfaction with the security. On May 18, 1838, the Committee of Trusts reviewed a letter from Henry Hitchcock requesting to cancel the contract and return the Company's Certificates, after the Company re-conveyed the property in Mobile held under the trust. The Committee accepted the cancelation of the trust.

Given the value of the real estate of $1.9 million in 1836 dollars and the location of the property in Mobile, Alabama, the review team considered the possibility that the property may have included persons enslaved by Hitchcock. Neither the Citi Heritage Collection nor Cornell University collection contain any additional details relating to the Hitchcock trust, including the contents of the trust or what real estate in Mobile, Alabama was conveyed. However, the collections maintained by the Probate Court of Mobile Alabama and the Alabama Supreme Court and State Law Library do include documents describing Hitchcock's transactions with Farmers' Loan and Trust Company and the extent of his real estate holdings and financial investments. These documents indicate that the trust was composed of several parcels of real estate and did not include enslaved persons, as do additional documents maintained by the Probate Court of Mobile Alabama and the Alabama Supreme Court and State Law Library related to the property's conveyance back to Hitchcock and later to another bank as collateral.

In addition to the trust discussed above, the Farmers' Loan and Trust Company Letter Book from 1832 – 1838 in the Citi Heritage Collection includes a letter from January 4, 1832, which discusses renewal of an insurance policy to Hitchcock and the lack of renewal of a second insurance policy. The letter does not identify the scope or contents of either insurance policy. There are no other records in the Citi Heritage Collection or at Cornell University that discuss insurance policies issued to Hitchcock.

Lehman Brothers

Citi's corporate timeline identifies Lehman Brothers, which was founded in 1850, as a predecessor entity to Travelers Group. In 1998 Travelers Group (previously Primerica) merged with Citicorp to become Citigroup Inc. Prior to that 1998 merger, Primerica had acquired certain assets connected to Shearson Lehman Hutton, a corporate descendant of Lehman Brothers, from American Express. However, at the time of Primerica's acquisition of those assets, American Express retained Lehman Brothers and thereafter spun it off as an independent entity. In 2003, the independent Lehman Brothers entity filed an affidavit pursuant to the Chicago Slavery Disclosure Ordinance identifying ties to the Slave Trade based on the predecessor of the same name founded in 1850. Although Lehman Brothers' disclosure was reported on publicly, Citi does not have a copy of Lehman Brothers' disclosure or affidavit, and the Citi Heritage Collection does not include records relating to Lehman Brothers because Citi did not acquire any Lehman Brothers records as a result of the merger with Travelers Group described above. However, based on public information regarding Lehman Brothers' affidavit, the 1850 Lehman Brothers entity likely profited from the institution of slavery in the United States.

City Bank of New York (National City Bank of New York as of 1865)

Between 1837 and 1882, Moses Taylor was a director, controlling shareholder, and President (1856-1882) of City Bank of New York. Taylor was also a director of Farmers' Loan and Trust Company. Taylor was a significant figure in the New York merchant economy and built a large fortune from shipping sugarcane and other commodities from Cuban plantations to the rest of the world, as well as investing in industries such as railroads, coffee, steel, coal, and utilities. Taylor was the largest stockholder and a director in both the Delaware Lackawanna and Western Railroad and the Central Railroad and Bank Company of the Georgia railroad system, as well as a leading stock and bond holder of numerous other Midwestern and Southern railroads.

Previous research undertaken on Moses Taylor indicates that Taylor utilized the bank as a private treasury for his own enterprises and required his companies to keep their principal accounts at City Bank of New York.[2] According to that research, Taylor himself, his business associates, and the firms they controlled supplied most of the bank's deposits during this period.[3] The review team did not identify any records in the Citi Heritage Collection suggesting that City Bank of New York directly purchased, sold or held enslaved persons, provided insurance

[2] HAROLD VAN B. CLEVELAND & THOMAS HUERTAS, CITIBANK: 1812-1970 (Harvard University Press 1985); DANIEL HODAS, THE BUSINESS CAREER OF MOSES TAYLOR: MERCHANT, FINANCE CAPITALIST, AND INDUSTRIALIST (Ishi Press 2010); Daniel Hodas, *Moses Taylor - New York Merchant American Industrialist and Finance Capitalist: A Case Study in Success*, 2 PROCEEDINGS OF THE BUSINESS HISTORY CONFERENCE 95 (1974); Maeve Glass, *Moses Taylor Pyne and the Sugar Trade*, 77 THE PRINCETON UNIVERSITY LIBRARY CHRONICLE 95 (Winter 2016); John Moody & George Kibbe Turner, *Masters of Capital in America Wall Street: The City Bank - The Federation of the Great Merchants*, XXXVII MCCLURE'S MAGAZINE 73 (May - Oct. 1911).

[3] *See supra* note 2.

policies to Taylor or his company that used enslaved persons as collateral, or provided loans or other capital to facilitate the trafficking of enslaved persons. However, given that a significant portion of Taylor's business was connected to the trade of sugar and its derivatives from Cuban plantations that used enslaved labor, City Bank of New York likely profited indirectly from enslaved labor in Cuba by engaging in transactions with Taylor and his businesses.

Potential Indirect Profits

Some of Citi's predecessor entities were financial institutions that operated in the Early National and Antebellum periods. Records contained in the Citi Heritage Collection and Cornell University indicate that some of these entities operated in slaveholding states in the United States prior to 1866, or that they did business with individuals and entities located or operating in slaveholding states prior to 1866. These predecessor entities likely derived indirect financial benefits from the institution of slavery in the United States through financial transactions or other business relationships with individuals and entities located or operating in slaveholding states prior to 1866 that owned enslaved persons, relied on the labor of enslaved persons, or otherwise were involved in the institution of slavery in the United States.

Citi's records indicate, for example:

a. Individuals and entities located or operating in slaveholding states of the United States were accountholders of predecessor entities;

b. A predecessor entity created land and property trusts for individuals and companies located or operating in slaveholding states;

c. Predecessor entities had business dealings with financial institutions located or operating in slaveholding states;

d. Predecessor entities accepted, held or purchased stock, shares, or bonds in financial institutions located or operating in slaveholding states;

e. A predecessor held or purchased bonds or shares for certain Southern states and municipalities known to have enslaved persons;

f. Predecessor entities extended credit to financial institutions, individuals, and entities located or operating in slaveholding states;

g. Predecessor entities accepted, held or purchased bonds or stock in companies located or operating in slaveholding states; and

h. Predecessors had agents located or operating in slaveholding states.

Attachment A: List of Pre-1866 Citi Predecessors

Predecessor Entity Name	Location	Date Founded	Successor Entity
Quilter	United Kingdom	1771	Citigroup
Citibank, National Association (Current entity)	Originally NY, Currently SD	1812	Current Entity
The Bank of America, New York	NY	1812	National City Bank of New York
J. Henry Schroder & Co. Ltd.	Unknown	1818	Citigroup
Farmers' Loan and Trust Company	Unknown	1822	First National City Trust Company
Helbert, Wagg & Co.	England	1823	J. Henry Schroder & Co. Ltd.
Atlantic National Bank of the City of New York	NY	1829	The Bank of America, New York
Lehman Brothers	Originally AL, later NY	1850	Travelers Group Inc. (1993) Citigroup (1998)
Connecticut Fire Insurance Co.	CT	1850	Phoenix Insurance Co The Travelers Corp
Bank of the Republic	NY	1851	First National Bank of the City of New York
East River National Bank	NY	1852	Bowery and East River National Bank of New York
Phoenix Insurance Co.	CT	1854	The Travelers Indemnity Co. (Hartford, Conn.) The Travelers Corp.
H. Hentz & Co.	Unknown	1856	Hayden, Stone & Co.
Nassau Bank of Brooklyn	NY	1859	Bank of America, National Association
Equitable Fire & Marine Insurance Co.	RI	1859	Phoenix Insurance Co The Travelers Corp
Third National Bank of the City of New York	NY	1863	The National City Bank of New York
Second National Bank of the City of New York	NY	1863	The National City Bank of New York
First National Bank of the City of New York	NY	1863	City Bank of New York
The Travelers Life and Accident Insurance Company	CT	1863	Primerica Corporation
Bowery National Bank of New York	NY	1865	Bowery and East River National Bank of New York

Cantoni & Co.	NY	1865	Lionello Perera & Co. / Commercial Exchange National Bank

CERTIFICATE OF INCUMBENCY

CITICORP LLC

[redacted]

CITY OF CHICAGO
ECONOMIC DISCLOSURE STATEMENT
AND AFFIDAVIT

SECTION I -- GENERAL INFORMATION

A. Legal name of the Disclosing Party submitting this EDS. Include d/b/a/ if applicable:

Citigroup Inc.

Check ONE of the following three boxes:

Indicate whether the Disclosing Party submitting this EDS is:

1. [ ] the Applicant

OR

2. [x] a legal entity currently holding, or anticipated to hold within six months after City action on the contract, transaction or other undertaking to which this EDS pertains (referred to below as the "Matter"), a direct or indirect interest in excess of 7.5% in the Applicant. State the Applicant's legal name: Citibank, N.A.

OR

3. [ ] a legal entity with a direct or indirect right of control of the Applicant (see Section II(B)(1)) State the legal name of the entity in which the Disclosing Party holds a right of control:

B. Business address of the Disclosing Party: 388 Greenwich Street, New York, NY 10013

C. Telephone: [redacted] Fax: N/A Email: [redacted]

D. Name of contact person: [redacted]

E. Federal Employer Identification No. (if you have one): [redacted]

F. Brief description of the Matter to which this EDS pertains. (Include project number and location of property, if applicable):

2024 Municipal Depository RFP

G. Which City agency or department is requesting this EDS? Department of Finance

If the Matter is a contract being handled by the City's Department of Procurement Services, please complete the following:

Specification # _____ and Contract # _____

SECTION II -- DISCLOSURE OF OWNERSHIP INTERESTS

A. NATURE OF THE DISCLOSING PARTY

1. Indicate the nature of the Disclosing Party:

[ ] Person
[x] Publicly registered business corporation
[ ] Privately held business corporation
[ ] Sole proprietorship
[ ] General partnership
[ ] Limited partnership
[ ] Trust
[ ] Limited liability company
[ ] Limited liability partnership
[ ] Joint venture
[ ] Not-for-profit corporation
(Is the not-for-profit corporation also a 501(c)(3))?
[ ] Yes [ ] No
[ ] Other (please specify)

_____

2. For legal entities, the state (or foreign country) of incorporation or organization, if applicable:

Delaware

3. For legal entities not organized in the State of Illinois: Has the organization registered to do business in the State of Illinois as a foreign entity?

[ ] Yes [x] No [ ] Organized in Illinois

B. IF THE DISCLOSING PARTY IS A LEGAL ENTITY:

1. List below the full names and titles, if applicable, of: (i) all executive officers and all directors of the entity; (ii) **for not-for-profit corporations**, all members, if any, which are legal entities (if there are no such members, write "no members which are legal entities"); (iii) **for trusts, estates or other similar entities**, the trustee, executor, administrator, or similarly situated party; (iv) **for general or limited partnerships, limited liability companies, limited liability partnerships or joint ventures**, each general partner, managing member, manager or any other person or legal entity that directly or indirectly controls the day-to-day management of the Applicant.

NOTE: Each legal entity listed below must submit an EDS on its own behalf.

Name Title

See Attachment A for a list of Citigroup Inc officers and directors

2. Please provide the following information concerning each person or legal entity having a direct or indirect, current or prospective (i.e. within 6 months after City action) beneficial interest (including ownership) in excess of 7.5% of the Applicant. Examples of such an interest include shares in a corporation, partnership interest in a partnership or joint venture, interest of a member or manager in a

limited liability company, or interest of a beneficiary of a trust, estate or other similar entity. If none, state "None."

NOTE: Each legal entity listed below may be required to submit an EDS on its own behalf.

Name	Business Address	Percentage Interest in the Applicant
Please see the Beneficial Ownership in excess of 7.5% of Citigroup Inc attachment.		

SECTION III -- INCOME OR COMPENSATION TO, OR OWNERSHIP BY, CITY ELECTED OFFICIALS

Has the Disclosing Party provided any income or compensation to any City elected official during the 12-month period preceding the date of this EDS? [ ] Yes [x] No

Does the Disclosing Party reasonably expect to provide any income or compensation to any City elected official during the 12-month period following the date of this EDS? [ ] Yes [x] No

If "yes" to either of the above, please identify below the name(s) of such City elected official(s) and describe such income or compensation:

Does any City elected official or, to the best of the Disclosing Party's knowledge after reasonable inquiry, any City elected official's spouse or domestic partner, have a financial interest (as defined in Chapter 2-156 of the Municipal Code of Chicago ("MCC")) in the Disclosing Party?

[ ] Yes [x] No

If "yes," please identify below the name(s) of such City elected official(s) and/or spouse(s)/domestic partner(s) and describe the financial interest(s).

SECTION IV -- DISCLOSURE OF SUBCONTRACTORS AND OTHER RETAINED PARTIES

The Disclosing Party must disclose the name and business address of each subcontractor, attorney, lobbyist (as defined in MCC Chapter 2-156), accountant, consultant and any other person or entity whom the Disclosing Party has retained or expects to retain in connection with the Matter, as well as the nature of the relationship, and the total amount of the fees paid or estimated to be paid. The Disclosing Party is not required to disclose employees who are paid solely through the Disclosing Party's regular payroll. If the Disclosing Party is uncertain whether a disclosure is required under this Section, the Disclosing Party must either ask the City whether disclosure is required or make the disclosure.

Name (indicate whether retained or anticipated to be retained)	Business Address	Relationship to Disclosing Party (subcontractor, attorney, lobbyist, etc.)	Fees (indicate whether paid or estimated.) **NOTE:** "hourly rate" or "t.b.d." is not an acceptable response.

(Add sheets if necessary)

[x] Check here if the Disclosing Party has not retained, nor expects to retain, any such persons or entities.

SECTION V -- CERTIFICATIONS

A. COURT-ORDERED CHILD SUPPORT COMPLIANCE

Under MCC Section 2-92-415, substantial owners of business entities that contract with the City must remain in compliance with their child support obligations throughout the contract's term.

Has any person who directly or indirectly owns 10% or more of the Disclosing Party been declared in arrearage on any child support obligations by any Illinois court of competent jurisdiction?

[ ] Yes [ ] No [x] No person directly or indirectly owns 10% or more of the Disclosing Party.

If "Yes," has the person entered into a court-approved agreement for payment of all support owed and is the person in compliance with that agreement?

[ ] Yes [ ] No

B. FURTHER CERTIFICATIONS

1. [This paragraph 1 applies only if the Matter is a contract being handled by the City's Department of Procurement Services.] In the 5-year period preceding the date of this EDS, neither the Disclosing Party nor any Affiliated Entity [see definition in (5) below] has engaged, in connection with the performance of any public contract, the services of an integrity monitor, independent private sector inspector general, or integrity compliance consultant (i.e., an individual or entity with legal, auditing, investigative, or other similar skills, designated by a public agency to help the agency monitor the activity of specified agency vendors as well as help the vendors reform their business practices so they can be considered for agency contracts in the future, or continue with a contract in progress).

2. The Disclosing Party and its Affiliated Entities are not delinquent in the payment of any fine, fee, tax or other source of indebtedness owed to the City of Chicago, including, but not limited to, water and sewer charges, license fees, parking tickets, property taxes and sales taxes, nor is the Disclosing Party delinquent in the payment of any tax administered by the Illinois Department of Revenue.

3. The Disclosing Party and, if the Disclosing Party is a legal entity, all of those persons or entities identified in Section II(B)(1) of this EDS:

a. are not presently debarred, suspended, proposed for debarment, declared ineligible or voluntarily excluded from any transactions by any federal, state or local unit of government;

b. have not, during the 5 years before the date of this EDS, been convicted of a criminal offense, adjudged guilty, or had a civil judgment rendered against them in connection with: obtaining, attempting to obtain, or performing a public (federal, state or local) transaction or contract under a public transaction; a violation of federal or state antitrust statutes; fraud; embezzlement; theft; forgery; bribery; falsification or destruction of records; making false statements; or receiving stolen property;

c. are not presently indicted for, or criminally or civilly charged by, a governmental entity (federal, state or local) with committing any of the offenses set forth in subparagraph (b) above;

d. have not, during the 5 years before the date of this EDS, had one or more public transactions (federal, state or local) terminated for cause or default; and

e. have not, during the 5 years before the date of this EDS, been convicted, adjudged guilty, or found liable in a civil proceeding, or in any criminal or civil action, including actions concerning environmental violations, instituted by the City or by the federal government, any state, or any other unit of local government.

4. The Disclosing Party understands and shall comply with the applicable requirements of MCC Chapters 2-56 (Inspector General) and 2-156 (Governmental Ethics).

5. Certifications (5), (6) and (7) concern:
   - the Disclosing Party;
   - any “Contractor” (meaning any contractor or subcontractor used by the Disclosing Party in connection with the Matter, including but not limited to all persons or legal entities disclosed under Section IV, “Disclosure of Subcontractors and Other Retained Parties”);
   - any "Affiliated Entity" (meaning a person or entity that, directly or indirectly: controls the Disclosing Party, is controlled by the Disclosing Party, or is, with the Disclosing Party, under common control of another person or entity). Indicia of control include, without limitation: interlocking management or ownership; identity of interests among family members, shared facilities and equipment; common use of employees; or organization of a business entity following the ineligibility of a business entity to do business with federal or state or local government, including the City, using substantially the same management, ownership, or principals as the ineligible entity. With respect to Contractors, the term Affiliated Entity means a person or entity that directly or indirectly controls the Contractor, is controlled by it, or, with the Contractor, is under common control of another person or entity;
   - any responsible official of the Disclosing Party, any Contractor or any Affiliated Entity or any other official, agent or employee of the Disclosing Party, any Contractor or any Affiliated Entity, acting pursuant to the direction or authorization of a responsible official of the Disclosing Party, any Contractor or any Affiliated Entity (collectively "Agents").

Neither the Disclosing Party, nor any Contractor, nor any Affiliated Entity of either the Disclosing Party or any Contractor, nor any Agents have, during the 5 years before the date of this EDS, or, with respect to a Contractor, an Affiliated Entity, or an Affiliated Entity of a Contractor during the 5 years before the date of such Contractor's or Affiliated Entity's contract or engagement in connection with the Matter:

a. bribed or attempted to bribe, or been convicted or adjudged guilty of bribery or attempting to bribe, a public officer or employee of the City, the State of Illinois, or any agency of the federal government or of any state or local government in the United States of America, in that officer's or employee's official capacity;

b. agreed or colluded with other bidders or prospective bidders, or been a party to any such agreement, or been convicted or adjudged guilty of agreement or collusion among bidders or prospective bidders, in restraint of freedom of competition by agreement to bid a fixed price or otherwise; or

c. made an admission of such conduct described in subparagraph (a) or (b) above that is a matter of record, but have not been prosecuted for such conduct; or

d. violated the provisions referenced in MCC Subsection 2-92-320(a)(4)(Contracts Requiring a Base Wage); (a)(5)(Debarment Regulations); or (a)(6)(Minimum Wage Ordinance).

6. Neither the Disclosing Party, nor any Affiliated Entity or Contractor, or any of their employees, officials, agents or partners, is barred from contracting with any unit of state or local government as a result of engaging in or being convicted of (1) bid-rigging in violation of 720 ILCS 5/33E-3; (2) bid-rotating in violation of 720 ILCS 5/33E-4; or (3) any similar offense of any state or of the United States of America that contains the same elements as the offense of bid-rigging or bid-rotating.

7. Neither the Disclosing Party nor any Affiliated Entity is listed on a Sanctions List maintained by the United States Department of Commerce, State, or Treasury, or any successor federal agency.

8. [FOR APPLICANT ONLY] (i) Neither the Applicant nor any "controlling person" [see MCC Chapter 1-23, Article I for applicability and defined terms] of the Applicant is currently indicted or charged with, or has admitted guilt of, or has ever been convicted of, or placed under supervision for, any criminal offense involving actual, attempted, or conspiracy to commit bribery, theft, fraud, forgery, perjury, dishonesty or deceit against an officer or employee of the City or any "sister agency"; and (ii) the Applicant understands and acknowledges that compliance with Article I is a continuing requirement for doing business with the City. NOTE: If MCC Chapter 1-23, Article I applies to the Applicant, that Article's permanent compliance timeframe supersedes 5-year compliance timeframes in this Section V.

9. [FOR APPLICANT ONLY] The Applicant and its Affiliated Entities will not use, nor permit their subcontractors to use, any facility listed as having an active exclusion by the U.S. EPA on the federal System for Award Management ("SAM").

10. [FOR APPLICANT ONLY] The Applicant will obtain from any contractors/subcontractors hired or to be hired in connection with the Matter certifications equal in form and substance to those in Certifications (2) and (9) above and will not, without the prior written consent of the City, use any such

contractor/subcontractor that does not provide such certifications or that the Applicant has reason to believe has not provided or cannot provide truthful certifications.

11. If the Disclosing Party is unable to certify to any of the above statements in this Part B (Further Certifications), the Disclosing Party must explain below:

See Attachment B in support of the above.

If the letters "NA," the word "None," or no response appears on the lines above, it will be conclusively presumed that the Disclosing Party certified to the above statements.

12. To the best of the Disclosing Party's knowledge after reasonable inquiry, the following is a complete list of all current employees of the Disclosing Party who were, at any time during the 12-month period preceding the date of this EDS, an employee, or elected or appointed official, of the City of Chicago (if none, indicate with "N/A" or "none").

N/A

13. To the best of the Disclosing Party's knowledge after reasonable inquiry, the following is a complete list of all gifts that the Disclosing Party has given or caused to be given, at any time during the 12-month period preceding the execution date of this EDS, to an employee, or elected or appointed official, of the City of Chicago. For purposes of this statement, a "gift" does not include: (i) anything made generally available to City employees or to the general public, or (ii) food or drink provided in the course of official City business and having a retail value of less than $25 per recipient, or (iii) a political contribution otherwise duly reported as required by law (if none, indicate with "N/A" or "none"). As to any gift listed below, please also list the name of the City recipient.

N/A

C. CERTIFICATION OF STATUS AS FINANCIAL INSTITUTION

1. The Disclosing Party certifies that the Disclosing Party (check one)

[x] is [ ] is not

a "financial institution" as defined in MCC Section 2-32-455(b).

2. If the Disclosing Party IS a financial institution, then the Disclosing Party pledges:

"We are not and will not become a predatory lender as defined in MCC Chapter 2-32. We further pledge that none of our affiliates is, and none of them will become, a predatory lender as defined in MCC Chapter 2-32. We understand that becoming a predatory lender or becoming an affiliate of a predatory lender may result in the loss of the privilege of doing business with the City."

If the Disclosing Party is unable to make this pledge because it or any of its affiliates (as defined in MCC Section 2-32-455(b)) is a predatory lender within the meaning of MCC Chapter 2-32, explain here (attach additional pages if necessary):

_____

_____

If the letters "NA," the word "None," or no response appears on the lines above, it will be conclusively presumed that the Disclosing Party certified to the above statements.

D. CERTIFICATION REGARDING FINANCIAL INTEREST IN CITY BUSINESS

Any words or terms defined in MCC Chapter 2-156 have the same meanings if used in this Part D.

1. In accordance with MCC Section 2-156-110: To the best of the Disclosing Party's knowledge after reasonable inquiry, does any official or employee of the City have a financial interest in his or her own name or in the name of any other person or entity in the Matter?

[ ] Yes [x] No

NOTE: If you checked "Yes" to Item D(1), proceed to Items D(2) and D(3). If you checked "No" to Item D(1), skip Items D(2) and D(3) and proceed to Part E.

2. Unless sold pursuant to a process of competitive bidding, or otherwise permitted, no City elected official or employee shall have a financial interest in his or her own name or in the name of any other person or entity in the purchase of any property that (i) belongs to the City, or (ii) is sold for taxes or assessments, or (iii) is sold by virtue of legal process at the suit of the City (collectively, "City Property Sale"). Compensation for property taken pursuant to the City's eminent domain power does not constitute a financial interest within the meaning of this Part D.

Does the Matter involve a City Property Sale?

[ ] Yes [ ] No

3. If you checked "Yes" to Item D(1), provide the names and business addresses of the City officials or employees having such financial interest and identify the nature of the financial interest:

Name Business Address Nature of Financial Interest

_____

_____

_____

4. The Disclosing Party further certifies that no prohibited financial interest in the Matter will be acquired by any City official or employee.

E. CERTIFICATION REGARDING SLAVERY ERA BUSINESS

Please check either (1) or (2) below. If the Disclosing Party checks (2), the Disclosing Party must disclose below or in an attachment to this EDS all information required by (2). Failure to comply with these disclosure requirements may make any contract entered into with the City in connection with the Matter voidable by the City.

____1. The Disclosing Party verifies that the Disclosing Party has searched any and all records of the Disclosing Party and any and all predecessor entities regarding records of investments or profits from slavery or slaveholder insurance policies during the slavery era (including insurance policies issued to slaveholders that provided coverage for damage to or injury or death of their slaves), and the Disclosing Party has found no such records.

____2. The Disclosing Party verifies that, as a result of conducting the search in step (1) above, the Disclosing Party has found records of investments or profits from slavery or slaveholder insurance policies. The Disclosing Party verifies that the following constitutes full disclosure of all such records, including the names of any and all slaves or slaveholders described in those records:
Please see attached Citigroup affidavit and disclosure statement.

SECTION VI -- CERTIFICATIONS FOR FEDERALLY FUNDED MATTERS

NOTE: **If the Matter is federally funded**, complete this Section VI. **If the Matter is not federally funded**, proceed to Section VII. For purposes of this Section VI, tax credits allocated by the City and proceeds of debt obligations of the City are not federal funding.

A. CERTIFICATION REGARDING LOBBYING

1. List below the names of all persons or entities registered under the federal Lobbying Disclosure Act of 1995, as amended, who have made lobbying contacts on behalf of the Disclosing Party with respect to the Matter: (Add sheets if necessary):

(If no explanation appears or begins on the lines above, or if the letters "NA" or if the word "None" appear, it will be conclusively presumed that the Disclosing Party means that NO persons or entities registered under the Lobbying Disclosure Act of 1995, as amended, have made lobbying contacts on behalf of the Disclosing Party with respect to the Matter.)

2. The Disclosing Party has not spent and will not expend any federally appropriated funds to pay any person or entity listed in paragraph A(1) above for his or her lobbying activities or to pay any person or entity to influence or attempt to influence an officer or employee of any agency, as defined by applicable federal law, a member of Congress, an officer or employee of Congress, or an employee

of a member of Congress, in connection with the award of any federally funded contract, making any federally funded grant or loan, entering into any cooperative agreement, or to extend, continue, renew, amend, or modify any federally funded contract, grant, loan, or cooperative agreement.

3. The Disclosing Party will submit an updated certification at the end of each calendar quarter in which there occurs any event that materially affects the accuracy of the statements and information set forth in paragraphs A(1) and A(2) above.

4. The Disclosing Party certifies that either: (i) it is not an organization described in section 501(c)(4) of the Internal Revenue Code of 1986; or (ii) it is an organization described in section 501(c)(4) of the Internal Revenue Code of 1986 but has not engaged and will not engage in "Lobbying Activities," as that term is defined in the Lobbying Disclosure Act of 1995, as amended.

5. If the Disclosing Party is the Applicant, the Disclosing Party must obtain certifications equal in form and substance to paragraphs A(1) through A(4) above from all subcontractors before it awards any subcontract and the Disclosing Party must maintain all such subcontractors' certifications for the duration of the Matter and must make such certifications promptly available to the City upon request.

B. CERTIFICATION REGARDING EQUAL EMPLOYMENT OPPORTUNITY

If the Matter is federally funded, federal regulations require the Applicant and all proposed subcontractors to submit the following information with their bids or in writing at the outset of negotiations.

Is the Disclosing Party the Applicant?
[ ] Yes [ ] No

If “Yes,” answer the three questions below:

1. Have you developed and do you have on file affirmative action programs pursuant to applicable federal regulations? (See 41 CFR Part 60-2.)
[ ] Yes [ ] No

2. Have you filed with the Joint Reporting Committee, the Director of the Office of Federal Contract Compliance Programs, or the Equal Employment Opportunity Commission all reports due under the applicable filing requirements?
[ ] Yes [ ] No [ ] Reports not required

3. Have you participated in any previous contracts or subcontracts subject to the equal opportunity clause?
[ ] Yes [ ] No

If you checked “No” to question (1) or (2) above, please provide an explanation:

_____

_____

SECTION VII -- FURTHER ACKNOWLEDGMENTS AND CERTIFICATION

The Disclosing Party understands and agrees that:

A. The certifications, disclosures, and acknowledgments contained in this EDS will become part of any contract or other agreement between the Applicant and the City in connection with the Matter, whether procurement, City assistance, or other City action, and are material inducements to the City's execution of any contract or taking other action with respect to the Matter. The Disclosing Party understands that it must comply with all statutes, ordinances, and regulations on which this EDS is based.

B. The City's Governmental Ethics Ordinance, MCC Chapter 2-156, imposes certain duties and obligations on persons or entities seeking City contracts, work, business, or transactions. The full text of this ordinance and a training program is available on line at www.cityofchicago.org/Ethics, and may also be obtained from the City's Board of Ethics, 740 N. Sedgwick St., Suite 500, Chicago, IL 60610, (312) 744-9660. The Disclosing Party must comply fully with this ordinance.

C. If the City determines that any information provided in this EDS is false, incomplete or inaccurate, any contract or other agreement in connection with which it is submitted may be rescinded or be void or voidable, and the City may pursue any remedies under the contract or agreement (if not rescinded or void), at law, or in equity, including terminating the Disclosing Party's participation in the Matter and/or declining to allow the Disclosing Party to participate in other City transactions. Remedies at law for a false statement of material fact may include incarceration and an award to the City of treble damages.

D. It is the City's policy to make this document available to the public on its Internet site and/or upon request. Some or all of the information provided in, and appended to, this EDS may be made publicly available on the Internet, in response to a Freedom of Information Act request, or otherwise. By completing and signing this EDS, the Disclosing Party waives and releases any possible rights or claims which it may have against the City in connection with the public release of information contained in this EDS and also authorizes the City to verify the accuracy of any information submitted in this EDS.

E. The information provided in this EDS must be kept current. In the event of changes, the Disclosing Party must supplement this EDS up to the time the City takes action on the Matter. If the Matter is a contract being handled by the City's Department of Procurement Services, the Disclosing Party must update this EDS as the contract requires. **NOTE:** With respect to Matters subject to MCC Chapter 1-23, Article I (imposing **PERMANENT INELIGIBILITY** for certain specified offenses), the information provided herein regarding eligibility must be kept current for a longer period, as required by MCC Chapter 1-23 and Section 2-154-020.

CERTIFICATION

Under penalty of perjury, the person signing below: (1) warrants that he/she is authorized to execute this EDS, and all applicable Appendices, on behalf of the Disclosing Party, and (2) warrants that all certifications and statements contained in this EDS, and all applicable Appendices, are true, accurate and complete as of the date furnished to the City.

[redacted]
(Print or type exact legal name of Disclosing Party)

By: [redacted]

[redacted]
(Print or type name of person signing)

[redacted]
(Print or type title of person signing)

Signed and sworn to before me on (date) [redacted],

at [redacted] County, [redacted] (state).

[redacted]
Notary Public

Commission expires: [redacted]

[redacted]

CITY OF CHICAGO
ECONOMIC DISCLOSURE STATEMENT AND AFFIDAVIT
APPENDIX A

FAMILIAL RELATIONSHIPS WITH ELECTED CITY OFFICIALS AND DEPARTMENT HEADS

This Appendix is to be completed only by (a) the Applicant, and (b) any legal entity which has a direct ownership interest in the Applicant exceeding 7.5%. It is not to be completed by any legal entity which has only an indirect ownership interest in the Applicant.

Under MCC Section 2-154-015, the Disclosing Party must disclose whether such Disclosing Party or any "Applicable Party" or any Spouse or Domestic Partner thereof currently has a "familial relationship" with any elected city official or department head. A "familial relationship" exists if, as of the date this EDS is signed, the Disclosing Party or any "Applicable Party" or any Spouse or Domestic Partner thereof is related to the mayor, any alderman, the city clerk, the city treasurer or any city department head as spouse or domestic partner or as any of the following, whether by blood or adoption: parent, child, brother or sister, aunt or uncle, niece or nephew, grandparent, grandchild, father-in-law, mother-in-law, son-in-law, daughter-in-law, stepfather or stepmother, stepson or stepdaughter, stepbrother or stepsister or half-brother or half-sister.

"Applicable Party" means (1) all executive officers of the Disclosing Party listed in Section II.B.1.a., if the Disclosing Party is a corporation; all partners of the Disclosing Party, if the Disclosing Party is a general partnership; all general partners and limited partners of the Disclosing Party, if the Disclosing Party is a limited partnership; all managers, managing members and members of the Disclosing Party, if the Disclosing Party is a limited liability company; (2) all principal officers of the Disclosing Party; and (3) any person having more than a 7.5% ownership interest in the Disclosing Party. "Principal officers" means the president, chief operating officer, executive director, chief financial officer, treasurer or secretary of a legal entity or any person exercising similar authority.

Does the Disclosing Party or any "Applicable Party" or any Spouse or Domestic Partner thereof currently have a "familial relationship" with an elected city official or department head?

[ ] Yes [x] No

If yes, please identify below (1) the name and title of such person, (2) the name of the legal entity to which such person is connected; (3) the name and title of the elected city official or department head to whom such person has a familial relationship, and (4) the precise nature of such familial relationship.

_____

_____

_____

CITY OF CHICAGO
ECONOMIC DISCLOSURE STATEMENT AND AFFIDAVIT
APPENDIX B

BUILDING CODE SCOFFLAW/PROBLEM LANDLORD CERTIFICATION

This Appendix is to be completed only by (a) the Applicant, and (b) any legal entity which has a direct ownership interest in the Applicant exceeding 7.5% (an "Owner"). It is not to be completed by any legal entity which has only an indirect ownership interest in the Applicant.

1. Pursuant to MCC Section 2-154-010, is the Applicant or any Owner identified as a building code scofflaw or problem landlord pursuant to MCC Section 2-92-416?

[ ] Yes [ ] No

2. If the Applicant is a legal entity publicly traded on any exchange, is any officer or director of the Applicant identified as a building code scofflaw or problem landlord pursuant to MCC Section 2-92-416?

[ ] Yes [ ] No [ ] The Applicant is not publicly traded on any exchange.

3. If yes to (1) or (2) above, please identify below the name of each person or legal entity identified as a building code scofflaw or problem landlord and the address of each building or buildings to which the pertinent code violations apply.

_____
_____
_____

CITY OF CHICAGO
ECONOMIC DISCLOSURE STATEMENT AND AFFIDAVIT
APPENDIX C

PROHIBITION ON WAGE & SALARY HISTORY SCREENING - CERTIFICATION

This Appendix is to be completed only by an Applicant that is completing this EDS as a "contractor" as defined in MCC Section 2-92-385. That section, which should be consulted (www.amlegal.com), generally covers a party to any agreement pursuant to which they: (i) receive City of Chicago funds in consideration for services, work or goods provided (including for legal or other professional services), or (ii) pay the City money for a license, grant or concession allowing them to conduct a business on City premises.

On behalf of an Applicant that is a contractor pursuant to MCC Section 2-92-385, I hereby certify that the Applicant is in compliance with MCC Section 2-92-385(b)(1) and (2), which prohibit: (i) screening job applicants based on their wage or salary history, or (ii) seeking job applicants' wage or salary history from current or former employers. I also certify that the Applicant has adopted a policy that includes those prohibitions.

[x] Yes

[ ] No

[ ] N/A – I am not an Applicant that is a "contractor" as defined in MCC Section 2-92-385.

This certification shall serve as the affidavit required by MCC Section 2-92-385(c)(1).

If you checked "no" to the above, please explain.

_____

_____

_____

ATTACHMENT A:
DIRECTORS & PRINCIPAL OFFICERS
As of October 30, 2023

CITIGROUP INC.

CITIGROUP INC. AND ITS AFFILIATES:
LITIGATION AND REGULATORY MATTERS
Attachment B

Affidavit of Citigroup Inc.

[redacted] am an authorized representative of Citigroup Inc. ("Citi"). I hereby certify that Citi has searched, or caused to be searched, its records and those of its predecessor companies for information relating to participation or investments in, or profits derived from slavery or slaveholder insurance policies, as described in Appendix I below.

[redacted]

[redacted]

Title: Executive Vice President
Enterprise Services & Public Affairs,

[redacted]

Appendix I

Citi Historic Records Review Summary

The history of Citigroup Inc. ("Citi") dates back to the founding of the City Bank of New York in 1812. As identified in Attachment A, most of Citi's pre-1866 predecessor institutions were founded in the Northeastern United States, including in New York, Rhode Island, and Connecticut. Although a large majority of Citi's pre-1866 predecessors were founded in the Northeast, certain predecessor institutions interacted with individuals and entities located outside of the region, including individuals, companies, and other financial institutions in areas of the country where slavery was legal until December 1865.

Citi has reviewed records of its predecessor entities within its possession and control in the Citi Heritage Collection, as well as select external sources as described below, for evidence that any Citi predecessor entity participated in the U.S. Slave Trade or received profits from the institution of slavery in the United States. Citi's review of these materials did not identify any records demonstrating that a Citi predecessor entity directly purchased, sold or held enslaved persons, issued insurance policies to slaveholders to insure enslaved persons, issued insurance policies for business transactions or operations related to the trafficking of enslaved persons, used enslaved persons as collateral for insurance policies, loans or other transactions, facilitated the traffic of enslaved persons, or otherwise provided capital or other services to facilitate the U.S. slave trade or institution of slavery in the United States.

However, as discussed in Section III below, as financial institutions operating in the Early National and Antebellum periods, some Citi predecessor entities may have indirectly profited from the institution of slavery in the United States. In particular, Citi's review of its records indicates that Citi predecessors likely profited from financial transactions and relationships with individuals and entities located or operating in slaveholding states in the United States before 1866 that owned enslaved persons, relied on the labor of enslaved persons, or otherwise were involved in or connected to the U.S. slave trade. Citi records indicate, for example, that individuals and entities located or operating in slaveholding states were accountholders of predecessor entities, that predecessor entities had agents located or operating in the Southern United States, and that predecessor entities had financial relationships with some banking institutions, individuals, and entities located or operating in slaveholding states.

I. Overview of Citigroup Inc.'s Origins

Citi's corporate lineage includes more than 400 predecessor institutions, 21 of which were established before 1866. Citi's internal corporate archives include records relating to 12 of these 21 entities. In the 211 years since its founding, Citi has undergone several name changes and completed numerous acquisitions and mergers. Attachment A contains a list of Citi predecessor entities.

II. Research Methodology

Citi previously researched potential connections between its predecessor entities and the institution of slavery in the United States in the early 2000s. This research did not identify evidence of any business dealings or investments that could be discerned as involving slavery or insurance on enslaved persons. In 2022, a team of professional historians ("the review team" or "the historians") working on Citi's behalf updated this research. The review team examined Citi's corporate genealogy to ensure that it reflected all of Citi's predecessor entities and reviewed all potentially relevant pre-1866 documents contained in the Citi Heritage Collection, an internal corporate archive of Citi's historical records.

Review of Predecessor Records

Records in the Citi Heritage Collection document the founding and evolution of the City Bank of New York, the formation of First National City Corporation, as well as various other predecessor institutions including Farmers' Loan and Trust Company (formerly named Farmers' Fire Insurance and Loan Company); First National Bank of the City of New York; Second National Bank of New York; Bank of America, New York; Nassau Bank of Brooklyn, Merchants' Exchange National Bank (formerly named Merchants' Exchange Bank); and East River National Bank. The historians had unrestricted access to the entire historical collection and reviewed thousands of pages of materials including account ledger books, Board of Directors' meeting minutes, letter books, incorporation papers, by-laws, statements of condition, stock certificates, bonds, correspondence, and other legal documents.

The Citi Heritage Collection is not a complete repository of all Citi predecessor records. When Citi acquired or merged with other entities, some but not all of those companies' records were transferred to Citi. As a result, not all material created by the firm's own activities or those of its predecessor entities that became part of Citi's corporate lineage have been preserved in the Citi Heritage Collection. Even where Citi has records for a particular entity and materials have been preserved, there are significant gaps in the collection. The historians' review of the Citi Heritage Collection involved a comprehensive review of relevant records to identify indications of predecessor involvement in or potential profits from the institution of slavery in the United States.

The review also included records contained in eight public repositories: New York Public Library's Manuscript and Archives Division, Cornell University Library's Division of Rare and Manuscript Collection, the Probate Court of Mobile County, Alabama, the Historic Mobile Preservation Society Archives, the History Museum of Mobile, the Mobile Public Library; the Alabama Supreme Court and State Law Library; and the Library of Congress.

The Manuscripts and Archives Division at the New York Public Library holds a collection of materials relating to Moses Taylor, a Director and President of City Bank of New York, who, as described below, profited from the institution of slavery. Although the finding aid for the collection identified documents that appeared to be City Bank of New York and National City Bank of New York records, the historians reviewed these documents and determined that

the documents were not Citi predecessor records, but rather personal records of Moses Taylor and his businesses.

The historians also reviewed certain records related to Henry Hitchcock, who, as described below, owned enslaved persons in Alabama. This review included records at the Division of Rare and Manuscript Collections at Cornell University, which holds records of Farmers' Loan and Trust Company (1829 – 1866), one of Citi's predecessor entities that conducted business with Hitchcock. The collection includes abstracts of title, agreements of sale and articles of trust, copies of the deeds and the contract schedules used to transfer title, detailed maps of townships where the transfers took place, resolutions by officers of the company, powers of attorney to company agents, schedules of land and of mortgage foreclosures, bills of costs, accounts of cattle received in payments on mortgages, and other material relating to the management of the business. The historians completed a comprehensive review of the Farmers' collection at Cornell.

The historians also reviewed materials at the Probate Court of Mobile Alabama, History Museum of Mobile Alabama, and Mobile Public Library's Local History & Genealogy Library related to Hitchcock. The Alabama Supreme Court and State Law Library maintains a set of records concerning Henry Hitchcock, which were obtained from the Missouri Historical Society's Hitchcock Family Collection. The historians reviewed correspondence, estate records, and secondary source materials concerning Hitchcock, as well as genealogical databases, historical court cases, and benchmark secondary sources at the Library of Congress. Their conclusions related to this review are discussed in Section III below.

III. Potential Connections to the Institution of Slavery in the United States

The review of Citi's internal records, supplemented by the review of materials in the external collections described above, found no record indicating that a Citi predecessor entity directly purchased, sold, or held enslaved persons, issued insurance policies to slaveholders to insure enslaved persons, issued insurance policies for business transactions and operations related to the trafficking of enslaved persons, used enslaved persons as collateral for insurance policies, loans or other transactions, facilitated the traffic of enslaved persons, or otherwise provided capital or other services to facilitate the Slave Trade. The records do suggest, however, that some of Citi's predecessor entities may have profited from financial transactions and relationships with individuals and entities located or operating in slaveholding states in the United States prior to 1866 that enslaved persons, relied on the labor of enslaved persons, or otherwise were involved in the institution of slavery in the United States.

Farmers' Loan and Trust Company[1]

The review considered whether a transaction between Farmers' Loan and Trust Company, a Citi predecessor company, and Henry Hitchcock might have resulted in Farmer's

[1] Farmers' Fire Insurance and Loan Company changed its name to Farmers' Loan and Trust Company in 1836. For ease of reference, this document refers to the entity as Farmers' Loan and Trust Company.

owning some of the persons enslaved by Hitchcock. The review ultimately concluded that the transaction reflected in Citi's records did not result in the Citi predecessor owning any persons enslaved by Hitchcock.

Records contained in the Citi Heritage Collection reflect transactions between a Citi predecessor entity, Farmers' Loan and Trust Company, and Henry Hitchcock from 1832 – 1838, related to the creation of a trust on real estate in Mobile, Alabama in 1836, the renewal of two insurance policies for Hitchcock in 1832, and the acquisition of shares of the stock of the Alabama Life Insurance & Trust Company. Henry Hitchcock was one of the wealthiest men in Alabama during the time period and held positions as the first Attorney General of Alabama, the first Secretary of the Alabama Territory, and Chief Justice on the Alabama Supreme Court. 1830 U.S. Decennial Census records indicate that Hitchcock enslaved twenty-four persons. The names of the persons are not identified in the census.

The Farmers' Loan and Trust Company Minute Book, which is part of the Citi Heritage Collection, covers the 1835 through 1839 period and includes minutes that document the creation of a real estate trust for Hitchcock. According to these records, on October 3, 1836, the Committee of Trusts reviewed, and later accepted, an application by Henry Hitchcock for a trust in the amount of $600,000 on real estate in Mobile, Alabama, valued at $1.9 million. On March 20, 1837, the Committee of Trusts approved an agreement and declaration of trust between the Company and Hitchcock, confirming the extension of an $800,000 trust to Hitchcock and the Committee's satisfaction with the security. On May 18, 1838, the Committee of Trusts reviewed a letter from Henry Hitchcock requesting to cancel the contract and return the Company's Certificates, after the Company re-conveyed the property in Mobile held under the trust. The Committee accepted the cancelation of the trust.

Given the value of the real estate of $1.9 million in 1836 dollars and the location of the property in Mobile, Alabama, the review team considered the possibility that the property may have included persons enslaved by Hitchcock. Neither the Citi Heritage Collection nor Cornell University collection contain any additional details relating to the Hitchcock trust, including the contents of the trust or what real estate in Mobile, Alabama was conveyed. However, the collections maintained by the Probate Court of Mobile Alabama and the Alabama Supreme Court and State Law Library do include documents describing Hitchcock's transactions with Farmers' Loan and Trust Company and the extent of his real estate holdings and financial investments. These documents indicate that the trust was composed of several parcels of real estate and did not include enslaved persons, as do additional documents maintained by the Probate Court of Mobile Alabama and the Alabama Supreme Court and State Law Library related to the property's conveyance back to Hitchcock and later to another bank as collateral.

In addition to the trust discussed above, the Farmers' Loan and Trust Company Letter Book from 1832 – 1838 in the Citi Heritage Collection includes a letter from January 4, 1832, which discusses renewal of an insurance policy to Hitchcock and the lack of renewal of a second insurance policy. The letter does not identify the scope or contents of either insurance policy. There are no other records in the Citi Heritage Collection or at Cornell University that discuss insurance policies issued to Hitchcock.

Lehman Brothers

Citi's corporate timeline identifies Lehman Brothers, which was founded in 1850, as a predecessor entity to Travelers Group. In 1998 Travelers Group (previously Primerica) merged with Citicorp to become Citigroup Inc. Prior to that 1998 merger, Primerica had acquired certain assets connected to Shearson Lehman Hutton, a corporate descendant of Lehman Brothers, from American Express. However, at the time of Primerica's acquisition of those assets, American Express retained Lehman Brothers and thereafter spun it off as an independent entity. In 2003, the independent Lehman Brothers entity filed an affidavit pursuant to the Chicago Slavery Disclosure Ordinance identifying ties to the Slave Trade based on the predecessor of the same name founded in 1850. Although Lehman Brothers' disclosure was reported on publicly, Citi does not have a copy of Lehman Brothers' disclosure or affidavit, and the Citi Heritage Collection does not include records relating to Lehman Brothers because Citi did not acquire any Lehman Brothers records as a result of the merger with Travelers Group described above. However, based on public information regarding Lehman Brothers' affidavit, the 1850 Lehman Brothers entity likely profited from the institution of slavery in the United States.

City Bank of New York (National City Bank of New York as of 1865)

Between 1837 and 1882, Moses Taylor was a director, controlling shareholder, and President (1856-1882) of City Bank of New York. Taylor was also a director of Farmers' Loan and Trust Company. Taylor was a significant figure in the New York merchant economy and built a large fortune from shipping sugarcane and other commodities from Cuban plantations to the rest of the world, as well as investing in industries such as railroads, coffee, steel, coal, and utilities. Taylor was the largest stockholder and a director in both the Delaware Lackawanna and Western Railroad and the Central Railroad and Bank Company of the Georgia railroad system, as well as a leading stock and bond holder of numerous other Midwestern and Southern railroads.

Previous research undertaken on Moses Taylor indicates that Taylor utilized the bank as a private treasury for his own enterprises and required his companies to keep their principal accounts at City Bank of New York.[2] According to that research, Taylor himself, his business associates, and the firms they controlled supplied most of the bank's deposits during this period.[3] The review team did not identify any records in the Citi Heritage Collection suggesting that City Bank of New York directly purchased, sold or held enslaved persons, provided insurance

[2] HAROLD VAN B. CLEVELAND & THOMAS HUERTAS, CITIBANK: 1812-1970 (Harvard University Press 1985); DANIEL HODAS, THE BUSINESS CAREER OF MOSES TAYLOR: MERCHANT, FINANCE CAPITALIST, AND INDUSTRIALIST (Ishi Press 2010); Daniel Hodas, *Moses Taylor - New York Merchant American Industrialist and Finance Capitalist: A Case Study in Success*, 2 PROCEEDINGS OF THE BUSINESS HISTORY CONFERENCE 95 (1974); Maeve Glass, *Moses Taylor Pyne and the Sugar Trade*, 77 THE PRINCETON UNIVERSITY LIBRARY CHRONICLE 95 (Winter 2016); John Moody & George Kibbe Turner, *Masters of Capital in America Wall Street: The City Bank - The Federation of the Great Merchants*, XXXVII MCCLURE'S MAGAZINE 73 (May - Oct. 1911).

[3] *See supra* note 2.

policies to Taylor or his company that used enslaved persons as collateral, or provided loans or other capital to facilitate the trafficking of enslaved persons. However, given that a significant portion of Taylor's business was connected to the trade of sugar and its derivatives from Cuban plantations that used enslaved labor, City Bank of New York likely profited indirectly from enslaved labor in Cuba by engaging in transactions with Taylor and his businesses.

Potential Indirect Profits

Some of Citi's predecessor entities were financial institutions that operated in the Early National and Antebellum periods. Records contained in the Citi Heritage Collection and Cornell University indicate that some of these entities operated in slaveholding states in the United States prior to 1866, or that they did business with individuals and entities located or operating in slaveholding states prior to 1866. These predecessor entities likely derived indirect financial benefits from the institution of slavery in the United States through financial transactions or other business relationships with individuals and entities located or operating in slaveholding states prior to 1866 that owned enslaved persons, relied on the labor of enslaved persons, or otherwise were involved in the institution of slavery in the United States.

Citi's records indicate, for example:

a. Individuals and entities located or operating in slaveholding states of the United States were accountholders of predecessor entities;

b. A predecessor entity created land and property trusts for individuals and companies located or operating in slaveholding states;

c. Predecessor entities had business dealings with financial institutions located or operating in slaveholding states;

d. Predecessor entities accepted, held or purchased stock, shares, or bonds in financial institutions located or operating in slaveholding states;

e. A predecessor held or purchased bonds or shares for certain Southern states and municipalities known to have enslaved persons;

f. Predecessor entities extended credit to financial institutions, individuals, and entities located or operating in slaveholding states;

g. Predecessor entities accepted, held or purchased bonds or stock in companies located or operating in slaveholding states; and

h. Predecessors had agents located or operating in slaveholding states.

Attachment A: List of Pre-1866 Citi Predecessors

Predecessor Entity Name	Location	Date Founded	Successor Entity
Quilter	United Kingdom	1771	Citigroup
Citibank, National Association (Current entity)	Originally NY, Currently SD	1812	Current Entity
The Bank of America, New York	NY	1812	National City Bank of New York
J. Henry Schroder & Co. Ltd.	Unknown	1818	Citigroup
Farmers' Loan and Trust Company	Unknown	1822	First National City Trust Company
Helbert, Wagg & Co.	England	1823	J. Henry Schroder & Co. Ltd.
Atlantic National Bank of the City of New York	NY	1829	The Bank of America, New York
Lehman Brothers	Originally AL, later NY	1850	Travelers Group Inc. (1993) Citigroup (1998)
Connecticut Fire Insurance Co.	CT	1850	Phoenix Insurance Co The Travelers Corp
Bank of the Republic	NY	1851	First National Bank of the City of New York
East River National Bank	NY	1852	Bowery and East River National Bank of New York
Phoenix Insurance Co.	CT	1854	The Travelers Indemnity Co. (Hartford, Conn.) The Travelers Corp.
H. Hentz & Co.	Unknown	1856	Hayden, Stone & Co.
Nassau Bank of Brooklyn	NY	1859	Bank of America, National Association
Equitable Fire & Marine Insurance Co.	RI	1859	Phoenix Insurance Co The Travelers Corp
Third National Bank of the City of New York	NY	1863	The National City Bank of New York
Second National Bank of the City of New York	NY	1863	The National City Bank of New York
First National Bank of the City of New York	NY	1863	City Bank of New York
The Travelers Life and Accident Insurance Company	CT	1863	Primerica Corporation
Bowery National Bank of New York	NY	1865	Bowery and East River National Bank of New York

Cantoni & Co.	NY	1865	Lionello Perera & Co. / Commercial Exchange National Bank

CERTIFICATE OF INCUMBENCY

CITIGROUP INC.

CITIGROUP INC.

Beneficial Ownership in excess of 7.5% of Citigroup Inc. Common stock

As reported in the Citigroup Inc. Proxy Statement filed with the Securities and Exchange Commission on March 15, 2023:

BlackRock, Inc. 8.4%
55 East 52nd Street
New York, NY 10055

The Vanguard Group, Inc. 8.66%
100 Vanguard Blvd.
Malvern, PA 19355

Anti-Predatory Lending Pledge*
for Municipal Depositories

We pledge that we are not and will not become a predatory lender as defined in Chapter 2-32 of the Municipal Code of Chicago. We further pledge that none of our affiliates is, and none of them will become, a predatory lender as defined in Chapter 2-32 of the Municipal Code of Chicago. We understand that becoming a predatory lender or becoming an affiliate of a predatory lender may result in the loss of our designation as a municipal depository.

Citibank, N.A.
Name of Financial Institution

[redacted]

Managing Director
Title

[redacted]
Business Telephone Number

[redacted]

Date: 11/13/2023

Name of transaction for which this certificate is submitted: Municipal Depository RFP

Contact Person: [redacted]
Address:
Telephone

*The definitions of certain terms set forth in Chapter 2-32 of the Municipal Code of Chicago and used in the Anti-Predatory Lending Pledge are reproduced on the attached pages.

Loan Policy Pledge for Municipal Depositories

We pledge not to arbitrarily reject mortgage loans for residential properties within a specific geographic area in Chicago because of the location and/or age of the property, or in the case of proposed borrower to arbitrarily vary the terms of those loans or the application procedures for those loans on the basis of race, color, religion, national origin, age, sex, marital status, ancestry, sexual orientation, parental status, source of income, disability or military discharge status. In addition, we pledge to make loans available to low- and moderate-income residential property in the neighborhoods of the City of Chicago within the limits of our legal restriction and prudent financial practices.

We understand that arbitrarily rejecting or varying the terms and/or application procedures of mortgage loans on the basis of the factors listed above may result in the lost of our designation as a municipal depository.

Citibank, N.A.

Name of Financial Institution

[redacted]

Managing Director

Title

[redacted]

Name of Authorized Officer (Print or Type)

Business Telephone Number

Subscribed and sworn to before me this [redacted]

Name of transaction for which this certificate is submitted: Municipal Depository RFP

Contact Person: [redacted]

Address:

Telephone

FIRMWIDE
PLEASE POPULATE THE HIGHLIGHTED PORTIONS ONLY

Firm Name:	Citibank, N.A.
Primary Representative:	Andy Taylor
Primary Representative Email and Telephone:	[redacted]
Headquarters Address:	388 Greenwich St, New York, NY 10013
Chicago Public Finance Office Address:	227 West Monroe St, 25th Floor, Chicago, IL 60606
Total Number of Employees:	[redacted]
Number of Employees in Illinois:	[redacted]
Number of Employees in Chicago:	[redacted]
Capital Position:	
Minority Designation:	

35,909 39,423

Job Categories	Overall Totals	Male: White (Not Hispanic)	Male: Black (Not Hispanic)	Male: Hispanic	Male: Asian	Male: Native American	Male: Two or More Races	Female: White (Not Hispanic)	Female: Black (Not Hispanic)	Female: Hispanic	Female: Asian	Female: Native American	Female: Two or More Races
Officials and Managers	[redacted]												
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Disclaimer: Please note, the data provided is confidential and proprietary and not to be shared. This data is a preliminary summary of Citi's EEO-1 data, which will be finalized upon Citi's submission of its final EEO-1 report to the EEOC. We anticipate submitting the enclosed EEO-1 workforce data to the EEOC by its deadline of December 5, 2023.

AFFIDAVIT OF COMMITMENT TO COMMUNITY REINVESTMENT,
RESPONSIBILITY AND TRANSPARENCY
CITY OF CHICAGO OFFICE OF THE COMPTROLLER

I, [redacted] a duly authorized representative of Citibank, N.A. represent and say as follows:

That for the purpose of becoming an eligible depository for active deposits of the City of Chicago, the undersigned Affiant states that it will use reasonable efforts to provide lending, financing, and banking opportunities as a commitment of community reinvestment to Chicago's low and moderate income (LMI) communities; Affiant states that such reasonable efforts shall include, but are not limited to:

A. Assignment of identifiable personnel to answer and respond to questions, concerns and inquiries by the citizens of Chicago, City Treasurer, City Comptroller, and the City Council regarding financial services, investment and lending products, services and related issues, including the Community Reinvestment Act (CRA) of 1977;

B. Cooperate with and support non-profit neighborhood development/redevelopment organizations in the implementation of "neighborhood economic development" strategies that focus on revitalization of communities that are more locally focused where an institution has a branch or market presence;

C. Commit to affirmatively market and make available banking services throughout Chicago's low and moderate income communities, by not meeting this commitment only through the installation of ATM distribution centers, but also by opening and/or maintaining branch locations within those communities;

D. Prepare an annual report of CRA activities, presented to the Comptroller, the Treasurer, and the City Council, that is made publicly available, demonstrating investment in all Chicago Communities, as well as reinvestment in LMI communities of Chicago, by community area that includes the number of loans and amount of loans in the following (6) categories:

    1. Home Purchase within LMI communities;
    2. Refinancing within LMI communities;
    3. Home Improvement;
    4. Small Business Loans (to companies with revenues under $1 Million);
    5. Community Development Loans including multi-family lending; and
    6. Community Development Investments to eligible Community Development Financial Institutions (CDFI) and other community intermediaries to further the goals of an institution to meet its obligations to the Community Reinvestment Act of 1977 and this Affidavit.

    Such a Municipal Depository annual CRA report will include, by community area, the number of mortgage loans originated and other strategies to minimize the impact of foreclosure and neighborhood instability.

E. An institution acknowledges that failure to comply with this Affidavit may result in discontinued status as a municipal depository.

Signed: [redacted] Dated: 11/13/2023

Print Name: [redacted]

Title: Managing Director / V.P.

Cover Letter

City of Chicago
Department of Finance
121 N. LaSalle Street
Chicago, IL 60602

Re: Request for Proposal (RFP) for Designation as a 2024 Municipal Depository for City of Chicago and Chicago Board of Education Funds

The City of Chicago requires a banking partner who shares your dedication to enabling progress in society, to efficiently servicing large constituent populations, and passion for forward-thinking innovation. Citi's ability to partner with Chicago on these objectives is unmatched with over 75 years in expertise serving Public Sector clients and over 200 years of banking history overall.

We are continuously reinvesting in our business to automate, digitize, simplify and enhance the experience we deliver for our clients and their constituents. For this reason, we have included the latest on our digital banking capabilities under the "Liquidity Management Solutions" and "Custody & Securities Safekeeping" sections for your review. We understand the importance of efficiency and the role of technology to serve the people of the City of Chicago.

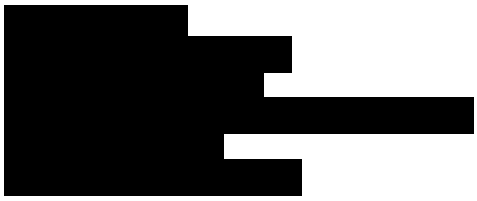
Our "Statement of Community Involvement" outlines our support of the local community and constituents of Chicago through financing, investment, and volunteering. We are pleased to share that Citi announced in August of 2021 that we received an "Outstanding" rating on our most recent CRA evaluation.

We are pleased to respond to the City of Chicago's Request-For-Proposal ("RFP"), share updates on our industry leading depository services, and recognize progress we have enabled in the Chicagoland area.

We acknowledge receipt of Addendums numbered 1 and 2.

We welcome the opportunity to discuss any aspect of our response. Please contact me directly if you have any questions or require additional information.

Sincerely,



Executive Summary

Citi is pleased to respond to the City of Chicago's Request-For-Proposal ("RFP") with our Depository Services.

Citi's vision and strategy is to be the world's leading digital bank, by leveraging new technology to provide fast, transparent, digital services with exceptional customer experience to our clients. In the pages to follow, we have highlighted our industry leading services for deposit and investment, and custodial services.

Citi has a long-standing record of accomplishment providing reliable global and local depository services to our customers. With over 75 years of experience in Public Sector banking, we understand the importance of efficiency and the role of technology to optimize Treasury processes and ultimately best serve the people of the City of Chicago.

Commitment to the Public Sector

Citi's innovative solutions are unrivaled in the industry. Citi continues to be the preferred partner for Public Sector organizations globally, including many state and municipal governments, universities in Illinois and across the U.S. We recognize that our clients are our most important asset and this sentiment is shared across all levels and lines of our business and reflected in every decision we make.

Success in this budgetary climate is driven by strategy and partnership. Cities continue to seek new ways to optimize their operations and we remain committed to developing solutions that help achieve their expense management goals. Throughout the years, Citi has had the opportunity to partner with our Public Sector clients to implement programs that allow them to operate more efficiently and transparently to effectively navigate today's budgetary conditions and lay the foundation for long-term success. Now, more than ever, organizations need the best tools and partners to manage resources judiciously and operate efficiently. That is why the world's leading organizations choose Citi. With over 100 years of experience serving federal, state, and local governments throughout the United States, Citi is uniquely qualified to bring best practices to North America Public Sector organizations.

Citi has a long record of engagement in Chicago:

- 1,500+ employees in Illinois, primarily based in Greater Chicago
- 1.8+ Million client accounts in Illinois

Citi's business and charitable giving in 2021 alone included:

- $112+ Million in Small Business Loans
- $113+ Million in Affordable Housing
- $5+ Million in Charitable Giving

Conclusion

At Citi, we take our responsibility as a trusted banking partner for the City of Chicago seriously. **Trust**, **Execution**, and **Resiliency** are all important and must never fail. The City mandates and expects this high bar of performance from its banking providers and Citi is proud to have served you in this manner.

We are delighted to showcase how we will continue to provide further value as the City of Chicago's strategic partner for depository services. We stand fully committed to providing you with the highest quality service and flawless execution through our best-in-class solutions. We thank you again for this opportunity and look forward to your evaluation of our proposal.

Liquidity Management Solutions

A. Online Banking – CitiDirect for Cash

To better serve clients such as the City of Chicago, we are launching a next generation digital banking platform. Citi has invested in the future of digital treasury management to offer an upgraded version of CitiDirect, our electronic banking system, at no additional cost to the City.

CitiDirect User Interface Transformation – A better, simplified CitiDirect experience

The new website exceeds expectations in terms of user experience and performance, providing users *anytime, anywhere access* to Citi's global cash management and trade solutions.

In addition to the new user interface, we are further strengthening our infrastructure to support your current and future needs. When complete, the new infrastructure will support all Citi cash management channels, including:

- CitiDirect User Interface (Desktop, Tablet, & Mobile)
- CitiConnect Host to Host File & API transmissions

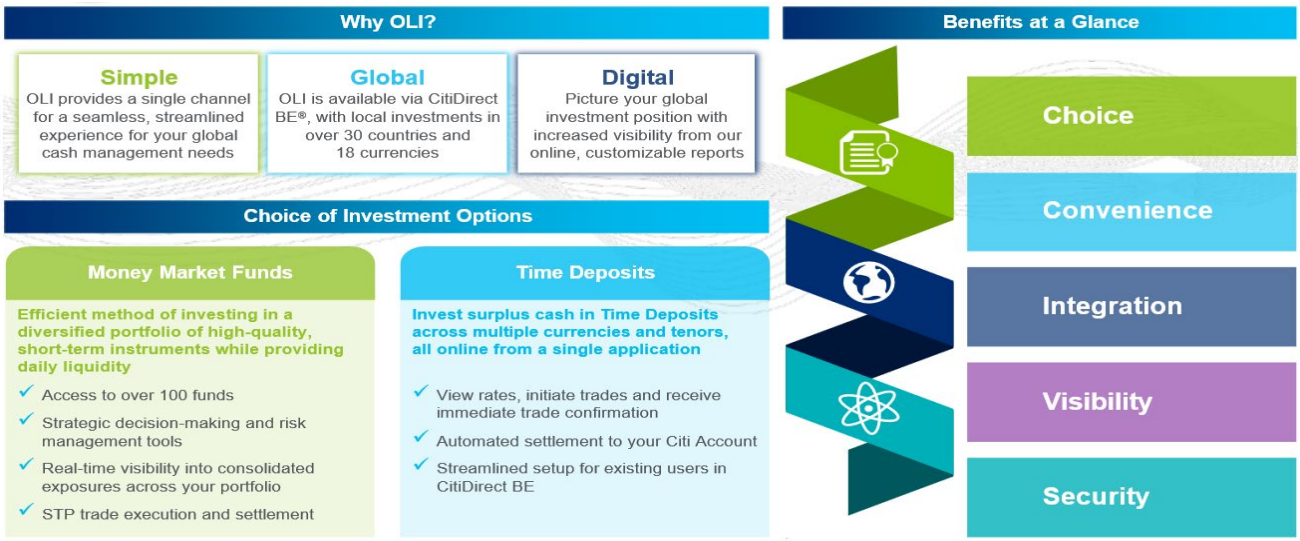
We launched the new, simplified online experience based on feedback from users like you. Key focus points of this transformation program are:

- A simpler design and better navigation
- A personalized experience
- Better entitlement management
- 24x7 system availability

Citi's clients vary in size and complexity, and we have transformed our online banking platform to a domain-driven design organized by core Treasury and Trade Solutions offerings. Our clients are unique and are structured differently, but their collective user journeys and tasks to be completed remain largely the same.

B. Online Investments –Citibank Online Investments (OLI)

Citibank Online Investments (OLI) is a global, secure, web-based investment portal offering a wide variety of short-term investment options including Time Deposits and Money Market Funds. Citi's portal seamlessly integrates investment activity with your global cash management operations.



Money Market Funds through Citibank Online Investments (OLI)

- Off balance sheet
- On-shore
- Not FDIC Insured
- Market yield
- Third-party risk

For Money Market Funds, Citi offers investment via the ***Online Investments (OLI)*** portal. The City of can go online to view rates, initiate investments and redemptions, and view information later through the inquiry screen.

Citibank Online Investments provides:

- ***Centralized global investing:*** Time deposits in 17 currencies and 19 countries, in addition to 130+ funds money market funds (offshore and domestic) from 15 premier providers
- ***Reduced compliance risk:***
  - Pre-trade: With controls and alerts to prevent exceeding investment policy limits
  - Post-trade: With a variety of customizable report, alert, and analytics tools
- ***Reduced execution risk:*** Invest online and take advantage of features that streamline investing in multiple countries and across multiple entities
- ***Reduced settlement risk:*** Automatic settlement to your Citi accounts reduces cost for wires and chance for errors
- ***Integration with cash management:*** Single sign-on through CitiDirect
- ***Reconciliation and facilitate cash flow forecasting:*** Integrated reporting of positions and exposures in one set of online reports
- ***Simple implementation:*** Single agreement for all fund families when using the Omnibus and Nominee structures; immediate fund account creation for money market funds when required

In addition to our automatic and online investment options, you can work directly with an investment professional via our Liquidity and Investments Desks. This service ensures you receive the most up-to-date rates and market views, and our professionals will work with you to understand your cash flow, investment policy, and other requirements to find the instruments with the best quality and maturities for your needs.

Reporting

A complete and comprehensive set of investment reports is available for Citibank Online Investments (OLI). Citibank Online Investments provides several customizable reports for monitoring investment transactions. You can create an ad-hoc trade inquiry report with a customizable date range, produce an open contract report for fixed maturity options, or generate an account position report for MMFs. In addition, Citi produces a monthly statement that consolidates all money market mutual fund investments.

Convenience

Available via single sign-on through CitiDirect, The City of Chicago can view rates, initiate trades, and receive immediate confirmation online, or view this information later through the trade inquiry screen.

By directly linking to your Citi operating or securities account, Citibank Online Investments eliminates the need for separate wire transfers and custodial services, providing an efficient and cost-effective trading environment and reducing the opportunity for errors.

Years since Launch

Citibank Online Investments was launched in 2005 for domestic funds and 2006 for offshore funds. Citi has provided investment and deposit services prior to this portal solution for decades.

Transaction Security

Citibank Online Investments offers a convenient and secure way to invest. You can also choose to implement maker/checker workflows for trade execution including trigger points and up to two levels of approvers to control the investment process.

Other Options

Citibank Online Investments is one of several channels Citi provides for managing your investments. Depending on your needs and how you prefer to invest, you may want to ask your sales representative about active investing via Citi's Regional Liquidity and Investments Desk or local Citi Service Desks.

Time Deposits through Citibank Online Investments

- On balance sheet
- On-shore
- Competitive yields
- No early termination or withdrawal
- Manual or automated rollover

For Time Deposits (TDs), Citi offers investments via ***Online Investments (OLI)*** portal. The City of Chicago can go online to view rates, initiate investments and rollovers, and view transaction history.

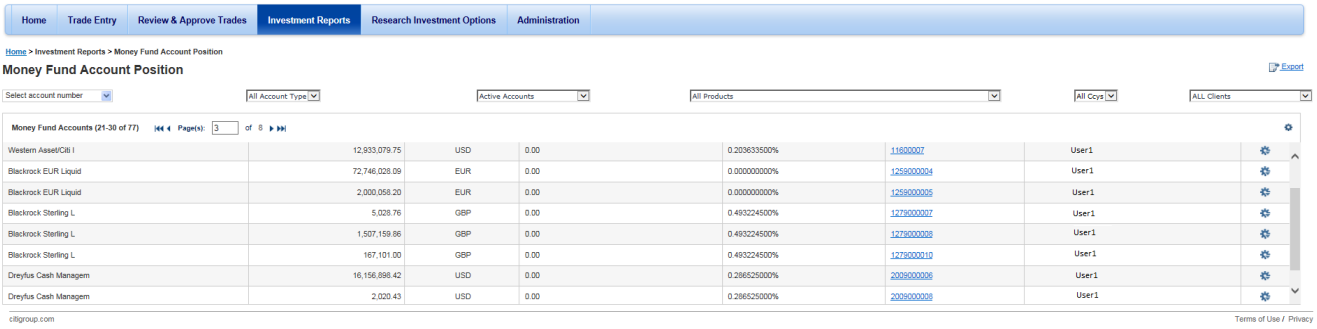
Citibank Online Investments provides:

- ***Global Investing:*** Execute investments in 50 countries and multiple currencies
- ***Flexible Investment Options:*** Time Deposit rates and availability are subject to change with market conditions and bank funding needs
- ***Reduced Execution Risk:*** Invest online and take advantage of features that streamline investing globally across multiple entities
- ***Reduced Settlement Risk:*** Automatic settlement to your Citi accounts reduces cost for wires and potential settlement issues
- ***Comprehensive Reporting:*** Confirm advices with full transaction details are sent when new investments are initiated through the system

Reporting

A complete and comprehensive set of investment reports is available through Citibank Online Investments (OLI). Citibank Online Investments allows users to monitor investment transactions and generate on-demand trade inquiries.

All transactions are reported real time.



Available reports include:

- *Trade History* – Provides detailed trade information at your fingertips, easily modifiable to find the information for which you are searching.
- *Investment Policy Report* – Coinciding with the availability of the MMF Investment Policy Management, there is report that shows total invested balances in the funds, current limits and the maximum amount available for investment within policy limits.
- *Fund Balance History Report* – View your daily account balances across your accounts with formatted subtotals at the fund account and fund level.
- *Dividend Activity Report* – This report presents a consolidated snapshot of your daily, month-to-date and year-to-date dividend accrual by fund.
- *Maturity Report* – The Maturity Report allows you to search current and historical information on products that have a set tenor at the time of purchase.
- *Account Position Report* – The Account Position Report allows you to see details for all of your MMF and interest-bearing accounts, as well as expand the report for additional information on each account. The following screen view illustrates this report.

In addition, clients will receive monthly statements via postal mail.

Available Investments and Current Rate of Return

Time deposit quotes are displayed online. For mutual funds, the fund information page, available through Online Investments, provide the latest yields and weighted average maturities (WAMs).

Monitoring Investment Policy

Online Investments offers investment policy monitoring for money market funds. The MMF investment policy functionality enables you to set up and modify investment policy rules for fund amount limits and the percentage of a fund that an investment makes of the fund's total assets under management (AUM). This eliminates the need to manually monitor these controls once they are determined and set for improved risk control. This functionality also enables you to track your Investment Polices and to receive email alerts if investment policy limits are breached.

Grouping Counterparties

Online Investments offers reporting to enable you to see your entire spectrum of investments. However, our reports are product specific and do not offer the feature of consolidating across counterparties.

Investment Sweep Reports

Daily investment balances, transactions, and account history are available to The City of Chicago. Reporting on all purchases, maturities, and interest payments are available next day via CitiDirect. You also can view monthly statements online through CitiDirect.

Custody and Securities Safekeeping

Online Banking – Citi Velocity

Our Custody reporting suite has been recognized in industry awards including The Banker's prestigious Technology Awards as a *Winner for Multi-Service Interface Solution*. We offer scalability, flexibility, and technology, coupled with an integrated set of solutions, to meet our clients' needs. Because our portal is directly linked with our Custody engine, actions need only be taken once, and clients can process transactions quickly, efficiently, and with fewer opportunities for error.

Through our portal, clients can receive and synthesize real-time information across the entire chain of investor activities, enabling them to make faster, better-informed decisions. This single sign-on, secure gateway also provides flexible and convenient access to every aspect of account activity and information management, simplifying and enhancing the interactive experience across multiple job functions and levels.

By integrating applications into the user's workflow, Citi supports your efficiency, productivity and overall performance through a broad range of self-service functions, available on demand through a single tool, including:

Function	Description	Example
Access account data	Generate intraday transaction and account information	• Balance, position and performance reports • Cash projections • Pending trades
Access market information	Receive market updates, data and analysis from global branch network and independent sources	• Market and service watches, profiles and in-depth analysis • Specialized publications, such as SEC 17f-5 and 17f-7 assessments • Dynamic news feeds, market indices and foreign exchange rates
Send transaction instructions	Initiate transactions with Citi	• Securities trades
Access analytic tools	Analyze custody transaction data for forecasting, modeling and benchmarking	• Cash projections • "What if" analysis measuring efficiency and identifying areas for improvement
Performance Analytics Tool Set	Access suite of performance, attribution and Value at Risk reports	• Portfolio (gross and net) • Class level (cash, equity, fixed) • Sub-class level (economic sector, industry, high quality, high yield, etc.) • Currency
Corporate Actions	Conduct internal event routing and tracking	• Increase timeliness of reporting • Instruction (with maker-checker) capability • Global consistency across the entire franchise
Custody	Access a suite of custody reports	• Standard and customized reports • Schedule reports for delivery (online, email or SFTP) • Choose and control frequency, format and delivery of reports

Function	Description	Example
Fund Services	Access a suite of fund services reports, manage funds and track current values.	• Standard and customized reports • Schedule automated delivery of reports • Extract files • Fund overview, account overview
Securities Lending	Access a suite of securities lending reports	• Loan, collateral, investment and performance reports
Market Guide	Access Citi's extensive market and service intelligence	• Up-to-date market and service information • Latest news and timely broadcast messages • Charts, sophisticated keyword search, custom settings and preferences
Executive Performance Reports	Access a consolidated view of instructions, settlements, income, assets and billing analytics for global custody accounts	• Performance reports

- initiative.

Appendix – Citi's Industry Recognition

Citi's vision and strategy is to be the world's leading digital bank, by leveraging new technology to provide fast, transparent, digital payment services with exceptional customer experience to our clients on a global scale. We are honored to be recognized by *Euromoney*, which awarded Citi its prestigious 2019 "the World's Best Bank for Transaction Services" award, and *International Financing Review's* "Bank of the Year for Governments" (2017).

Recent Awards Highlights

Citi Treasury & Trade Solutions

Global Finance Best Trade Finance Providers 2021

- Best Global Trade Finance Bank
- Best Trade Finance Bank in Latin America
- Best Trade Finance Bank in Argentina

Global Finance Treasury and Cash Management Awards 2021

- Best Global Bank for Liquidity Management
- Best Global Bank for Financial Institutions
- Best Global Cash Pooling Solution
- Best Bank for Liquidity Management - North America
- Best Bank for Liquidity Management - Latin America
- Best Provider of Short-Term Investments/Money Market Funds - Latin America
- Outstanding Achievement in Treasury Operations During the Covid Pandemic – Latin America
- Best Bank for Cash Management: Bahamas, Colombia, Costa Rica, Mexico, Puerto Rico, United States

Euromoney Trade Finance Market Leader2021

Market Leader:

- #1 in Africa
- #1 in LATAM
- #1 in Algeria, Brazil, Kazakhstan, Paraguay

Best Service:

- #1 in Central & Eastern Europe
- #1 in LATAM
- #1 in Algeria, Argentina, Brazil, Kazakhstan, Paraguay Turkey

Winners – Adam Smith Awards 2021

- Best card / e-cash solution: NexTier Completion Solutions
- Best Funding Solution: Phoenix
- Best Cyber-Security Solution - Hyundai Motor Europe
- Best Treasury Solution in Africa: MultiChoice Group Ltd
- First Class relationship Management: Elanco Animal Health

Highly Commended

- Working Capital Management Solution: Atlas Copco Makinalari Imalat A.S
- Best AP Solution: The Hut Group
- Best Supply Chain Solution: Tetra Pak International SA and Halliburton
- Best Funding Solution: Rolls Royce plc and PJSC Lukoil
- Best Crisis Management Solution: Kimberly-Clark Brazil
- Best Cyber-Security Solution: TÜRKİYE ŞİŞE ve CAM FABRİKALARI A.Ş.,
- Best Foreign Exchange Solution: Teva Pharmaceutical Industries

Celent Model Bank 2021 Award for Citi Global Collect and Citi Instant Payments

Euromoney Awards for Excellence 2021

Best Bank for Transaction Services:

- #1 in Africa
- #1 in Central and Eastern Europe
- #1 in Latin America

Euromoney Cash Management Survey 2020

Market Leader:

- #1 in Africa
- #1 in Central and Eastern Europe
- #1 in Argentina, Cote d'Ivoire, Jordan, Kazakhstan, Lebanon, Nigeria, Pakistan, Poland, Senegal, Tunisia, Ukraine, Uruguay

Best Service:

- #1 in Africa (Personnel & Tech provisions categories)
- #1 in Central & Eastern Europe
- #1 in Algeria, Argentina, Cote d'Ivoire, Kazakhstan, Kuwait, Lebanon, Morocco, Nigeria, Pakistan, Romania, Senegal, Tunisia, Turkey, Uruguay, Zambia

The Banker Transaction Banking Awards 2020

GLOBAL WINNER

- Best Global Bank
- Best Bank in North America
- Best Bank for Payments

Greenwich Associates Digital Banking Benchmarking Study 2020

- CitiDirect BE® ranked #1
- Citi awarded top rank for the 15th year
- Study assesses "Best of Breed" features / functionality for online and other electronic channels

2021 Treasury Management and Process Transformation Award

Royal Dutch Shell

Global Trade Review Leaders in Trade 2021 Awards

Winner of GTR Leaders in Trade for Resilience

TMI Awards for Innovation & Excellence 2020

- Best Bank for Trade Finance & FSCM for Middle East and Africa
- Best Bank for Cash & Liquidity Management Middle East & Africa
- Best Bank for Cash & Liquidity Management South America
- Best Customer Experience for Technology and Innovation (CitiDirect)
- Global Bank of the year for Diversity and Inclusion

Monarch Innovation Awards 2020

Most Innovative Feature: Citi® Payment Insights

Corporate/Institutional Regional Awards:

- Best Digital Bank in Africa
- Best Digital Bank in Asia-Pacific
- Best Digital Bank in Latin America
- Best Digital Bank in Middle East
- Best Digital Bank in North America

Global Finance Best Digital Bank Award 2020

Best Corporate/Institutional Digital Bank

Corporate/Institutional Global Awards:

- Best Online Investment Management Services
- Best Online Cash Management Services
- Best Online Treasury Services
- Best in Mobile Banking Adaptive Site
- Best Mobile Banking App
- Most Innovative Digital Bank
- Best Open Banking APIs

Winners – Adam Smith Awards ASIA 2020

- Top Treasury Team - Olam International Ltd
- Best Trade Solution - BASF International Trading
- Best Funding Solution - Singapore Technologies Engineering Ltd
- Best Cyber-Security Solution – Alibaba
- Best Crisis Management Solution - ST Telemedia

Highly Commended

- Top Treasury Team - HCL India
- Best Cash Management Solution – Lear Corporation
- Best Working Capital Management Solution - Sanofi S.A
- Best Card Solution- New South Wales State Government
- Best Sustainable Finance /ESG Solution - PNB Housing Finance Ltd
- Best in Class Treasury Solution in China - Ping An Insurance Company of China
- Best Liquidity Management Solution - General Electric
- First Class Relationship Management - Carlsberg Singapore Private
- Best Foreign Exchange Solution - Danone

Citi Markets & Securities Services

2020 Global Custody Survey
- #1 Regional Score for AUM <$3 billion: EMEA
- #2 Regional Score for AUM <$3 billion: Americas

2019 Securities Lending Survey
- #1 for Agency Lending: APAC
- #3 for Agency Lending: Globally
- #2 for Citi Borrower (Prime): NAM & APAC
- #3 for Citi Borrower (Prime): EMEA
- Overall Citi ranked top 3 in over 30 categories

2019 MENA Awards
- Global Custodian of the Year
- Transition Manager of the year

**weighted*

2021 Leaders in Custody Awards
- Best Technology for ETF Administration: ACES
- Asset Servicing Deal of the Year: Mitsubishi UFJ Investor Services
- Reto Faber, EMEA Head of Direct Custody & Clearing inducted into the GC Hall of Fame

LatinFinance
2020 Deals of the Year
Investment Bank of the Year

Risk Awards 2021 Winner — Derivatives house of the year, Citi
Risk Awards 2021 Winner — Equity derivatives house of the year, Citi
Risk Awards 2021 Winner — Interest rate derivatives house of the year, Citi

The Banker Investment Banking Awards 2021
Investment Bank of the Year
Investment Bank of the Year: IPOs, Mergers and Acquisitions and Asia

TCMA Turkish Capital Markets Association
2019 Market Leader for Foreign Investors' Assets under Custody (4rd consecutive year)

Euromoney 2021 Awards for Excellence
- Best Bank for Advisory: Middle East
- Best Bank for Corporate Responsibility: Asia
- Best Digital Bank: NAM
- Best Bank for Financing: Asia and LATAM
- Best Investment Bank: Central America & Caribbean; Middle East; CEE
- Best Bank for Sustainable Finance: NAM
- Best Bank for Transaction Services: LATAM, Africa, CEE

Euromoney 2020 Trade Finance Survey
- Market Leader for Trade Finance: LATAM, Brazil and Paraguay
- Best Service for Trade Finance: Argentina, Brazil and Paraguay
- Best Overall Trade Finance Service
- Best Advisory Service
- Best Digital Offering
- Best Market Insight
- Best Support & Advisory Services: LATAM

etfexpress AWARDS
- 2020 ETF Research Provider of the Year: EMEA
- 2019 Global Research Provider of the Year
- 2019 ETF Research Provider of the Year: North America

Fund Intelligence Operations & Services Awards 2019 — Winner — Best Liquidity Risk Management Solution — Citi
Best Liquidity Risk Management Solution

2021 Best FX Provider
2021 Best Bank FX Trading Technology
2021 Best Bank Platform (Overall)
2021 Most Innovative Bank Platform
2021 Best Platform for Corporates
2021 World's Best Investment Banks: Dominican Republic, Ecuador, El Salvador, Mexico and Peru

2021 Best Sub-Custodian Banks
- Latin America
- Country Awards: Argentina, Brazil, Colombia, Peru, Mexico and Chile

2021 Citi Named as one of the World's Best Financial Innovation Labs

2021 Best Corporate/Institutional Digital Bank
- Best Corporate/Institutional Bank: 13 markets

2021 Best Digital Banks
- Best Digital Consumer Bank: Australia, Philippines, Hong Kong
- Best Information Security & Fraud Management: APAC, Bahrain, UAE
- Best Mobile Adaptive Site: APAC, UAE
- Best Open Banking APIs: UAE
- Best Mobile Banking Adaptive Site: APAC
- Best SME Banking

2020 Best Global Transaction Bank

Institutional Investor
2020 Global Fixed Income Survey: CitiVelocity℠ (2nd consecutive year)

CENTRAL BANKING AWARDS 2019 — Custody Initiative of the Year
Citi Velocity

2020 Triple A Awards
- Best Sub-Custodian Overall
- Best ETF Custodian: Taiwan
- Best Domestic Custodian: Australia
- Best Sub-Custodian: India, Malaysia, Taiwan, Vietnam
- Best Custody Specialist, Insurance
- Best in Asset Servicing
- Custodian Banker of the Year, Asia: David Bone, Head of Global Custody, Asia

2020 Sustainable Capital Markets Awards
- Best Bank: APAC
- Best Digital Bank: APAC
- Best Corporate & Institutional Advisor: APAC

funds europe awards 2020
Funds Europe Awards
European Custodian of the Year

2019 GlobalCapital Asia Awards
2019 *GlobalCapital* Asia Awards
Best Investment Bank

2019 GlobalCapital Americas Derivatives Awards
2019 Americas Derivatives Awards
Americas Derivatives House of the Year

FOW GLOBAL INVESTOR — THE ASIA CAPITAL MARKET AWARDS 2020
2020 Asia Capital Markets Awards
Client Clearing Provider of the Year

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RE: Last two sworn statements of resources and liabilities which the proposer is required to furnish the Commissioner of Banks and Trust Companies or to the Comptroller of the Currency (Banks) or to the Commissioner of Savings and Loan Associations or to the Federal Home Loan Bank (Savings and Loans)

[redacted]

FDIC LEGAL DIVISION
Federal Deposit Insurance Corporation

[redacted]

[redacted]

[redacted]

BankFind Suite Home | Back to Search Results

Citibank, National Association

Institution Details

Data as of 11/10/2023

FDIC Insured
Since 01/01/1934

FDIC Cert #
7213

Established
06/16/1812

Bank Charter Class
National Banks, member of the Federal Reserve Systems (FRS)

Primary Federal Regulator
Comptroller of the Currency

Secondary Federal Regulator
CFPB

Main Office Address
5800 S Corporate Pl
Sioux Falls, SD 57108

Primary Website
www.citibank.com

Locations
668 domestic locations: 13 states and 1 territory.
281 in foreign locations.

Financial Information
Create financial reports for this institution

Consumer Assistance
HelpWithMyBank.gov

Contact the FDIC
Questions about Bank Information

Get additional detailed information by selecting from the following:

Locations | History | Institution Profile | Other Names

949 Branch Offices

Hide

Results 25

1 2 3 4 5 … 38

Page # Go

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multiple-source

[redacted]

[redacted]

[redacted]

Southbridge 1A & 1B

[redacted]

[redacted]

[redacted]

Office of the
Comptroller of the Currency
Washington, DC 20219

LARGE BANK

PUBLIC DISCLOSURE

February 8, 2021

COMMUNITY REINVESTMENT ACT PERFORMANCE EVALUATION

Citibank, N.A.
Charter Number: 1461

5800 South Corporate Place
Sioux Falls, SD 57108

Office of the Comptroller of the Currency

Large Bank Supervision
Constitution Center
400 7th Street, S.W.
Washington, DC 20219

NOTE: This document is an evaluation of this institution's record of meeting the credit needs of its entire community, including low- and moderate-income neighborhoods, consistent with safe and sound operation of the institution. This evaluation is not, and should not be construed as, an assessment of the financial condition of this institution. The rating assigned to this institution does not represent an analysis, conclusion, or opinion of the federal financial supervisory agency concerning the safety and soundness of this financial institution.

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Overall CRA Rating

Institution's CRA Rating: This institution is rated Outstanding.

The following table indicates the performance level of Citibank, N.A. (Citibank, CBNA, or bank) with respect to the Lending, Investment, and Service Tests:

	Citibank, N.A. Performance Tests		
Performance Levels	Lending Test*	Investment Test	Service Test
Outstanding	X	X	
High Satisfactory			X
Low Satisfactory			
Needs to Improve			
Substantial Noncompliance			

* The Lending Test is weighted more heavily than the Investment and Service Tests when arriving at an overall rating.

The major factors that support this rating include:

- The Lending Test rating is based on excellent performance in nearly all rating areas. Geographic and borrower distribution ranged from good to excellent in major rating areas. Community development (CD) lending was significant in all rating areas.

- The Investment Test rating is based on excellent performance in all rating areas. The bank is responsive to the needs of its communities. The bank participates in large, complex investments such as Low-Income Housing Tax Credits (LIHTC), New Market Tax Credits (NMTC), and Historical Tax Credits (HTC), and with various partners in public/private partnerships.

- The Service Test rating is based on good performance in the New York Combined Statistical Area (NY CSA), Illinois, Puerto Rico, and South Dakota and excellent performance in all other rating areas. Service delivery systems ranged from good to excellent in major rating areas. The bank was also a leader in providing CD services in most rating areas.

Lending in Assessment Area

An adequate percentage of the bank's loans are in its assessment areas (AA).

The bank originated and purchased 38.9 percent of its total loans inside the bank's AAs during the evaluation period. This analysis is performed at the bank, rather than the AA, level. This percentage does not include extensions of credit by affiliates that may be considered under the other performance criteria. It was noted that the bank engages in business credit card lending that is offered nationwide or outside the bank's traditional footprint, which had the effect of lowering the in/out ratio.

Lending Inside and Outside of the Assessment Area										
Loan Category	Number of Loans				Total #	Dollar Amount of Loans $(000s)				Total $(000s)
	Inside		Outside			Inside		Outside		
	#	%	#	%		$	%	$	%	
Home Mortgage	135,612	61.6	84,455	38.4	220,067	64,208,241	73.8	22,829,718	26.2	87,037,959
Small Business	599,020	35.9	1,071,789	64.1	1,670,809	4,176,708	39.0	6,533,464	61.0	10,710,172
Small Farm	0	0.0	2	100.0	2	0	0.0	7	100.0	7
Total	734,632	38.9	1,156,246	61.1	1,890,878	68,384,949	70.0	29,363,189	30.0	97,748,138

Description of Institution

Citibank is a full-service interstate bank with its main office in Sioux Falls, South Dakota and headquarters in New York City, New York (NY). Citibank is a subsidiary of Citicorp, LLC, which is a direct subsidiary of Citigroup, Inc. (Citi). Citi is a global financial services company with approximately 200 million customer accounts, that does business in more than 160 countries and jurisdictions and has 200,000 employees worldwide. Citi's total assets of nearly $2 trillion as of December 31, 2019, made it the fourth largest bank holding company in the U.S. and the eighth largest banking organization in the world. Citi provides consumers, corporations, governments, and institutions with a broad range of financial products and services, including consumer banking and credit, corporate and investment banking, securities brokerage, transaction services, and wealth management. Citibank operated 694 retail branches and 2,306 ATMs throughout its AAs.

The table below provides basic bank financial information as of the beginning of the first year (except for Net Income) and end of the third year of the evaluation period:

	01/01/2017		12/31/2019		% Growth / (Decline) in Period
Loan Mix	Balance Sheet $ Amount (000)	% of Total Loans	Balance Sheet $ Amount (000)	% of Total Loans	
Real Estate Loans	154,470,000	26.0	159,598,000	23.9	+3.3
Commercial Loans	160,788,000	27.0	178,617,000	26.8	+11.1
Individual Loans	169,077,000	28.4	189,756,000	28.4	+12.2
Agricultural Loans	1,181,000	0.2	771,000	0.1	(34.7)
All Other Loans/Leases	110,228,000	18.4	138,749,000	20.8	+25.9
Total Assets	1,349,581,000		1,453,998,000		+7.7
Total Deposits	945,683,000		1,079,840,000*		+14.2
Net Income	(Year end 2017) 757,000		17,405,000		+2,199.0
Tier 1 Capital	126,465,000		132,918,000		+5.1

Source: FFIEC Call Reports

*Represents international and domestic deposits. For CRA performance and capital allocated to AAs, total deposits were adjusted to $224.1 billion.

At the bank's request, examiners considered loans and investments from two subsidiaries. Refer to appendix A for a complete list. The bank and its subsidiaries were not constrained by any legal or financial impediments that would hinder its ability to meet the credit, investment, and service needs of its communities.

Citibank was rated Satisfactory by the OCC at its prior CRA evaluation dated February 5, 2018.

Scope of the Evaluation

Evaluation Period/Products Evaluated

This performance evaluation assesses the bank's CRA performance under the large retail bank Lending, Investment, and Service Tests. The evaluation period is January 1, 2017, to December 31, 2019.

In evaluating the bank's lending performance, examiners reviewed home mortgage loans reported under the Home Mortgage Disclosure Act (HMDA) and small loans to businesses reported under the CRA. The bank did not originate any farm loans in its AAs. Farm lending is not a primary product of the bank.

With an evaluation period end date of December 31, 2019, qualifying activities performed in response to the significant impact of the coronavirus pandemic across the United States are not addressed in this evaluation. Bank qualifying activities will be considered in the subsequent evaluation.

Selection of Areas for Full-Scope Review

In each state where the bank has an office, one or more AAs within that state were selected for a full-scope review. For purposes of this evaluation, bank delineated AAs located within the same metropolitan statistical area (MSA), multistate metropolitan statistical area (MMSA), or combined statistical area (CSA) are combined and evaluated as a single AA. Similarly, bank delineated non-MSA AAs within the same state are combined and evaluated as a single area. These combined AAs may be evaluated as full- or limited-scope. Refer to the "Scope" section under each State Rating section for details regarding how full-scope AAs were selected. Refer to appendix A, Scope of Examination, for a list of full- and limited-scope AAs.

Ratings

The bank's overall rating is a blend of the state ratings, and where applicable, multistate ratings.

The MMSA and state ratings are based on performance in all bank AAs. Refer to the "Scope" section under each State and MMSA Rating section for details regarding how the areas were weighted in arriving at the respective ratings.

Lending Test

For the various loan products considered under the Lending Test, small loans to businesses received greater weight than home mortgage loans in developing conclusions due to a higher volume of small loans to businesses during the evaluation period. In rating areas where there was a significant difference in the weighting, it is noted under the Scope of the Evaluation section.

Throughout all rating areas, as data was available, examiners gave equal emphasis to the geographic and borrower distribution components of the Lending Test.

In analyzing the distribution of home mortgage loans to borrowers of different income levels, examiners considered the impact that poverty levels had on the demand for mortgages from low-income individuals and the affordability or high cost of housing in some markets. The costs associated with financing homeownership have a more significant impact on the opportunity to lend to low-income populations where a larger proportion of the individuals and families fall below the poverty line.

The volume of CD loans and the degree of responsiveness of those loans to the needs in the community were considered in the lending evaluation. CD lending in an AA impacted the Lending Test rating to the extent of opportunities, responsiveness, and performance context. Examiners compared the dollar amount of CD loans to the tier 1 capital allocated to the AAs to gain a common perspective regarding the volume of CD lending activity. Tier 1 capital was allocated to the rating areas and AAs based on the percentage of bank deposits in the AAs. Examiners also considered CD lending by the bank in the broader statewide or regional area (BRSA).

Citibank, through Citibank Community Capital, has the distinction of being the top affordable housing lender in the U.S. in 13 out of the past 14 years according to *Affordable Housing Finance* magazine. In 2019, the bank reported over $6.6 billion in lending and investing to finance affordable housing, mixed use and commercial development, healthcare, and small business projects across 200 U.S. banks.

Investment Test

Examiners considered the volume of qualified investments made during the current evaluation period and qualified investments that were made prior to the current evaluation period and are still outstanding. The amount of consideration given to the current and prior period investments is based on the responsiveness of the investments to the needs in the AAs.

Examiners compared the dollar amount of qualified investments made in the current evaluation period and prior evaluation periods to the tier 1 capital allocated to the AAs to gain a common perspective regarding the volume of investment activity. Tier 1 capital was allocated to the rating areas and AAs based on the percentage of bank deposits in each AA.

Service Test

Primary consideration is given to the bank's performance in delivering retail products and services to geographies and individuals of different income levels through the bank's distribution of branches. Examiners focused on branches in low- to moderate-income (LMI) geographies, but also considered branches in middle- and upper-income (MUI) geographies that are near LMI geographies and evaluated bank prepared reports on the usage of these branches by LMI households. Alternative delivery systems (ADS), including ATMs, mobile, remote, and internet banking, were given positive consideration after examiner evaluation of the bank provided reports on the use of these systems by LMI households.

Where the bank opened or closed branches within an AA, the overall impact of the changes was evaluated. If no branches were opened or closed in an AA, examiners did not include that performance element in the analysis.

Examiners evaluated the range of services and products offered by all the bank's branches. Services and products offered at branches are consistent throughout the branch network. Examiners specifically focused on differences in branch hours and services in LMI geographies compared to those in MUI geographies. Examiners noted Sunday hours at two branches in the NY CSA.

The bank's record of providing CD services was evaluated in AAs that received full-scope reviews. The primary consideration was the responsiveness of CBNA to the needs of the community. The bank uses two criteria to determine its performance; hours provided per employee and the number of LMI beneficiaries of the individual service. Examiners weighted each criterion equally.

Other Information

AAs – Examiners determined that all AAs consisted of whole geographies and met the requirements of the regulation. The areas reasonably reflected the different trade areas that CBNA's branches service and did not arbitrarily exclude any LMI areas.

Flexible and Innovative Lending Products – The bank offered several CRA affordable mortgage products during the evaluation period. The volume of originations is discussed within the rating areas, where applicable. Some of the more significant products include:

- Home Run – Proprietary first mortgage offering LMI borrowers flexible underwriting terms and no requirement for mortgage insurance. Offered through approved nonprofits providing pre- and post-purchase homeownership counseling services.

- Lender Paid Assistance – CBNA funded closing cost assistance up to $5,000 for first-time homebuyers who received counseling from an approved nonprofit organization.

- Deed Restriction – Mortgage program for properties with deed restrictions, including those that survive foreclosure. Deed restricted properties are a key feature to preserve affordability in many communities.

- Federal Housing Administration (FHA) and Veterans Affairs (VA) Programs – FHA and VA insured loans had more flexible lending criteria than conventional mortgage loans. U.S. Department of Housing and Urban Development (HUD) provided mortgage insurance for FHA loans, enabling the bank to offer additional loan options to borrowers that may not have qualified for a conventional mortgage. The U.S. Department of Veterans Affairs guaranteed the VA loans, which provided protection against losses arising from a borrower default.

- For small businesses, the bank offers loans guaranteed by the U.S. Small Business Administration (SBA), including SBA 504, SBA 7a, and SBA Express loans and lines of credit. SBA loans have more flexible terms than conventional loans.

Flexible and Innovative Retail Service Products – The bank offered several retail products and services across its AAs that address the needs of all its customers, including LMI. Some of these include:

- Citibank Basic Savings Account – A bank account with no monthly fee and a low minimum balance requirement available to customers when combined with a financial education program to introduce

customers new to banking ways to build savings. These programs, called Financial Empowerment Programs, are offered through Citibank nonprofit partners.

• Citi ATM Community Network – Provides surcharge-free cash withdrawals and account inquiries at Citibank branch ATMs to more than 315,000 customers of 15 participating minority-owned banks and credit unions in Chicago, Los Angeles, Miami, New York, San Francisco, and Washington, D.C.

Discriminatory or Other Illegal Credit Practices Review

Pursuant to 12 CFR 25.28(c) or 195.28(c), respectively, in determining a national bank's or federal savings association's (collectively, bank) CRA rating, the OCC considers evidence of discriminatory or other illegal credit practices in any geography by the bank, or in any assessment area by an affiliate whose loans have been considered as part of the bank's lending performance. As part of this evaluation process, the OCC consults with other federal agencies with responsibility for compliance with the relevant laws and regulations, including the U.S. Department of Justice, the U.S. Department of Housing and Urban Development, and the Consumer Financial Protection Bureau, as applicable.

The OCC found evidence of two violations of the Servicemembers Civil Relief Act (SCRA). In the first violation, the bank completed two foreclosures on active duty customers. Both the bank and the law firm acting for the bank used limited variations of the borrower's name in the Defense Manpower Data Center (DMDC) checks. The bank corrected this violation by rescinding the foreclosure action and the customers retained their homes. A lookback of foreclosures by law firms found no additional name variation issues. Bank procedures now provide for additional name variations in pre-sale DMDC checks.

In the second violation, a law firm acting for the bank filed an inaccurate military affidavit and obtained a default judgement on a borrower whose active duty spouse had dower rights to the mortgaged property. The bank became aware of the inaccurate affidavit through its post-sale review of law firm records. The bank rescinded the foreclosure sale. The law firm conducted additional SCRA training and began requiring attorneys to document their acknowledgment of DMDC search results.

The CRA performance rating was not lowered as a result of these findings. We considered the nature, extent, and strength of the evidence of the practices; the extent to which the institution had policies and procedures in place to prevent the practices; and the extent to which the institution has taken or has committed to take corrective action, including voluntary corrective action resulting from self-assessment; and other relevant information.

The OCC will consider any information that this institution engaged in discriminatory or other illegal credit practices, identified by or provided to the OCC before the end of the institution's next performance evaluation in that subsequent evaluation, even if the information concerns activities that occurred during the evaluation period addressed in this performance evaluation.

Multistate Metropolitan Statistical Area Rating

New York-Newark, NY-NJ-CT-PA CSA (NY CSA)

CRA rating for the NY CSA[1]: Outstanding
The Lending Test is rated: Outstanding
The Investment Test is rated: Outstanding
The Service Test is rated: High Satisfactory

The major factors that support this rating include:

- Lending levels reflect excellent responsiveness to AA credit needs;
- Excellent geographic distribution of loans;
- Good borrower distribution of loans;
- The bank is a leader in making CD loans;
- Excellent level and responsiveness of CD investments;
- Retail service delivery systems are accessible to all portions and individuals of different income levels in the AA and the bank is a leader in providing CD services.

Description of Institution's Operations in NY CSA

Citibank's AA in the NY CSA is comprised of geographies in New York, New Jersey, and Connecticut. The bank conducts operations within three MDs and one MSA: New York-Jersey City-White Plains, NY-NJ MD consisting of Bergen, Hudson, and Passaic counties in NJ and Bronx, Kings, New York, Queens, Richmond, Rockland, and Westchester counties in NY; Nassau County-Suffolk County, NY MD in its entirety; Newark, NJ MD consisting of Essex County in NJ; Bridgeport-Stamford-Norwalk MSA in Connecticut consisting of Fairfield County. The NY CSA represents the largest retail market for the bank in terms of deposits and branches.

Citibank had $116.5 billion in deposits in the CSA, representing 52 percent of its adjusted deposits. The local banking environment is highly competitive, with 169 FDIC-insured institutions operating 4,211 branches. Citibank ranked fourth in deposit market share with 6.8 percent. The top three banks by deposit market share are JPMorgan Chase (33.2 percent), Bank of America (7.3 percent), and BNY Mellon (7.1 percent). In addition to FDIC-insured institutions, this area is served by several credit unions, mortgage lenders and brokers, and money service businesses. Citibank operated 247 branches and 1,221 ATMs in the CSA, representing 35.6 percent of total branches and 52.9 percent of total ATMs.

The CSA poses challenges to home mortgage lenders in the AA, including Citibank. The CSA is a high-cost housing area, limiting access to affordable homeownership among LMI borrowers. The median housing value in the CSA is $489,218 while the National Association of Realtors (NAR) 4Q2019

[1] This rating reflects performance within the multistate metropolitan statistical area. The statewide evaluations do not reflect performance in the parts of those states contained within the multistate metropolitan statistical area.

median sales price of a single-family home is $428,000. One simplistic method used to determine housing affordability assumes a maximum monthly principal and interest payment of no more than 30 percent of the applicant's income.

Assuming a 30-year mortgage with a 5 percent interest rate, and not accounting for down payment, homeowners insurance, real estate taxes, or any additional monthly expenses, a low-income borrower making $44,686 per year (or less than 50 percent of the FFIEC adjusted median family income in the AA) could afford a $161,198 mortgage with a payment of $865 per month; a moderate-income borrower earning $71,498 per year (or less than 80 percent of the FFIEC adjusted median family income in the AA) could afford a $257,918 mortgage with a payment of $1,385 per month.

The poverty level across the AA was considered in the evaluation of lending performance. Families living below the stated poverty rate are identified as having difficulty meeting basic financial needs and as such are less likely to have the financial wherewithal to qualify for a home loan than those with income above poverty. In the NY CSA, the overall household poverty level was 15 percent. However, in low-income geographies, the household poverty level increases to 37 percent and in moderate-income geographies it increases to 22 percent. In MUI geographies, the combined poverty level is just 9 percent.

Table A – Demographic Information of the Assessment Area

Assessment Area: New York CSA

Demographic Characteristics	#	Low % of #	Moderate % of #	Middle % of #	Upper % of #	NA* % of #
Geographies (Census Tracts)	3,928	11.9	22.1	31.4	32.3	2.3
Population by Geography	16,398,846	12.7	23.6	30.3	33.1	0.3
Housing Units by Geography	6,416,363	11.9	22.3	29.6	35.9	0.2
Owner-Occupied Units by Geography	2,750,328	3.0	13.5	35.9	47.5	0.1
Occupied Rental Units by Geography	3,097,225	19.7	30.0	24.4	25.6	0.2
Vacant Units by Geography	568,810	12.3	23.3	27.8	36.2	0.3
Businesses by Geography	1,363,146	7.1	16.8	28.3	46.4	1.3
Farms by Geography	17,449	4.4	15.9	34.3	45.1	0.3
Family Distribution by Income Level	3,811,244	27.3	15.8	16.9	40.1	0.0
Household Distribution by Income Level	5,847,553	28.8	14.5	15.7	41.0	0.0
Median Family Income MSA - 14860 Bridgeport-Stamford-Norwalk, CT MSA		$105,628	Median Housing Value			$489,218
Median Family Income MSA - 35004 Nassau County-Suffolk County, NY		$108,193	Median Gross Rent			$1,344
Median Family Income MSA - 35084 Newark, NJ-PA		$90,570	Families Below Poverty Level			12.5%
Median Family Income MSA - 35614 New York-Jersey City-White Plains, NY-NJ		$67,560				

Source: 2015 ACS and 2019 D&B Data
Due to rounding, totals may not equal 100.0%
(*) The NA category consists of geographies that have not been assigned an income classification.

According to the November 2019 Moody's Analytics report, in the New York-Jersey City-White Plains, NY-NJ MD, the housing market remains stagnant with both single-family and condominium prices remaining stable or decreasing and multifamily building well below its mid-decade peak. As the financial capital of the world, the area has a high per capita income and limited exposure to manufacturing. It has strong international immigration. However, high costs, including taxes, housing, office rents and energy, a rapidly aging infrastructure, and an overreliance on wealthy overseas buyers to support the real estate market, are major challenges. Major industries include education and health services, professional and business services, and government. Major employers in the area include Montefiore Health System, Mount Sinai Health System, JPMorgan Chase, Bank of America, N.A., and New York-Presbyterian Healthcare System.

Community Contacts

A review was conducted of multiple community contacts completed during the examination period with organizations located throughout the area. The organizations contacted focus on areas such as affordable housing, small business development, community services, and policy and research. The contacts noted the need for affordable housing programs, both homeownership and rental housing due to the high-cost areas across the AA. Affordable rental housing is particularly necessary in high-cost metropolitan areas such as New York City, where two-thirds of its residents remain renters. Often these renters experience a high rent burden. Multifamily lending is also a need in these areas, many of which have experienced gentrification during the rating period. For homeowners across the AA, affordable mortgages with down payment assistance and home improvement loans are needed for low- and moderate-income families to purchase and repair homes. Support for seniors is necessary as many areas throughout the AA report a growing senior population. Seniors will need access to various community services as well as low-cost loans to maintain homes. Job training is noted as experienced workers age out of the workforce without enough qualified replacements.

There is an increased need for small businesses, especially for small scale businesses that struggle most to access capital. In the high-cost areas across the AA, it is difficult for businesses to survive due to rising commercial real estate leases and large chains entering the local retail markets. Capacity building for community organizations, including providing access to technical training and leadership development, was noted. Other needs identified include:

- Access to affordable banking products and services including low-cost checking and savings products and credit repair products.
- Access to traditional financial services.
- Financial literacy.
- Financial education for start-up businesses.
- Small dollar mortgage and small business loans.
- Affordable small dollar emergency credit.
- Homebuyer education and counseling.
- Support for youth after-school programs.
- Job training and resources.

Scope of Evaluation in NY CSA

The NY CSA received a full-scope review. Bank delineated MDs and the MSA were combined in evaluating performance under each test. The New York CSA represents one of the bank's most

significant markets in terms of lending, deposits, and branch distribution. The performance in the New York CSA was weighted more heavily in determining the bank's overall CRA rating.

CONCLUSIONS WITH RESPECT TO PERFORMANCE TESTS IN NY MMSA

LENDING TEST

The bank's performance under the Lending Test in the NY CSA is rated Outstanding.

Based on a full-scope review, the bank's performance in the NY CSA is excellent.

Lending Activity

Lending levels reflect excellent responsiveness to AA credit needs considering the number and dollar amount of home mortgage, small business, and CD lending activity relative to the bank's capacity based on deposits, competition, and market presence.

Number of Loans				
Assessment Area	Home Mortgage	Small Business	Community Development	Total
NY CSA	45,778	97,316	109	143,203
BRSA-NY, NJ, CT	0	0	48	48
Total	45,778	97,316	157	143,251

Dollar Volume of Loans (000s)				
Assessment Area	Home Mortgage	Small Business	Community Development	Total
NY CSA	21,752,496	896,634	3,203,903	25,853,033
BRSA-NY, NJ, CT	0	0	903,489	903,489
Total	21,752,496	896,634	4,107,392	26,756,522

*The tables present the data for all assessment areas. The narrative below addresses performance in full-scope areas only

CBNA ranked fourth in deposits out of 169 insured depository institutions with 6.8 percent market share. In small loans to businesses, CBNA ranked fourth with a market share of 5.5 percent, placing it in the top 1 percent of lenders. This is a very competitive market with 306 small business lenders. The top lenders are nationwide lenders and have significant small business credit card portfolios, and their market shares were American Express (31 percent), JPMorgan Chase (26.7 percent), and Bank of America (6.8 percent). In overall HMDA lending, CBNA ranked fifth with 4.2 percent market share. This placed Citibank in the top 1 percent of lenders. While the HMDA lending market share is slightly lower than the bank's deposit market share, this is a highly competitive market with 807 home mortgage lenders. The top lender in this market was Wells Fargo Bank with 8.9 percent market share.

Distribution of Loans by Income Level of the Geography

The bank exhibits an excellent geographic distribution of loans in its AA.

Home Mortgage Loans

Refer to Table O in the CSA section of appendix D for the facts and data used to evaluate the geographic distribution of the bank's home mortgage loan originations and purchases. Based on the data in the

tables and considering the performance context factors discussed above, the overall geographic distribution of home mortgage loans is excellent.

The proportion of loans in LMI geographies exceeded the proportion of owner-occupied homes in those geographies. The proportion of loans in low-income geographies was near to the aggregate distribution of loans while the proportion of loans in moderate-income geographies exceeded the aggregate distribution of loans. Despite the high cost of housing and economic considerations that affect large portions of the CSA, the bank achieved excellent geographic penetration.

Small Loans to Businesses

Refer to Table Q in the CSA section of appendix D for the facts and data used to evaluate the geographic distribution of the bank's originations and purchases of small loans to businesses. Based on the data in the tables and considering the performance context factors discussed above, the overall geographic distribution of small loans to businesses is excellent.

The proportion of loans in LMI geographies exceeded the proportion of businesses located in those geographies and the aggregate distribution of loans. Despite the economic considerations and competition that affect large portions of the CSA, the bank achieved excellent geographic penetration.

Lending Gap Analysis

Examiners reviewed summary reports and maps and analyzed home mortgage and small business lending activity to identify any gaps in the geographic distribution of loans in all full-scope AAs. Examiners did not identify any unexplained conspicuous gaps in any of the areas they reviewed.

Distribution of Loans by Income Level of the Borrower

The bank exhibits a good distribution of loans among individuals of different income levels and businesses of different sizes.

Home Mortgage Loans

Refer to Table P in the CSA section of appendix D for the facts and data used to evaluate the borrower distribution of the bank's home mortgage loan originations and purchases.

The borrower distribution of home mortgage loans is adequate, given performance context considerations. The proportion of loans to low-income borrowers is significantly weaker than the proportion of low-income families within the CSA but was comparable to the aggregate distribution of loans. The proportion of loans to moderate-income borrowers is weaker than the proportion of moderate-income families and equal to the aggregate distribution of loans. Examiners considered that the high housing cost, limited availability of housing that low-income borrowers can afford to acquire, and poverty levels within the AA constrained lending opportunities to low-income borrowers.

Small Loans to Businesses

Refer to Table R in the CSA section of appendix D for the facts and data used to evaluate the borrower distribution of the bank's originations and purchases of small loans to businesses. Based on the data in

the tables and considering the performance context factors discussed above, the overall borrower distribution of small loans to businesses is good.

Based on the businesses with known revenues, the bank's percentage of small loans to businesses with revenues of $1 million or less substantially met the percentage of small businesses in the CSA. The bank outperformed and exceeded the aggregate distribution of loans by all lenders by nearly two times.

Community Development Lending

The bank is a leader in making CD loans.

The Lending Activity Tables, shown above, set forth the information and data used to evaluate the institution's level of CD lending. These tables include all CD loans, including multifamily loans that also qualify as CD loans. As noted earlier, CBNA was the leading affordable lender in the U.S. in each year of the evaluation period.

The level of CD lending in the NY CSA is excellent. CD lending had a significantly positive effect on the Lending Test conclusion. The dollar volume equaled 22.3 percent of allocated tier 1 capital.

The following examples demonstrate the bank's use of complex and responsive CD loans:

- $128.7 million construction-loan for a public housing development consisting of 47 buildings and 949 units that is reserved for residents with incomes between 50 and 80 percent of the area median income (AMI). This project is a public-private partnership through the Permanent Affordability Commitment Together (PACT) initiative in collaboration with New York City Housing Authority (NYCHA). PACT is a preservation program to convert public housing units to project-based voucher assisted units with tenants remaining in-place. The development partners conduct the rehab and oversee on-site management for a fee, and NYCHA is relieved of costly operating burdens while maintaining long-term ownership of its public housing assets.

- $27.8 million construction loan and a $26.4 million letter of credit to finance the redevelopment of the historic Bedford Union Armory in Brooklyn, NY. The project will consist of 415-units with 250 units restricted to households with income at or below 60 percent of the AMI. Additionally, 25 units are reserved for formerly homeless households.

- $4.7 million permanent financing for a multi-phase affordable housing project located in Bridgeport, Connecticut. The project consists of 187 units with 157 units restricted to households with income at or below 60 percent of AMI. This project served as relocation housing for existing residents of an obsolete, storm-damaged housing project in the southern point of Bridgeport.

In addition to the CD loans made in the bank's AA, CBNA made 48 CD loans totaling over $900 million in the BRSA that focused primarily on affordable housing. Positive consideration was given to the overall lending test in the rating area.

Product Innovation and Flexibility

The bank makes extensive use of innovative and/or flexible lending practices to serve AA credit needs. CBNA originated 5,387 loans totaling $1.5 billion under its affordable mortgage products programs. In

addition to the products offered across all AAs, the bank participated in the Mitchell-Lama Housing Cooperative Program, a program that is designed to meet the needs of LMI homebuyers in New York City. The program offers a fixed-rate mortgage with 95 percent financing and no mortgage insurance on Mitchell-Lama cooperatives. Closing costs associated with the loans are paid by the bank.

INVESTMENT TEST

The bank's performance under the Investment Test in NY CSA is rated Outstanding.

Based on a full-scope review, the bank's performance in the NY CSA is excellent.

The bank has an excellent level of qualified CD investment and grants, often in a leadership position, particularly those that are not routinely provided by private investors.

The bank exhibits excellent responsiveness to credit and community economic development needs. The institution makes extensive use of innovative and/or complex investments to support CD initiatives.

Qualified Investments										
Assessment Area	Prior Period*		Current Period		Total				Unfunded Commitments**	
	#	$(000's)	#	$(000's)	#	% of Total #	$(000's)	% of Total $	#	$(000's)
NY CSA	174	$1,954,786	415	$1,207,001	589	86.2	$3,161,787	86.3	0	0
BRSA-NY, NJ, CT	44	$205,175	50	$296,211	94	13.8	$501,386	13.7	0	0

* Prior Period Investments means investments made in a previous evaluation period that are outstanding as of the examination date.
** Unfunded Commitments means legally binding investment commitments that are tracked and recorded by the institution's financial reporting system.

In addition to investments made in the AA, the bank also made 44 prior period investments totaling $205.2 million and 50 current period investments totaling $296.2 million in the BRSA. These investments focused primarily on affordable housing. The investment activity in the BRSA further supports the overall performance of the bank.

The combined prior and current period dollar volume represents 22 percent of allocated tier 1 capital. There are numerous investment opportunities in the NY CSA. The bank's investments and grants addressed the creation and preservation of affordable housing, and economic development and small business needs. Investments included LIHTCs, NMTCs, affordable housing bond purchases, grants, and in-kind donations.

Examples of the bank's qualified investments include:

- $36.9 million LIHTC equity investment to finance the development of a 218-unit affordable housing development. All the units are income restricted to households at or below 80 percent of the AMI. Additionally, 42 units are reserved specifically for residents that have been formerly homeless. The property will also be participating in the FRESH program that promotes the establishment and expansion of grocery stores in underserved communities.

- $20.8 million in an area housing finance agency bond to finance the construction of an 89-unit multifamily project located in a low-income geography. All units are income restricted to households at or below 60 percent of the AMI. Additionally, 27 units are designated for public housing eligible residents. The project is the first phase of a mixed-income residential housing development and will consist of a single, four-story apartment building.

- $450,000 donation of a bank owned property located in a low-income geography that will be developed into affordable housing for LMI persons.

SERVICE TEST

The bank's performance under the Service Test in the NY CSA is rated High Satisfactory.

Based on a full-scope review, the institution's performance in the NY CSA is good.

Retail Banking Services

Service delivery systems are accessible to geographies and individuals of different income levels in the bank's AA, after taking into consideration the adjacency of branches located in MUI geographies.

Distribution of Branch Delivery System											
Assessment Area	Deposits	Branches						Population			
	% of Rated Area Deposits in AA	# of BANK Branches	% of Rated Area Branches in AA	Location of Branches by Income of Geographies (%)				% of Population within Each Geography			
				Low	Mod	Mid	Upp	Low	Mod	Mid	Upp
NY CSA	100	247*	100	8.1	15.0	26.3	49.0	12.7	23.6	30.3	33.1

* Includes four branches in census tracts without an income designation. As a result, the Location of Branches by Income of Geographies will not equal 100 percent.

The proportions of branches in LMI geographies was below the proportions of the LMI populations in those geographies. However, after adjusting for branches in MUI geographies, examiners determined that 10 branches provided additional access to retail banking services in low-income geographies and 36 branches provided additional access to retail banking services in moderate-income geographies. Examiners considered the additional accessibility of these branches in the evaluation, which had a positive effect on the overall service delivery systems conclusion.

The bank had 1,221 bank-owned deposit taking ATMs with 84 (6.9 percent) located in low-income geographies and 203 (16.6 percent) located in moderate-income geographies. In addition to bank-owned ATMs, customers can make cash withdrawals and balance inquiries at more than 2,700 ATMs without fees or surcharges. Digital banking platform usage by LMI households and customers in LMI geographies was comparable to usage by MUI households and customers in MUI geographies. Based on customer usage data for ATMs and other digital banking platforms during the evaluation period, ADS had a positive effect on the overall service delivery systems conclusion.

Distribution of Branch Openings/Closings						
	Branch Openings/Closings					
Assessment Area	# of Branch Openings	# of Branch Closings	Net change in Location of Branches (+ or -)			
			Low	Mod	Mid	Upp
NY CSA	2	12	+1	-3	-4	-4

The bank's opening and closing of branches has not adversely affected the accessibility of its delivery systems, particularly in LMI geographies and/or to LMI individuals. Despite the net closures in moderate-income geographies, the remaining branches were accessible to LMI geographies and individuals. Except for one branch, all closed branches were determined to be underperforming based on teller volume, level of deposits, and/or retail products volume. One branch, located in an upper-income geography, was closed as the lease was expiring and the entire building was being vacated.

Services, including where appropriate, business hours, are tailored to the convenience and needs of the various portions of its AA, particularly LMI geographies and/or individuals. Approximately 88 percent of the branches in LMI geographies were opened for Saturday banking compared with 70 percent of the branches in MUI geographies. Two branches in low-income geographies were opened for Sunday banking, representing the only branches available for Sunday banking throughout the bank's entire branch network.

Community Development Services

The bank is a leader in providing community development services in the AA.

During the evaluation period, 938 employees contributed 9,236 hours in providing 120 community development services primarily targeted to low- and moderate-income individuals. These community development services benefitted 14,533 low- and moderate-income individuals and families. In addition, 61 employees served on the boards or committees of 68 unique non-profit organizations in the AA. The board or committee roles were typically for one-year terms; thus, an employee serving multiple years for the same organization was counted as one unique organization. Employees primarily provided financial literacy, mentoring, and technical assistance. Examples include:

- 340 employees contributed 336 hours during 28 sessions to teach 7,469 students from LMI families the importance of saving money through the Teach Children to Save campaign.
- 37 employees prepared taxes for 1,046 low- and moderate-income tax filers at New York City Free Tax Prep locations in high-need neighborhoods.
- 222 employees contributed 6,190 hours to mentor 190 junior and high school students in schools located primarily in the South Bronx, which consists of mostly LMI geographies.

Multistate Metropolitan Statistical Area Rating

Washington-Arlington-Alexandria, DC-VA-MD-WV Metropolitan Statistical Area (DC MMSA)

CRA rating for the DC MMSA[2]: Outstanding
The Lending Test is rated: Outstanding
The Investment Test is rated: Outstanding
The Service Test is rated: Outstanding

The major factors that support this rating include:

- Lending levels reflect excellent responsiveness to AA credit needs;
- Excellent geographic distribution of loans;
- Excellent borrower distribution of loans;
- The bank is a leader in making CD loans;
- Excellent level and responsiveness of CD investments;
- Retail service delivery systems are readily accessible to all portions and individuals of different income levels in the AA and the bank provides an adequate level of CD services.

Description of Institution's Operations in DC MMSA

The bank has delineated two AAs within the DC MMSA. The Washington, DC AA contains the District of Columbia (DC); Prince George's county in Maryland (MD); Arlington and Fairfax counties in Virginia (VA); and the independent cities Alexandria City, Fairfax City, and Falls Church City. The Silver Spring AA consists of Montgomery County in MD.

CBNA had $8.8 billion of deposits in the DC MMSA, representing 3.9 percent of adjusted deposits and ranked eighth with 3.8 percent market share. The top three banks within the MMSA were E-Trade Bank (17.7 percent), Bank of America (15 percent), and Capital One (14.9 percent). Both Bank of America and Capital One have substantially larger branch networks. CBNA operated 32 branches and 80 ATMs within the MMSA, representing 4.6 percent of the bank's branches and 3.5 percent of the bank's ATMs.

The MMSA is a high-cost housing area, limiting access to affordable homeownership among LMI borrowers. The median housing value in the MMSA is $443,810 while the NAR 4Q2019 median sales price of a single-family home is $436,200. One simplistic method used to determine housing affordability assumes a maximum monthly principal and interest payment of no more than 30 percent of the applicant's income.

[2] This rating reflects performance within the multistate metropolitan statistical area. The statewide evaluations do not reflect performance in the parts of those states contained within the multistate metropolitan statistical area.

Assuming a 30-year mortgage with a 5 percent interest rate, and not accounting for down payment, homeowners insurance, real estate taxes, or any additional monthly expenses, a low-income borrower making $58,327 per year (or less than 50 percent of the FFIEC adjusted median family income in the AA) could afford a $210,405 mortgage with a payment of $1,130 per month; a moderate-income borrower earning $93,322 per year (or less than 80 percent of the FFIEC adjusted median family income in the AA) could afford a $336,644 mortgage with a payment of $1,807 per month.

Table A – Demographic Information of the Assessment Area

Assessment Area: DC MMSA

Demographic Characteristics	#	Low % of #	Moderate % of #	Middle % of #	Upper % of #	NA* % of #
Geographies (Census Tracts)	975	11.9	20.5	30.9	35.4	1.3
Population by Geography	4,096,851	11.3	19.8	32.5	35.7	0.7
Housing Units by Geography	1,624,226	11.4	19.7	32.3	36.0	0.6
Owner-Occupied Units by Geography	890,622	4.7	15.8	34.7	44.7	0.2
Occupied Rental Units by Geography	624,921	19.9	24.8	29.6	24.7	1.1
Vacant Units by Geography	108,683	17.7	22.3	28.8	30.6	0.6
Businesses by Geography	423,195	5.2	16.9	33.6	43.6	0.7
Farms by Geography	5,035	4.8	16.7	36.0	42.3	0.2
Family Distribution by Income Level	941,445	22.9	16.1	19.2	41.9	0.0
Household Distribution by Income Level	1,515,543	23.9	16.4	18.3	41.4	0.0
Median Family Income MSA - 23224 Frederick-Gaithersburg-Rockville, MD		$112,655	Median Housing Value			$443,810
Median Family Income MSA - 47894 Washington-Arlington-Alexandria, DC-VA-MD-WV		$106,105	Median Gross Rent			$1,567
			Families Below Poverty Level			6.2%

Source: 2015 ACS and 2019 D&B Data
Due to rounding, totals may not equal 100.0%
(*) The NA category consists of geographies that have not been assigned an income classification.

According to Moody's Analytics November 2019, the DC area economy is one of the better performing markets in the Mid- Atlantic. The labor market strengthened in mid-2019, propelling the pace of employment growth ahead of the U.S. average. The first employees have started to work at Amazon's second headquarters, and professional/business services job opportunities are increasing. Federal payrolls have stabilized in the year up to November 2019 after two years of declines. Major employers include Naval Support Activity Washington, Joint Base Andrews-Naval Air Facility, MedStar Health, Marriott International, and Inova Health System.

Federal spending for fiscal 2020 and 2021 should benefit DC but appropriations remain uncertain. Federal employment in DC has stopped declining and is expected to rise through 2021. The new budget agreement provides an additional $40 billion in spending over the next two fiscal years, which will support the local economy. However, until Congress appropriates this funding, neither federal agencies nor contractors in the area can act. Congress has only passed stopgap measures to keep the government funded at existing levels. Given the concentration of federal government, the metro division is uniquely

sensitive to federal spending. The continued use of stopgap measures will limit job growth for public- and private-sector workers, and indirectly hurt private services and housing.

Lean inventories and improvement in sales will continue to put upward pressure on house prices at the expense of affordability. Fundamentals are mostly supportive for home sales, including past declines in mortgage rates, a strong local labor market, and an influx of tech workers.

Community Contacts

To understand the credit and community development needs in the area, examiners reviewed two recent contacts with community-based organizations focusing on affordable housing and economic development. The organizations noted a need for affordable housing, the ability to refinance commercial loans, and financial literacy.

Scope of Evaluation in DC MMSA

The two AAs within the DC MMSA were combined in evaluating performance under each test.

CONCLUSIONS WITH RESPECT TO PERFORMANCE TESTS IN DC MMSA

LENDING TEST

The bank's performance under the Lending Test in the DC MMSA is rated Outstanding.

Based on a full-scope review, the bank's performance in the DC MMSA is excellent.

Lending Activity

Lending levels reflect excellent responsiveness to AA credit needs considering the number and dollar amount of home mortgage, small business, and CD lending activities relative to CBNA's capacity based on deposits, competition, and market presence.

Number of Loans				
Assessment Area	Home Mortgage	Small Business	Community Development	Total
DC MMSA	6,378	22,054	36	28,468
BRSA-MD and VA	0	0	20	20

Dollar Volume of Loans ($000s)				
Assessment Area	Home Mortgage	Small Business	Community Development	Total
DC MMSA	3,078,460	174,470	607,198	3,860,128
BRSA-MD and VA	0	0	247,590	247,590

*The tables present the data for all assessment areas. The narrative below addresses performance in full-scope areas only.

CBNA ranked eighth in deposits of 84 institutions with 3.8 percent market share. In small loans to businesses, CBNA ranked fifth with 6.4 percent market share placing it in the top 3 percent of lenders. This is a highly competitive market with 209 lenders. The top lenders in the market were primarily nationwide credit card lenders with significant small business portfolios and include American Express

(25.6 percent), JPMorgan Chase (15.6 percent), Bank of America (12.9 percent), and Capital One Bank (6.7 percent). In overall HMDA lending, CBNA ranked 24th with 1 percent market share. The AA is a highly competitive market with 724 home lenders and 148 depository institutions, placing CBNA in the top 4 percent. The top lenders in this market were Wells Fargo (8 percent), Quicken Loans (4.2 percent), and SunTrust Banks (4 percent).

Distribution of Loans by Income Level of the Geography

The bank exhibits an excellent geographic distribution of loans in its AA.

Home Mortgage Loans

Refer to Table O in the MMSA section of appendix D for the facts and data used to evaluate the geographic distribution of the bank's home mortgage loan originations and purchases.

The geographic distribution of home mortgage loans is excellent. The proportion of loans in both LMI geographies exceeded the proportion of owner-occupied housing units in those geographies and the aggregate distribution of loans.

Small Loans to Businesses

Refer to Table Q in the MMSA section of appendix D for the facts and data used to evaluate the geographic distribution of the bank's originations and purchases of small loans to businesses.

The geographic distribution of small loans to businesses is excellent. The proportion of loans in both LMI geographies exceeded the proportion of businesses located in those geographies and the aggregate distribution of loans.

Lending Gap Analysis

Examiners reviewed summary reports and maps and analyzed home mortgage and small business lending activity to identify any gaps in the geographic distribution of loans in all full-scope AAs. Examiners did not identify any unexplained conspicuous gaps in any of the areas they reviewed.

Distribution of Loans by Income Level of the Borrower

The bank exhibits an excellent distribution of loans among individuals of different income levels and businesses of different sizes.

Home Mortgage Loans

Refer to Table P in the MMSA section of appendix D for the facts and data used to evaluate the borrower distribution of the institution's home mortgage loan originations and purchases.

The borrower distribution of home mortgage loans is excellent. The proportion of loans to low-income borrowers was weaker than the proportion of low-income families within the MMSA and significantly exceeded the aggregate distribution of loans. The proportion of loans to moderate-income borrowers exceeded the proportion of moderate-income families and the aggregate distribution of loans.

Small Loans to Businesses

Refer to Table R in the MMSA section of appendix D for the facts and data used to evaluate the borrower distribution of the institution's originations and purchases of small loans to businesses.

The borrower distribution of small loans to businesses is excellent. The proportion of loans to small businesses was near to the proportion of small businesses in the MMSA and significantly exceeded the aggregate distribution of loans.

Community Development Lending

The bank is a leader in making CD loans.

The Lending Activity Tables, shown above, set forth the information and data used to evaluate the bank's level of CD lending. These tables include all CD loans, including multifamily loans that also qualify as CD loans. The dollar volume equaled 55.9 percent of allocated tier 1 capital.

The bank took a leadership role in originating CD loans that were responsive to the identified needs of the DC MMSA and were also complex and flexible, including many LIHTC projects and HUD contracts. Examples include:

- $25.5 million in permanent financing for a 199-unit multifamily property of affordable housing in Montgomery County, MD that was awarded LIHTCs. All units are income restricted to households with income levels at or below 30 percent and 60 percent of the AMI.

- $12.5 million construction loan for an 80-unit affordable housing development restricted to seniors in Washington, DC that was awarded LIHTCs. All units are income restricted to households with income levels at or below 30 or 60 percent of AMI.

- $11.2 million for the construction of a 71-unit multifamily development of affordable housing in Washington, DC that was awarded LIHTCs and is covered by a Section 8 Housing Assistance Payment (HAP) contract. All units are restricted to households with income levels at or below 60 percent of the AMI. Additionally, 18 units will be reserved for Permanent Supportive Housing to the DC Department of Behavioral Health.

In addition to the CD loans made in the bank's AA, CBNA made 20 CD loans totaling $247.6 million in the BRSA that focused primarily on affordable housing. Positive consideration was given to the overall lending test in the rating area.

Product Innovation and Flexibility

The bank makes use of innovative and/or flexible lending practices to serve AA credit needs. CBNA originated 1,593 loans totaling $467 million under its affordable mortgage products programs. The Lender Paid Assistance and Neighborhood Assistance Corporation of America (NACA) programs accounted for the large majority (76.8 percent) of affordable mortgage products originated in the AA during the evaluation period.

INVESTMENT TEST

The bank's performance under the Investment Test in DC MMSA is rated Outstanding.

Based on a full-scope review, the bank's performance in the DC MMSA is excellent.

The bank has an excellent level of qualified CD investment and grants, often in a leadership position, particularly those that are not routinely provided by private investors.

The bank exhibits excellent responsiveness to credit and community economic development needs. The bank makes extensive use of innovative and/or complex investments to support CD initiatives.

Qualified Investments										
Assessment Area	Prior Period*		Current Period		Total				Unfunded Commitments**	
	#	$(000's)	#	$(000's)	#	% of Total #	$(000's)	% of Total $	#	$(000's)
DC MMSA	18	$109,308	107	$130,882	125	78.1	$240,190	67.3	0	0
BSRA-MD and VA	11	$31,521	24	$85,265	35	21.9	$116,786	32.7	0	0

* Prior Period Investments means investments made in a previous evaluation period that are outstanding as of the examination date.
** Unfunded Commitments means legally binding investment commitments that are tracked and recorded by the institution's financial reporting system.

The combined prior and current period dollar volume represents 22.1 percent of allocated tier 1 capital. The bank's investments and grants were very effective and responsive in meeting community credit needs including the creation and preservation of affordable housing, support for workforce development initiatives, and support for financial capacity building programs. Investment activity includes NMTCs, HTCs, and grants and donations.

In addition to investments made in its AA, the bank also made 11 prior period investments totaling $31.5 million and 24 current period investments totaling $85.3 million in the BRSA consisting of MD and VA.

Examples of the bank's qualified investments include:

- $15.3 million in an affordable housing fund for the acquisition and rehabilitation of a 304-unit multifamily apartment complex located in a moderate-income geography in Prince George's County. Substantially all the units are restricted to households at or below 80 percent of the AMI.

- $18.8 million in a proprietary HTC fund to finance a project located in a moderate-income geography in DC that will provide a broad range of pediatric health care services. The project will retain 30 full-time jobs and create 55 new jobs, 31 of which will be accessible to LMI persons in the surrounding LMI communities.

- $500,000 charitable donation to establish financial empowerment centers and the formation of a regional coalition of Volunteer Income Tax Assistance (VITA) sites in DC, VA, and MD.

SERVICE TEST

The institution's performance under the Service Test in the DC MMSA is rated Outstanding.

Based on a full-scope review, the bank's performance in the DC MMSA is excellent.

Retail Banking Services

Service delivery systems are readily accessible to geographies and individuals of different income levels in the bank's AAs.

Distribution of Branch Delivery System											
Assessment Area	Deposits	Branches						Population			
	% of Rated Area Deposits in AA	# of BANK Branches	% of Rated Area Branches in AA	Location of Branches by Income of Geographies (%)				% of Population within Each Geography			
				Low	Mod	Mid	Upp	Low	Mod	Mid	Upp
DC MMSA	100	32*	100	9.4	25.0	28.1	34.4	11.3	19.8	32.5	35.7

* Includes one branch in a census tract without an income designation. As a result, the Location of Branches by Income of Geographies will not equal 100 percent.

The overall distribution of branches by income level of the geography is excellent. The distribution of branches is good in low-income geographies and excellent in moderate-income geographies. The proportion of branches in low-income geographies was below the proportion of the population in low-income geographies and the proportion of branches in moderate-income geographies exceeded the proportion of the population in moderate-income geographies. Additionally, examiners considered seven branches in MUI that provided additional access to retail banking services in LMI geographies. Of the seven branches, one branch provided additional access to retail banking services in a low-income geography and the remaining six branches provided additional access to retail banking services in moderate-income geographies, which had a positive effect on the overall service delivery systems conclusion.

The bank had 80 bank-owned deposit taking ATMs with 29 ATMs (36.3 percent) located in LMI geographies. In addition to bank-owned ATMs, customers can make cash withdrawals and balance inquiries at more than 1,300 ATMs without fees or surcharges. Digital banking platform usage by LMI households and customers in LMI geographies were comparable to usage by MUI households and customers in MUI geographies. Based on customer usage data for ATMs and other digital banking platforms during the evaluation period, ADS had a positive effect on the overall service delivery systems conclusion.

Distribution of Branch Openings/Closings						
	Branch Openings/Closings					
Assessment Area	# of Branch Openings	# of Branch Closings	Net change in Location of Branches (+ or -)			
			Low	Mod	Mid	Upp
DC-MD-VA MMSA	0	2	0	0	0	-2

The bank's opening and closing of branches has not adversely affected the accessibility of its delivery systems, particularly in LMI geographies and/or to LMI individuals. The two branches closed were financially underperforming based on teller volume, level of branch deposits, and/or retail products volume. Additionally, one of the leases was expiring and the bank chose not to renew.

Services, including where appropriate, business hours, do not vary in a way that inconveniences its AAs, particularly LMI geographies and/or individuals. Branch operating hours were generally consistent throughout the AA. Approximately 36 percent of the branches in LMI geographies were opened for Saturday banking compared with 53 percent of the branches in MUI geographies. Most of the branches in LMI geographies were in the downtown DC area, where several businesses are closed on the weekend.

Community Development Services

The bank provides an adequate level of CD services.

During the evaluation period, 145 employees contributed 175 hours in providing 48 community development services primarily targeted to LMI individuals. These community development services benefitted 2,294 LMI individuals and families. In addition, seven employees served on the boards of 10 non-profit organizations in the AA. Employees primarily provided financial literacy, mentoring, and technical assistance. Examples include:

- 82 employees taught 1,646 elementary school children from LMI families about the importance of saving money through the Teach Children to Save campaign.

- 37 mortgage employees educated 479 LMI first-time homebuyers about the mortgage process, focusing on items that lenders look to be in place before issuing a loan approval, such as credit, income, assets, and collateral.

State Rating

State of California

CRA rating for the State of California: Outstanding
The Lending Test is rated: Outstanding
The Investment Test is rated: Outstanding
The Service Test is rated: Outstanding

The major factors that support this rating include:

- Lending levels reflect excellent responsiveness to AA credit needs;
- Excellent geographic distribution of loans;
- Good borrower distribution of loans;
- The bank is a leader in making CD loans;
- Excellent level and responsiveness of CD investments;
- Retail service delivery systems are readily accessible to all portions of the AA and the bank provides an adequate level of CD services.

Description of Institution's Operations in California

CBNA delineated 19 AAs within California and includes the following MDs or MSAs: Anaheim-Santa Ana-Irvine MD; Bakersfield MSA; Fresno MSA; Hanford-Corcoran MSA; Los Angeles-Long Beach-Anaheim MD; Merced MSA; Modesto MSA; Napa MSA; Oakland-Berkeley-Livermore MD; Oxnard-Thousand Oaks-Ventura MSA; Riverside-San Bernardino-Ontario MSA; Sacramento-Roseville-Folsom MSA (excludes El Dorado, Placer, and Yolo Counties); San Diego-Chula Vista-Carlsbad MSA; San Francisco-San Mateo-Redwood City MD; San Jose-Sunnyvale-Santa Clara (excludes San Benito County); San Rafael MD; Santa Cruz-Watsonville MSA; Santa Rosa-Petaluma MSA; and Stockton MSA. For this evaluation, examiners combined the MSAs/MDs comprising the Los Angeles CSA (LA CSA) and San Jose-San Francisco CSA (SF CSA) as applicable, reducing the number of AAs in California to six.

California represents the second largest market by deposits for CBNA. CBNA had $55.7 billion of deposits in California and ranked sixth with 3.8 percent market share. There are $16 million of deposits within the SF CSA that are mortgage escrow accounts of the bank's affiliate, CitiMortgage. These deposits do not represent traditional retail deposits from customers. The deposits within California (excluding the escrow accounts) represent 25.1 percent of the bank's adjusted deposits. The top three banks within California were Bank of America (21.3 percent), Wells Fargo Bank (17.6 percent), and JPMorgan Chase (10.8 percent). Those banks have substantially larger branch networks. CBNA operated 290 branches and 584 ATMs within California, representing 41.8 percent of the bank's branches and 25.3 percent of the bank's ATMs.

Both the LA CSA and SF CSA are very high-cost housing areas, limiting access to affordable homeownership among LMI borrowers. The median housing value of a single-family home in the LA CSA was $449,452 and in the SF CSA was $582,938. The NAR 4Q2019 median sales price is $617,300 for the LA CSA and $990,000 for the SF CSA. One simplistic method used to determine housing affordability assumes a maximum monthly principal and interest payment of no more than 30 percent of the applicant's income.

In the LA CSA, assuming a 30-year mortgage with a 5 percent interest rate, and not accounting for down payment, homeowners insurance, real estate taxes, or any additional monthly expenses, a low-income borrower making $38,584 per year (or less than 50 percent of the FFIEC adjusted median family income in the MSA) could afford a $139,186 mortgage with a payment of $747 per month; a moderate-income borrower earning $61,726 per year (or less than 80 percent of the FFIEC adjusted median family income in the AA) could afford a $222,696 mortgage with a payment of $1,195 per month.

Using the same assumptions for the SF CSA, a low-income borrower making $56,114 per year (or less than 50 percent of the FFIEC adjusted median family income in the MSA) could afford a $202,422 mortgage with a payment of $1,086 per month; a moderate-income borrower earning $89,790 per year (or less than 80 percent of the FFIEC adjusted median family income in the AA) could afford a $323,903 mortgage with a payment of $1,738 per month.

Demographic data also reflects a low percentage of owner-occupied housing in LMI geographies compared to the population distribution in those areas.

Table A – Demographic Information of the Assessment Area Assessment Area: Los Angeles CSA						
Demographic Characteristics	**#**	**Low % of #**	**Moderate % of #**	**Middle % of #**	**Upper % of #**	**NA* % of #**
Geographies (Census Tracts)	3,925	8.1	28.5	28.6	33.2	1.6
Population by Geography	18,388,091	7.6	28.6	29.4	33.8	0.5
Housing Units by Geography	6,346,543	6.7	26.2	29.2	37.5	0.4
Owner-Occupied Units by Geography	3,074,292	2.6	18.6	30.8	47.9	0.1
Occupied Rental Units by Geography	2,780,656	11.3	34.6	27.1	26.4	0.6
Vacant Units by Geography	491,595	6.4	26.1	31.5	35.3	0.7
Businesses by Geography	1,537,819	4.7	19.9	27.2	46.6	1.5
Farms by Geography	19,819	3.7	20.7	31.7	43.3	0.6
Family Distribution by Income Level	4,090,774	23.9	16.5	17.6	42.0	0.0
Household Distribution by Income Level	5,854,948	25.3	15.6	16.5	42.6	0.0
Median Family Income MSA - 11244 Anaheim-Santa Ana-Irvine, CA		$86,003	Median Housing Value			$449,452
Median Family Income MSA - 31084 Los Angeles-Long Beach-Glendale, CA		$62,703	Median Gross Rent			$1,330
Median Family Income MSA - 37100 Oxnard-Thousand Oaks-Ventura, CA MSA		$86,766	Families Below Poverty Level			13.1%
Median Family Income MSA - 40140 Riverside-San Bernardino-Ontario, CA MSA		$61,507				

Source: 2015 ACS and 2019 D&B Data
Due to rounding, totals may not equal 100.0%
(*) The NA category consists of geographies that have not been assigned an income classification.

According to Moody's Analytics November 2019, the Los Angeles economy is performing well. Job growth is steady at a slower pace that is on par with the nation but ranks in the bottom quartile among the 25 largest areas in the nation. Healthcare is contributing the most to job growth, followed by construction and business/professional services. The labor market is tight, and at 4.4 percent the jobless rate is at a historic low. Difficulty finding labor is driving up wages and pressuring profits. Labor shortages and higher material costs are limiting new residential construction. Major employers include University of California Los Angeles, Kaiser Permanente, University of Southern California, and Northrop Grumman Corporation.

Trade tensions are starting to ease, but the U.S.-China trade conflict will continue have a potential negative impact on major seaports in the short term. Cargo volumes moving through the Ports of Los Angeles and Long Beach are down from a year ago. The pair are among the nation's largest sea-ports and are the most exposed to the Chinese market. The announcement of a U.S.-China Phase One trade deal, which forestalls the imposition of new tariffs and retaliatory actions, signals a shift in a policy that will ease geopolitical tensions.

The outlook for the entertainment industry is uncertain. According to Film LA, shoot days are down for feature films, television, and commercials. Los Angeles is losing out to North Carolina, Michigan, Georgia, Louisiana, and others who have spent millions to attract film productions. Feature films are

also becoming less frequent, and the pay-TV industry is losing customers amid changing viewer preferences and the rise of streaming services.

Table A – Demographic Information of the Assessment Area

Assessment Area: San Jose-San Francisco CSA

Demographic Characteristics	#	Low % of #	Moderate % of #	Middle % of #	Upper % of #	NA* % of #
Geographies (Census Tracts)	1,827	9.5	22.5	34.7	32.2	1.1
Population by Geography	8,801,500	8.9	22.5	36.2	32.2	0.3
Housing Units by Geography	3,276,960	8.6	21.3	36.2	33.6	0.3
Owner-Occupied Units by Geography	1,699,058	3.8	16.9	37.4	41.8	0.1
Occupied Rental Units by Geography	1,380,665	14.1	26.6	34.7	24.0	0.6
Vacant Units by Geography	197,237	11.3	22.4	36.1	29.6	0.6
Businesses by Geography	736,424	8.2	18.6	33.0	39.6	0.5
Farms by Geography	16,888	4.1	16.8	40.0	38.9	0.1
Family Distribution by Income Level	2,054,078	23.8	16.2	18.3	41.7	0.0
Household Distribution by Income Level	3,079,723	25.6	15.1	16.7	42.6	0.0
Median Family Income MSA - 32900 Merced, CA MSA		$46,793	Median Housing Value			$582,938
Median Family Income MSA - 33700 Modesto, CA MSA		$55,611	Median Gross Rent			$1,476
Median Family Income MSA - 34900 Napa, CA MSA		$80,921	Families Below Poverty Level			8.8%
Median Family Income MSA - 36084 Oakland-Berkeley-Livermore, CA		$93,822				
Median Family Income MSA - 41884 San Francisco-San Mateo-Redwood City, CA		$103,742				
Median Family Income MSA - 41940 San Jose-Sunnyvale-Santa Clara, CA MSA		$107,126				
Median Family Income MSA - 42034 San Rafael, CA		$121,130				
Median Family Income MSA - 42100 Santa Cruz-Watsonville, CA MSA		$81,912				
Median Family Income MSA - 42220 Santa Rosa-Petaluma, CA MSA		$77,587				
Median Family Income MSA - 44700 Stockton, CA MSA		$59,946				

Source: 2015 ACS and 2019 D&B Data
Due to rounding, totals may not equal 100.0%
(*) The NA category consists of geographies that have not been assigned an income classification.

Since the 2007-2009 recession, unemployment rates have fallen both nationally and in the SF CSA, but since 2012, San Francisco's rate of recovery has outpaced the national rate. In October 2010, the San Francisco unemployment rate peaked at 10 percent. It then experienced a positive employment boost due to growing jobs in the professional, business service, and computer systems design service sectors

between 2012 and 2016. Consequently, the unemployment rate dropped to 3.8 percent in December 2016 and continued to fall to 2.6 percent in December 2019.

The local economy is driven by the information/technology and financial services sectors. There are eighteen Fortune 500 companies with corporate headquarters in the San Francisco area, including: McKesson, Wells Fargo, Facebook, Oracle, and Alphabet. The AA remains the national leader in venture capital funding, both in terms of deals and dollars.

The SF CSA consistently had a higher median sales price for single-family homes than for both the Western Region and the U.S. throughout the evaluation period. Low unemployment is driving income growth; however, the high cost of living has outpaced the growth in salaries, reducing the standard of living even for high income earners. The economic success in the region and fierce competition for housing close to employment centers results in longer commutes for LMI residents and has pushed homeownership out of reach for many households.

Community Contacts

In the LA CSA, examiners reviewed four recent community contacts to determine community credit needs and opportunities for financial institutions to help address these needs. The contacts included two housing organizations and two economic development organizations. The contacts identified affordable housing and access to capital for business as critical needs. Opportunities for banks to address the needs include:

- More loans and investments as the lending gap is being filled by more expensive nonbank lenders.
- Partnering with Community Development Financial Institutions (CDFIs) to penetrate business lending markets and more small business lending particularly to startup businesses and businesses with less than two years business history.
- More commercial real estate loans and microloans for working capital, tenant improvements, and equipment financing.
- Partnering with and/or provide financial support to community-based organizations involved in new transportation and commercial corridors.
- Leverage investments/debt with Qualified Opportunity Zones funds and promote investment in these funds by wealth clients.
- Affordable mortgages with competitive rates and down payment assistance or low-down payment with no purchased mortgage insurance.
- Affordable credit building products, including second-chance loans and small consumer loans.
- Credit counseling and financial literacy, and affordable streamlined mortgage loans.
- Follow-up/individualized services for attendees of homebuyer workshops and pairing attendee with homebuying opportunities.
- Grants and financial support to CD nonprofits, job skills training, financial literacy, and micro-loans for small businesses.
- No-cost checking and savings products for unbanked/underbanked individuals.
- Support of, and partnership with CD organizations, including those that work to address homelessness and poverty.

In the SF CSA, examiners reviewed three recent community contacts to determine community credit needs and opportunities for financial institutions to help address these needs. In addition, the OCC and

the FDIC hosted a listening session with a number of community groups and advocates in 2017 to discuss current economic trends, community development challenges, the needs of their LMI clients, and potential opportunities for banks to engage in CD activities. The contacts identified affordable housing and access to capital for businesses as critical needs. Opportunities for banks to address the needs include:

- Small dollar loans for small businesses ($500 - $50,000) and funding for Micro lending programs.
- Small business loans including term loans and lines of credit for small businesses needing working capital, including "mom and pop" shops and bodegas, as well as for property improvements and expansion.
- Partnering with nonprofits to address capital constraints and provide additional access to capital to vital neighborhood businesses.
- Flexible branch hours and low-cost products tailored to low-income individuals and people that work multiple jobs or veterans.
- Product-oriented educational outreach and banking education to inform the unbanked and underbanked community that banks are safe.
- Formal referral partnerships to refer non-qualifying applicants to nonprofits to help secure funding and help prevent lending from predatory sources.
- Grants and loan capital to nonprofit organizations for operating costs, financing programs, and investment and grants targeted to social service needs and education. Examples include grants for operations, loan loss reserves, small businesses, foreclosure prevention, financial education, and technical assistance.
- Customized financial literacy events for unique community needs, such as for refugees, small businesses, and consumers, by partnering with nonprofit organizations
- Multiple Down Payment Assistance (DPA) programs since most DPA programs, alone, do not provide sufficient down payment funds for a median priced home in the San Francisco Bay Area.

Scope of Evaluation in California

The LA CSA and SF CSA received full-scope reviews. The two areas accounted for the largest portion of lending and deposits among the AAs in California. The MSAs/MDs comprising each of these CSAs were combined for evaluating performance for each test, reducing the effective number of AAs to six. The LA MSA was given more weight based on the volume of loans and deposits in each of the AAs. The remaining four AAs received limited-scope reviews.

CONCLUSIONS WITH RESPECT TO PERFORMANCE TESTS IN CALIFORNIA

LENDING TEST

The bank's performance under the Lending Test in California is rated Outstanding.

Conclusions for Areas Receiving Full-Scope Reviews

Based on full-scope reviews, the bank's performance in the LA CSA and SF CSA is excellent.

Lending Activity

Lending levels reflect excellent responsiveness to AA credit needs considering the number and dollar amount of home mortgage, small business, and CD lending activities relative to CBNA's capacity based on deposits, competition, and market presence.

Number of Loans*						
Assessment Area	Home Mortgage	Small Business	Community Development	Total	%State Loans	%State Deposits
LA CSA	32,352	206,264	114	238,730	58.8	47.9
SF CSA	19,905	76,968	89	96,962	23.9	44.7
Bakersfield MSA	551	6,256	2	6,809	1.7	0.4
Fresno CSA	1,031	7,349	5	8,380	2.1	1.6
Sacramento MSA	1,990	14,850	22	16,840	4.1	1.9
San Diego MSA	2,913	35,149	41	38,062	9.4	3.5
BRSA-CA	0	0	30	30	NA	NA
Total	58,742	346,836	303	405,813	100.0	100.0

Dollar Volume of Loans*						
Assessment Area	Home Mortgage	Small Business	Community Development	Total	%State* Loans	%State Deposits
LA CSA	15,363,767	1,286,884	1,538,906	18,189,557	46.9	47.9
SF CSA	13,819,106	520,614	2,057,406	16,397,126	42.3	44.7
Bakersfield MSA	79,408	32,253	23,000	134,661	0.3	0.4
Fresno CSA	237,597	51,929	83,033	372,559	1.0	1.6
Sacramento MSA	648,956	82,423	267,105	731,379	1.9	1.9
San Diego MSA	1,756,604	236,930	683,117	2,676,651	6.9	3.5
BRSA-CA	0	0	275,142	275,142	0.7	NA
Total	31,905,438	2,211,033	4,927,709	38,777,075	100.0	100.0

*The tables present the data for all assessment areas. The narrative below addresses performance in full-scope areas only.

LA CSA

CBNA had $26.9 billion in deposits and ranked seventh with 4.1 percent market share. There are 278 small business lenders in the AA. In small loans to businesses, CBNA ranked fourth with 10.3 percent market share placing it in the top 2 percent of lenders. The other top lenders include nationwide lenders with substantial small business credit card portfolios and their market shares were American Express (22.4 percent), JPMorgan Chase (20.9 percent), and Bank of America (13.3 percent). In overall HMDA lending, CBNA ranked 15th with 1.4 percent market share placing it in the top 2 percent of lenders. The CSA is a very competitive market with 991 home mortgage lenders compared to 267 depository institutions. The other top lenders in this market were United Shore Financial Service (8.1 percent), Wells Fargo (6.3 percent), and Quicken Loans (6.1 percent).

SF CSA

CBNA had $25.2 billion in deposits and ranked seventh with 4.3 percent market share. There are 211 small business lenders in the AA. In small loans to businesses, CBNA ranked fifth with market share of 8 percent placing it in the top 3 percent of lenders. The other top lenders include nationwide lenders with substantial small business credit card portfolios and their market shares were JPMorgan Chase (26 percent), American Express (17.7 percent), and Bank of America (12.7 percent). In overall HMDA lending, CBNA ranked eighth with 2.2 percent market share placing it in the top 1 percent of lenders. While the home mortgage lending market share is lower than the bank's deposit market share, this is a

highly competitive market with 826 home mortgage lenders. The top three lenders in this market were Wells Fargo (11.3 percent), Bank of America (7.3 percent), and Quicken Loans (6.6 percent).

Distribution of Loans by Income Level of the Geography

The bank exhibits an excellent geographic distribution of loans in its AAs.

Home Mortgage Loans

Refer to Table O in the state of California section of appendix D for the facts and data used to evaluate the geographic distribution of the bank's home mortgage loan originations and purchases. Based on the data in the tables and considering the performance context factors discussed above, the overall geographic distribution of home mortgage loans is excellent.

LA CSA and SF CSA

In both the LA CSA and the SF CSA, the proportion of loans in both LMI geographies exceeded the proportion of owner-occupied homes in those geographies and the aggregate distribution of loans. Despite the high cost of housing and economic considerations that affect large portions of the CSAs, the bank achieved excellent geographic penetration.

Small Loans to Businesses

Refer to Table Q in the state of California section of appendix D for the facts and data used to evaluate the geographic distribution of the bank's originations and purchases of small loans to businesses. Based on the data in the tables and considering the performance context factors discussed above, the overall geographic distribution of small loans to businesses is excellent.

LA CSA

The proportion of loans in LMI geographies exceeded the proportion of businesses located in those geographies and the aggregate distribution of loans. Despite the economic considerations and competition that affect large portions of the CSA, the bank achieved excellent geographic penetration.

SF CSA

The proportion of loans in low-income geographies was near to the proportion of businesses located in those geographies and the aggregate distribution of loans. The proportion of loans in moderate-income geographies exceeded the proportion of businesses located in those geographies and the aggregate distribution of loans. Despite the economic considerations and competition that affect large portions of the CSA, the bank achieved good geographic penetration.

Lending Gap Analysis

Examiners reviewed summary reports and maps and analyzed home mortgage and small business lending activity to identify any gaps in the geographic distribution of loans in all full-scope AAs. Examiners did not identify any unexplained conspicuous gaps in any of the areas they reviewed.

Distribution of Loans by Income Level of the Borrower

The bank exhibits a good distribution of loans among individuals of different income levels and businesses of different sizes.

Home Mortgage Loans

Refer to Table P in the state of California section of appendix D for the facts and data used to evaluate the borrower distribution of the bank's home mortgage loan originations and purchases.

The borrower distribution of home mortgage loans was good, given performance context consideration. Examiners considered the very high housing cost, the limited availability of housing that low-income borrowers can afford to acquire, and poverty levels within the AA that constrained the lending opportunities to LMI borrowers

Due to these factors in the LA CSA, the proportion of loans was significantly weaker than the proportion of low-income families. However, the bank exceeded the aggregate distribution of loans by nearly two times. The proportion of loans to moderate-income borrowers was weaker than the proportion of moderate-income families but significantly exceeded the aggregate distribution of loans.

In the SF CSA, the proportion of loans to low-income borrowers was significantly weaker than the proportion of low-income families within the AA. The proportion of loans to moderate-income borrowers was weaker than the proportion of moderate-income families within the AA. However, the proportion of loans to LMI borrowers exceeded the aggregate distribution of loans.

Small Loans to Businesses

Refer to Table R in the state of California section of appendix D for the facts and data used to evaluate the borrower distribution of the bank's origination and purchase of small loans to businesses.

The borrower distribution of small loans to businesses was good.

In both the LA CSA and the SF CSA, the proportion of loans to small businesses was near to the percentage of small businesses in the AA. However, the bank outperformed and significantly exceeded the aggregate distribution of loans by all lenders.

Community Development Lending

The bank is a leader in making CD loans.

The Lending Activity Tables, shown above, set forth the information and data used to evaluate the bank's level of CD lending. These tables include all CD loans, including multifamily loans that also qualify as CD loans. The dollar volume equaled 46.4 percent of allocated tier 1 capital in the LA CSA and 66.4 percent in the SF CSA.

CD lending had a significantly positive impact on the overall Lending Test of the rating area

LA CSA

The bank took a leadership role in originating CD loans that were responsive to the identified needs of the LA CSA including affordable housing and were also complex and flexible in using LIHTCs and HUD rental contracts. Examples include:

- $24.9 million to finance the acquisition and renovation of 90 units of affordable housing located in Riverside County, CA that was awarded LIHTCs and is covered by a Section 8 HAP contract. All units are restricted to households with income levels at or below 50 or 60 percent of the AMI.

- $17.5 million construction loan and $1.7 million in permanent financing for 74 units of affordable multifamily rentals reserved for homeless seniors 62 years old and up in Los Angeles County, CA. The project was awarded LIHTCs and is covered by a Section 8 HAP contract. All units are restricted to households with income levels at or below 30 or 50 percent of the AMI.

- $15.3 million construction loan for 33 units of affordable housing in Los Angeles County, CA that was awarded LIHTCs and is covered by a Section 8 HAP contract. All units are restricted to households with income levels at or below 30, 50, or 60 percent of the AMI. Additionally, 16 of the units are set aside for homeless veterans with special needs.

SF CSA

- $28.8 million to finance the acquisition and renovation of a 92-unit affordable housing complex in San Francisco County, CA that was awarded LIHTCs and is covered by a Section 8 HAP contract. All units are restricted to households with income levels at or below 50 or 60 percent of the AMI.

- $21 million construction loan and a $2.5 million permanent loan for the development of a 60-unit affordable housing complex in Sonoma County, CA that was awarded LIHTCs and is covered by a Section 8 HAP contract. All units are restricted to households with income levels at or below 30, 50, or 60 percent of the AMI.

In addition to the CD loans made in the AAs, the bank originated 30 CD loans totaling $275.1 million in the BRSA all addressing affordable housing. These loans had a positive impact on the overall lending test conclusions in the rating area.

Product Innovation and Flexibility

The bank makes extensive use of innovative and/or flexible lending practices to serve AA credit needs. In the LA and SF CSA, CBNA originated 6,652 loans totaling $2.1 billion under its affordable mortgage products programs. The Lender Paid Assistance program accounted for the large majority (88.6 percent) of affordable mortgage products originated in the CSAs during the evaluation period.

Conclusions for Areas Receiving Limited-Scope Reviews

Based on limited-scope reviews, the bank's performance under the Lending Test in the Bakersfield, Fresno, Sacramento, and San Diego AAs is consistent with the bank's overall performance under the Lending Test in the full-scope areas.

Refer to Tables O through R in the state of California section of appendix D for the facts and data that support these conclusions.

INVESTMENT TEST

The bank's performance under the Investment Test in California is rated Outstanding.

Conclusions for Areas Receiving Full-Scope Reviews

Based on full-scope reviews, the bank's performance in the LA CSA and SF CSA is excellent.

The bank has an excellent level of qualified CD investment and grants, often in a leadership position, particularly those that are not routinely provided by private investors.

The bank exhibits excellent responsiveness to credit and community economic development needs. The bank makes extensive use of innovative and/or complex investments to support CD initiatives.

Qualified Investments										
Assessment Area	Prior Period*		Current Period		Total				Unfunded Commitments**	
	#	$(000's)	#	$(000's)	#	% of Total #	$(000's)	% of Total $	#	$(000's)
Full Review:										
LA CSA	94	$760,688	189	$303,463	283	45.0	$1,064,151	41.1	0	0
SF CSA	72	$721,416	124	$251,299	196	31.2	$972,715	37.5	0	0
Limited Review:										
Bakersfield MSA	4	$9,008	3	$11,801	7	1.1	$20,809	0.8	0	0
Fresno CSA	9	$41,193	13	$8,307	22	3.5	$49,500	1.9	0	0
Sacramento MSA	12	$76,365	28	$49,883	40	6.3	$126,248	4.9	0	0
San Diego MSA	29	$183,292	23	$66,922	52	8.3	$250,214	9.7	0	0
BSRA California	15	$31,033	14	$75,938	29	4.6	$106,971	4.1	0	0

* Prior Period Investments means investments made in a previous evaluation period that are outstanding as of the examination date.
** Unfunded Commitments means legally binding investment commitments that are tracked and recorded by the institution's financial reporting system.

In addition to investments made in its AAs, the bank also made 15 prior period investments totaling $31 million and 14 current period investments totaling $75.9 million in the BRSA consisting of the state of California. The investments addressed the need of affordable housing. The investment activity in the BRSA further supports the overall performance of the bank.

LA CSA

The combined prior and current period dollar volume represents 32.1 percent of allocated tier1 capital allocated to the AA. The bank's investments and grants were very effective and responsive in meeting community credit needs, including the creation of affordable housing, providing increased access to healthcare services, and supporting workforce development and financial capability programs. Investment activity included NMTCs, LIHTCs, and numerous grants and donations.

Examples of the bank's qualified investments include:

- $53.3 million investment in a proprietary multi-family tax credit fund to finance a senior housing development in Orange County. The project consists of 394 units with 391 units restricted to households with an income level at or below 60 percent of the AMI.

- $6.6 million NMTC investment to finance the construction of a new 52,000 square feet, two-story medical office and wellness center that will expand medial services with independent specialists in Los Angeles County. In addition to the expanded medical services, the project will create 250 permanent full-time jobs, of which 125 are anticipated to be filled by LMI persons. This medical and wellness center is in a community that has historically lacked adequate health and medical infrastructure.

- $250,000 donation to an area CDFI to support a program focused on improving the financial well-being of LMI households through financial capacity and asset building workshops, financial coaching, and referrals to housing resources, as well as achieving long-term economic self-sufficiency.

SF CSA

The combined prior and current period dollar volume represents 31.4 percent of allocated tier 1 capital. There are numerous investment opportunities in the SF CSA. The bank's investments and grants were very effective and responsive in meeting community credit needs, including the creation and preservation of affordable housing, small business support, support for financial capability, and workforce development. Investment activity consists primarily of LIHTCs, HTCs, bonds, and grants and donations.

Examples of the bank's qualified investments include:

- $80.5 million LIHTC investment to finance a 700-unit multi-building residential complex in Santa Clara County. Nearly all the units are restricted to households with income at or below 60 percent of the AMI.

- $2.7 million investment in a proprietary fund for the purpose of financing, an 80-unit affordable housing project in Merced County that was awarded LIHTC. The units are restricted to households with income levels at or below 50 percent of the AMI.

- $100,000 donation to support an Earned Income Tax Credit program for farm workers in Napa County.

Conclusions for Areas Receiving Limited-Scope Reviews

Based on limited-scope reviews, the bank's performance under the Investment Test in the Bakersfield, Fresno, Sacramento, and San Diego AAs is consistent with the bank's overall performance under the Investment Test in the full-scope areas.

SERVICE TEST

The bank's performance under the Service Test in California is rated Outstanding.

Conclusions for Areas Receiving Full-Scope Reviews

Based on full-scope reviews, the bank's performance in the LA CSA and SF CSA is excellent.

Retail Banking Services

Service delivery systems are readily accessible to geographies and individuals of different income levels in the bank's AAs after taking into consideration the adjacency of branches located in MUI geographies.

Distribution of Branch Delivery System											
Assessment Area	Deposits	Branches						Population			
	% of Rated Area Deposits in AA	# of BANK Branches	% of Rated Area Branches in AA	Location of Branches by Income of Geographies (%)				% of Population within Each Geography			
				Low	Mod	Mid	Upp	Low	Mod	Mid	Upp
LA CSA	47.9	152*	52.4	5.9	28.9	21.7	42.1	7.6	28.6	29.4	33.8
SF CSA	44.7	100*	34.5	12.0	18.0	28.0	41.0	8.9	22.5	36.2	32.2
Bakersfield MSA	0.4	2	0.7	0.0	0.0	0.0	100.0	9.7	23.3	31.8	33.0
Fresno CSA	1.6	9	3.1	22.2	33.3	11.1	33.3	7.8	32.6	23.6	33.9
Sacramento MSA	1.9	9	3.1	0.0	55.6	33.3	11.1	9.8	24.8	32.9	32.4
San Diego MSA	3.5	18	6.2	5.6	16.7	38.9	38.9	8.9	23.6	32.5	34.7

Distribution of Branch Openings/Closings						
	Branch Openings/Closings					
Assessment Area	# of Branch Openings	# of Branch Closings	Net change in Location of Branches (+ or -)			
			Low	Mod	Mid	Upp
LA CSA	0	12	0	-2	-1	-9
SF CSA	0	8	0	-2	-3	-3
Bakersfield MSA	0	0	0	0	0	0
Fresno CSA	0	2	0	-1	0	-1
Sacramento MSA	0	1	0	0	-1	0
San Diego MSA	0	0	0	0	0	0

LA CSA

The overall distribution of branches is excellent. The distribution is good in low-income geographies and excellent in moderate-income geographies. The proportion of branches in low-income geographies was near to the proportion of the population in low-income geographies and the proportion of branches in moderate-income geographies exceeded the proportion of the population in moderate-income geographies. Additionally, examiners determined that 37 branches in MUI geographies provided additional access to retail banking services in LMI geographies. Of the 37 branches, four branches

provided additional access to retail banking services in low-income geographies and the remaining 33 branches provided additional access to retail banking services in moderate-income geographies. Examiners considered the additional accessibility of these branches in the evaluation, which had a positive effect on the overall service delivery systems conclusion.

The bank had 308 bank-owned deposit taking ATMs with 27 (8.9 percent) located in low-income geographies and 91 (29.5 percent) located in moderate-income geographies. In addition to bank-owned ATMs, customers can make cash withdrawals and balance inquiries at more than 3,100 ATMs without fees or surcharges. Digital banking platform usage by LMI households and customers in LMI geographies were comparable to usage by MUI households and customers in MUI geographies. Based on customer usage data for ATMs and other digital banking platforms during the evaluation period, ADS had a positive effect on the overall service delivery systems conclusion.

The bank's opening and closing of branches has not adversely affected the accessibility of its delivery systems, particularly in LMI geographies and/or to LMI individuals. Despite the net closures in moderate-income geographies, the remaining branches were readily accessible to LMI income geographies and individuals. Most of the branches closed were determined to be underperforming based on teller volume, level of branch deposits, and/or retail products volume. Other branches were overlapping nearby branches and offered the bank the opportunity to consolidate those branches.

Services, including where appropriate, business hours, do not vary in a way that inconveniences its assessment areas, particularly low- and moderate-income geographies and/or individuals. Branch operating hours were consistent throughout the AA. Approximately 70 percent of the branches in LMI geographies were opened for Saturday banking compared with 66 percent of the branches in MUI geographies.

SF CSA

The overall distribution of branches is excellent. The distribution is excellent in low-income geographies and good in moderate-income geographies. The proportion of branches in low-income geographies exceeded the proportion of the population in low-income geographies and the proportion of branches in moderate-income geographies was near to the proportion of the population in moderate-income geographies. Additionally, examiners determined that 35 branches in MUI geographies provided additional access to retail banking services in LMI geographies. Examiners considered the additional accessibility of these branches, which had a positive effect on the overall service delivery systems conclusion.

The bank had 205 bank-owned deposit taking ATMs with 29 (14.1 percent) located in low-income geographies and 38 (18.5 percent) located in moderate-income geographies. In addition to bank-owned ATMs, customers can make cash withdrawals and balance inquiries at nearly 1,500 ATMs without fees or surcharges. Digital banking platform usage by LMI households and customers in LMI geographies were comparable to usage by MUI households and customers in MUI geographies. Based on customer usage data for ATMs and other digital banking platforms during the evaluation period, ADS had a positive effect on the overall service delivery systems conclusion.

The bank's opening and closing of branches has not adversely affected the accessibility of its delivery systems, particularly in LMI geographies and/or to LMI individuals. Despite the net closures in moderate-income geographies, the remaining branches were readily accessible to LMI geographies and

individuals. Most of the branches closed were determined to be underperforming based on teller volume, level of branch deposits, and/or retail products volume.

Services, including where appropriate, business hours, do not vary in a way that inconveniences its assessment areas, particularly LMI geographies and/or individuals. Branch operating hours were consistent throughout the AA. Approximately 68 percent of the branches in LMI geographies were opened for Saturday banking compared with 62 percent of the branches in MUI geographies.

Community Development Services

The bank provides an adequate level of CD services.

LA CSA

During the evaluation period, 285 employees contributed 596 hours in providing 64 community development services primarily targeted to LMI individuals. These community development services benefitted 5,816 LMI individuals and families. In addition, 16 employees served on the boards or committees of 20 non-profit organizations in the AA. Employees primarily provided financial literacy, mentoring, and technical assistance. Examples include:

- 157 employees taught 2,155 elementary school children from LMI families about the importance of saving money through the Teach Children to Save campaign.

- 58 employees contributed 168 hours to provide 39 homebuyer education workshops or seminars that benefitted 1,541 LMI individuals.

SF CSA

During the evaluation period, 282 employees contributed 518 hours in providing 63 community development services primarily targeted to LMI individuals. These community development services benefitted 4,215 LMI individuals and families. In addition, seven employees served on the boards or committees of nine non-profit organizations in the AA. Employees primarily provided financial literacy, mentoring, and technical assistance. Examples include:

- 111 employees taught 1,989 elementary school children from LMI families about the importance of saving money through the Teach Children to Save campaign.

- 12 employees provided 13 homebuyer education workshops that benefitted 958 LMI individuals.

Conclusions for Areas Receiving Limited-Scope Reviews

Based on limited-scope reviews, the bank's performance under the Service Test in the Fresno CSA is consistent with the bank's overall excellent performance under the Service Test in the full-scope areas. The bank's performance under the Service Test in the Bakersfield, Sacramento, and San Diego MSAs is weaker than the bank's performance under the Service Test in the full-scope areas. Performance is weaker due to a weaker distribution of branches in LMI geographies. The weaker performance did not adversely affect the Service Test rating for the state of California.

State Rating

State of Florida

CRA rating for the State of Florida: Outstanding
The Lending Test is rated: Outstanding
The Investment Test is rated: Outstanding
The Service Test is rated: Outstanding

The major factors that support this rating include:

- Lending levels reflect excellent responsiveness to AA credit needs.
- Excellent geographic distribution of loans.
- Good borrower distribution of loans.
- The bank is a leader in making CD loans.
- Excellent level of CD investments.
- Retail delivery systems are readily accessible to all portions and individuals of different income levels in the AA and the bank provides an adequate level of community development services.

Description of Institution's Operations in Florida

CBNA has delineated four AAs in the state of Florida. These include the three MDs that make up the Miami-Fort Lauderdale-Pompano Beach MSA. The bank has also delineated Duval County (Jacksonville AA) within the Jacksonville MSA.

The bank had $18 billion of deposits in the state and ranked eighth with 3 percent market share. The deposits represent 8 percent of the bank's adjusted deposits. The top three banks were Bank of America (19.2 percent), Wells Fargo (13.1 percent), and SunTrust Bank (8 percent), each with substantially larger branch networks. CBNA operated 53 branches and 142 ATMs within Florida, representing 7.6 percent of the bank's branches and 6.2 percent of the bank's ATMs.

The Miami AA is a high cost housing area, limiting access to affordable homeownership among LMI borrowers. The median housing value is $227,861 while the NAR 4Q2019 median sales price of a single-family home is $368,500. One simplistic method used to determine housing affordability assumes a maximum monthly principal and interest payment of no more than 30 percent of the applicant's income.

Assuming a 30-year mortgage with a 5 percent interest rate, and not accounting for down payment, homeowners insurance, real estate taxes, or any additional monthly expenses, a low-income borrower making $32,327 per year (or less than 50 percent of the FFIEC adjusted median family income in the AA) could afford a $116,614 mortgage with a payment of $626 per month; a moderate-income borrower earning $51,722 per year (or less than 80 percent of the FFIEC adjusted median family income in the AA) could afford a $186,579 mortgage with a payment of $1,002 per month.

The poverty level across the AA was considered in the evaluation of lending performance. Families living below the stated poverty rate are identified as having difficulty meeting basic financial needs and as such are less likely to have the financial wherewithal to qualify for a home loan than those with income above poverty. In the Miami MSA, the overall household poverty level was 16 percent. However, in low-income geographies, the household poverty level increases to 40 percent and in moderate-income geographies it increases to 24 percent. In MUI geographies, the combined poverty level is just 11 percent.

Table A – Demographic Information of the Assessment Area

Assessment Area: Miami MSA

Demographic Characteristics	#	Low % of #	Moderate % of #	Middle % of #	Upper % of #	NA* % of #
Geographies (Census Tracts)	1,219	6.2	28.2	29.5	33.6	2.5
Population by Geography	5,861,000	5.8	28.9	31.5	33.4	0.4
Housing Units by Geography	2,484,604	5.5	27.9	30.9	35.3	0.3
Owner-Occupied Units by Geography	1,248,038	2.6	23.2	32.9	41.2	0.2
Occupied Rental Units by Geography	799,004	10.1	36.4	30.1	22.9	0.5
Vacant Units by Geography	437,562	5.6	25.9	26.7	41.2	0.6
Businesses by Geography	962,932	4.2	21.9	28.3	44.4	1.2
Farms by Geography	14,056	4.6	24.1	29.7	41.2	0.4
Family Distribution by Income Level	1,330,793	23.1	17.0	17.7	42.2	0.0
Household Distribution by Income Level	2,047,042	25.1	15.7	16.6	42.6	0.0
Median Family Income MSA - 22744 Fort Lauderdale-Pompano Beach-Sunrise, FL		$61,809	Median Housing Value			$227,861
Median Family Income MSA - 33124 Miami-Miami Beach-Kendall, FL		$49,264	Median Gross Rent			$1,194
Median Family Income MSA - 48424 West Palm Beach-Boca Raton-Boynton Beach, FL		$65,914	Families Below Poverty Level			13.5%

Source: 2015 ACS and 2019 D&B Data
Due to rounding, totals may not equal 100.0%
(*) The NA category consists of geographies that have not been assigned an income classification.

According to Moody's Analytics November 2019, the Great Recession had a lasting impact on Miami's economy. At the height of the previous expansion 12 years ago, average hourly wages in the Miami MSA were $1.70 above the U.S. average. Wages fell below the national average during the recession, and the gap between the local and national average has widened ever since. Today, the average hourly wage is $4.30 less than the national level among major metro areas with more than one million residents. Construction jobs are set to grow twice as fast as the national average, and some of this new employment can be traced to activity at Port Miami, the world's busiest harbor for passenger ships. Over the next three years, cruise lines will build four separate terminals and two corporate offices at the port at a total cost of more than $1.5 billion.

Major employers in the AA include University of Miami, Jackson Health System, Publix Super Markets, Baptist Health Systems of Southern Florida, and American Airlines.

The Miami MSA is transitioning into a sanctuary for affluent retirees and wealthy expatriates. Miami has the second-highest level of income inequality among major metro areas, behind New York City. Since the wealthy in Miami sustain their lifestyle with nonwage income, the area's gross domestic product has increased even as wage growth has stalled. But a looming domestic downturn and global slowdown will reduce corporate profits and stock market returns over the next couple of years. This shock will be hardest felt in the wealthy enclaves flanking the central business district and in Miami Beach, but it will impact the entire metro division.

Community Contacts

To understand the credit and community development needs in the area, examiners reviewed two recent contacts with community-based organizations; one is a CDFI targeting affordable housing/homeownership and one targets economic development. The organizations noted a need for affordable housing, home purchase financing and refinancing, startup entrepreneurial financing, and financial literacy.

Scope of Evaluation in Florida

The Miami MSA received a full-scope review. This area accounted for nearly all the deposits, branches, and lending activity in the state. The three MDs making up the MSA were combined for evaluating performance for each test, reducing the effective number of AAs to two. The Jacksonville AA received a limited-scope review.

CONCLUSIONS WITH RESPECT TO PERFORMANCE TESTS IN FLORIDA

LENDING TEST

The bank's performance under the Lending Test in Florida is rated Outstanding.

Conclusions for Area Receiving a Full-Scope Review

Based on a full-scope review, the bank's performance in the Miami MSA is excellent.

Lending Activity

Lending levels reflect excellent responsiveness to AA credit needs considering the number and dollar amount of home mortgage, small business, and CD lending activities relative to CBNA's capacity based on deposits, competition, and market presence.

Number of Loans*						
Assessment Area	Home Mortgage	Small Business	Community Development	Total	%State Loans	%State Deposits
Miami MSA	7,595	59,351	62	67,008	91.9	99.9
Jacksonville AA	545	5,328	4	5,877	8.1	0.1
BRSA-State of Florida	0	0	20	20	0.0	NA
Total	8,140	64,679	86	72,905	100.0	100.0

*The tables present the data for all assessment areas. The narrative below addresses performance in full-scope areas only.

Dollar Volume of Loans*						
Assessment Area	Home Mortgage	Small Business	Community Development	Total	%State* Loans	%State Deposits
Miami MSA	2,633,961	373,261	591,241	3,598,463	92.3	99.9
Jacksonville AA	88,669	28,437	22,701	139,807	3.6	0.1
BRSA-State of Florida	0	0	158,683	158,683	4.1	NA
Total	2,722,630	401,698	772,625	3,896,953	100.0	100.0

*The tables present the data for all assessment areas. The narrative below addresses performance in full-scope areas only.

The bank ranked fourth in deposits with a 7.5 percent market share. In small loans to businesses, the bank also ranked fourth with 7.1 percent market share placing it in the top 2 percent of all lenders. This is a very competitive market with 226 small business lenders compared to 116 depository institutions. The top three lenders (and their market share) were nationwide lenders with substantial small business credit card portfolios and include American Express (27.8 percent), JPMorgan Chase (15.6 percent), and Bank of America (15.4 percent). In overall HMDA lending, the bank ranked 25th with 0.86 percent market share placing it in the top 3 percent of all lenders. In the AA, there is strong competition for home mortgage lending with 1,025 home mortgage lenders in the market. The top lenders were Wells Fargo (6.6 percent), United Shore Financial Services (6.1 percent), and Quicken Loans (5.2 percent).

Distribution of Loans by Income Level of the Geography

The bank exhibits an excellent geographic distribution of loans in its AA, relative to area demographics and aggregate lending data.

Home Mortgage Loans

Refer to Table O in the state of Florida section of appendix D for the facts and data used to evaluate the geographic distribution of the bank's home mortgage loan originations and purchases.

The proportion of loans in both LMI geographies exceeded the proportion of owner-occupied homes in those geographies and the aggregate distribution of loans. Despite the high cost of housing and economic considerations, the bank achieved excellent geographic penetration.

Small Loans to Businesses

Refer to Table Q in the state of Florida section of appendix D for the facts and data used to evaluate the geographic distribution of the bank's originations and purchases of small loans to businesses.

The geographic distribution of the bank's small loans to businesses was excellent. The proportion of loans in low-income geographies was near to the percentage of businesses located in those geographies and the aggregate distribution of loans. The proportion of loans in moderate-income geographies exceeded the proportion of businesses located in those geographies and the aggregate distribution of loans.

Lending Gap Analysis

Examiners reviewed summary reports and maps and analyzed home mortgage and small business lending activity to identify any gaps in the geographic distribution of loans in all full-scope AAs. Examiners did not identify any unexplained conspicuous gaps in any of the areas they reviewed.

Distribution of Loans by Income Level of the Borrower

The bank exhibits a good distribution of loans among individuals of different income levels and businesses of different sizes.

Home Mortgage Loans

Refer to Table P in the state of Florida section of appendix D for the facts and data used to evaluate the borrower distribution of the bank's home mortgage loan originations and purchases.

The borrower distribution of home mortgage loans is good, given performance context consideration. Examiners considered that the high housing cost, limited availability of housing that low-income borrowers can afford to acquire, and poverty levels within the AA constrained lending opportunities to low-income borrowers.

The proportion of loans to low-income borrowers was significantly weaker than the proportion of low-income families within the AA. However, the bank exceeded the aggregate distribution of loans. The proportion of loans to moderate-income borrowers was weaker than the proportion of moderate-income families and exceeded the aggregate distribution of loans.

Small Loans to Businesses

Refer to Table R in the state of Florida section of appendix D for the facts and data used to evaluate the borrower distribution of the bank's origination and purchase of small loans to businesses.

The borrower distribution of small loans to businesses is good. The proportion of loans to small businesses is near to the percentage of small businesses in the AA and significantly exceeded the aggregate distribution of loans.

Community Development Lending

The bank is a leader in making CD loans.

The Lending Activity Table, shown above, set forth the information and data used to evaluate the bank's level of CD lending. These tables include all CD loans, including multifamily loans that also qualify as CD loans. The dollar volume in the Miami MSA equaled 26.7 percent of allocated tier 1 capital.

CD lending had a significantly positive impact on the Lending Test of the rating area.

The bank took a leadership role in originating CD loans that were responsive to the identified needs of the Miami MSA and were also complex. Examples include:

- $50 million acquisition and renovation of a 196-unit multifamily project in Miami-Dade County. The project was done in partnership with the Housing Finance Authority of Miami-Dade. The project, located in a low-income geography, received extensive damage from Hurricane Irma in 2017. The units are restricted to households with income levels at or below 60 percent of AMI.

- $29 million to finance the renovation of a 252 unit two-property project located in Miami-Dade County that was awarded LIHTCs and is covered by a Section 8 HAP contract. All units are restricted to households with income levels at or below 60 percent of the AMI.

- $16.5 million to finance the acquisition and recapitalization of a 176-unit complex located in Miami-Dade County and was awarded LIHTCs. This was a partnership with the Housing Finance Authority of Miami-Dade County and all the units are restricted to households with income levels at or below 60 percent of the AMI.

In addition to the CD loans made in the bank's AAs, CBNA originated 20 loans totaling $158.7 million in the BRSA. These loans primarily addressed affordable housing and economic development within the state of Florida and were given positive consideration to the overall lending test conclusions in the rating area.

Product Innovation and Flexibility

The bank makes extensive use of innovative and/or flexible lending practices to serve AA credit needs. CBNA originated 1,422 loans totaling $249 million under its affordable mortgage products programs. The Lender Paid Assistance and NACA programs accounted for the large majority (78.8 percent) of affordable mortgage products originated in the AA during the evaluation period.

Conclusions for Area Receiving a Limited-Scope Review

Based on a limited-scope review, the bank's performance under the Lending Test in the Jacksonville AA is consistent with the bank's overall performance under the Lending Test in the full-scope area.

Refer to Tables O through R in the state of Florida section of appendix D for the facts and data that support these conclusions.

INVESTMENT TEST

The bank's performance under the Investment Test in Florida is rated Outstanding.

Conclusions for Area Receiving a Full-Scope Review

Based on a full-scope review, the bank's performance in the Miami MSA is excellent.

The bank has an excellent level of qualified CD investment and grants, often in a leadership position, particularly those that are not routinely provided by private investors.

The bank exhibits excellent responsiveness to credit and community economic development needs. The bank makes extensive use of innovative and/or complex investments to support CD initiatives.

Qualified Investments										
Assessment Area	Prior Period*		Current Period		Total				Unfunded Commitments**	
	#	$(000's)	#	$(000's)	#	% of Total #	$(000's)	% of Total $	#	$(000's)
Full Review:										
Miami MSA	27	$268,954	82	$208,716	109	71.2	$477,670	72.5	0	0
Limited Review:										
Jacksonville MSA	1	$1,048	20	$17,289	21	13.7	$18,337	2.9	0	0
BSRA FL	11	$126,257	12	$36,834	23	15.1	$163,091	24.6	0	0

* Prior Period Investments means investments made in a previous evaluation period that are outstanding as of the examination date.
** Unfunded Commitments means legally binding investment commitments that are tracked and recorded by the institution's financial reporting system.

The combined prior and current period dollar volume represents 21.5 percent of tier 1 capital allocated to the AA. There are numerous investment opportunities in the Miami MSA. The bank's investments and grants were very effective and responsive in meeting community credit needs, including affordable housing and small business development. Investment activity includes LIHTCs and various grants and donations.

Examples of the bank's qualified investments include:

- $24 million LIHTC investment to support the development of a 120-unit, senior living facility in Broward County. The project was 20 years in the making as part of the redevelopment of the South Dixie Highway corridor. All units are restricted to households with income levels at or below 60 percent of the AMI. Additionally, six of the units are reserved for persons with special needs.

- $12.9 million investment in a proprietary fund to facilitate the development of a 125-unit property in Palm Beach County. The project was awarded LIHTCs and is covered by a Section 8 HAP contract. All units are restricted to households with income levels at or below 80 percent of the AMI.

- $600,000 donation to a non-profit kitchen incubator and accelerator to scale up food businesses owned by LMI and minority entrepreneurs. The program fills a long-standing gap in South Florida's economic development landscape by leveraging existing commercial kitchen space and providing entrepreneurs with technical assistance and access to markets. The bank's donation provided seed funding.

In addition to investments made in its AAs, the bank also made 11 prior period investments totaling $126.3 million and 12 current period investments totaling $36.8 million in the BSRA consisting of the state of Florida. The current period investment activity primarily addressed affordable housing and economic development and further supports the overall Investment Test conclusion for the rating area.

Conclusions for Area Receiving a Limited-Scope Review

Based on a limited-scope review the bank's performance under the Investment Test in the Jacksonville AA is consistent with the bank's overall performance under the Investment Test in the full-scope area.

SERVICE TEST

The bank's performance under the Service Test in Florida is rated Outstanding.

Conclusions for Area Receiving a Full-Scope Review

Based on a full-scope review, the bank's performance in the Miami MSA is excellent.

Retail Banking Services

Service delivery systems are readily accessible to geographies and individuals of different income levels in the bank's AA after taking into consideration the adjacency of branches located in MUI geographies.

Distribution of Branch Delivery System											
Assessment Area	Deposits	Branches						Population			
	% of Rated Area Deposits in AA	# of BANK Branches	% of Rated Area Branches in AA	Location of Branches by Income of Geographies (%)				% of Population within Each Geography			
				Low	Mod	Mid	Upp	Low	Mod	Mid	Upp
Miami MSA	99.9	52*	98.1	3.8	25.0	13.5	55.8	5.8	28.9	31.5	33.4
Jacksonville AA	0.1	1	1.9	0.0	0.0	0.0	100.0	8.1	28.1	39.4	24.4

*One branch is in a geography without an income designation.

The overall distribution of branches by income level of the geography is excellent when considering the accessibility of branches located in MUI that are near to LMI geographies. The distribution is adequate in low-income geographies and good in moderate-income geographies. The proportion of branches in low-income geographies was below the proportion of the population in low-income geographies. The proportion of branches in moderate-income geographies was near to the proportion of the population in moderate-income geographies. Within the AA, examiners determined that 19 branches in MUI geographies provided additional access to retail banking services in LMI geographies. Of the 19 branches, three branches provided additional access to retail banking services in low-income geographies and the remaining 16 branches provided additional access to retail banking services in moderate-income geographies. Examiners considered the additional accessibility of these adjacent branches, which had a positive effect on the overall service delivery systems conclusion.

Examiners also considered the bank's ADS, including ATMs and digital banking platforms in evaluating accessibility to the bank's products and services. The bank had 142 bank-owned deposit taking ATMs with five (3.5 percent) located in low-income geographies and 38 ATMs (26.8 percent) located in moderate-income geographies. In addition to bank-owned ATMs, customers can make cash withdrawals and balance inquiries at 890 ATMs without fees or surcharges. Digital banking platform usage by LMI households and customers in LMI geographies were comparable to usage by MUI households and customers in MUI geographies. Based on customer usage data for ATMs and other digital banking

platforms during the evaluation period, ADS had a positive effect on the overall service delivery systems conclusion.

Distribution of Branch Openings/Closings						
	Branch Openings/Closings					
Assessment Area	# of Branch Openings	# of Branch Closings	Net change in Location of Branches (+ or -)			
			Low	Moderate	Middle	Upper
Miami MSA	2*	2	0	+1	0	-2

*Includes one branch opened in a geography without an income designation.

The bank's opening and closing of branches has improved the accessibility of its delivery systems, particularly in LMI geographies and/or to LMI individuals.

Services, including where appropriate, business hours, do not vary in a way that inconveniences its assessment areas, particularly LMI geographies and/or individuals. Branch operating hours were consistent throughout the AA. Approximately 53 percent of the branches in LMI geographies were opened for Saturday banking compared with 51 percent of the branches in MUI geographies.

Community Development Services

Citibank provides an adequate level of community development services in the Miami MSA.

During the evaluation period, 202 employees contributed 171 hours in providing 37 community development services primarily targeted to LMI individuals. These community development services benefitted 3,181 LMI individuals and families. In addition, seven employees served on the boards or committees of nine non-profit organizations in the AA. Employees primarily provided financial literacy, mentoring, and technical assistance. Examples include:

- 133 Citibank employees taught 1,741 elementary school children from LMI families about the importance of saving money through the Teach Children to Save campaign.

- In collaboration with local and national community development organizations, 30 employees provided homebuyer education to 833 LMI individuals through 23 workshops and seminars.

Conclusions for Areas Receiving Limited-Scope Reviews

Based on a limited-scope review, the bank's performance under the Service Test in the Jacksonville AA is weaker than the bank's overall performance under the Service Test in the full-scope area. Weaker performance is based on the geographic distribution of the bank's one branch in proportion to the population. The weaker performance did not adversely impact the Service Test rating in the state.

State Rating

State of Illinois

CRA rating for the State of Illinois: Outstanding
The Lending Test is rated: Outstanding
The Investment Test is rated: Outstanding
The Service Test is rated: High Satisfactory

The major factors that support this rating include:

- Lending levels reflect excellent responsiveness to AA credit needs.
- Excellent geographic distribution of loans.
- Excellent borrower distribution of loans.
- The bank is a leader in making CD loans.
- Excellent level of CD investments.
- Retail delivery systems are accessible to all portions of the AA and the bank provides a relatively high level of CD services.

Description of Institution's Operations in Illinois

CBNA delineated three AAs to include Cook, DuPage, Kendall, McHenry, and Will counties within the Chicago-Naperville-Arlington Heights MD; Kane County within the Elgin MD; and Lake County within the Lake County-Kenosha County MD. All counties of the AA are within the state of Illinois and are part of the larger multistate Chicago-Naperville-Elgin IL-IN-WI MSA. For the evaluation, all counties were combined into one AA.

CBNA held $14.2 billion in deposits in Illinois, ranked ninth with 2.8 percent market share, and represented 6 percent of the bank's adjusted deposits. The top three banks within the state were JPMorgan Chase (17.5 percent), BMO Harris Bank (12.6 percent), and Bank of America (7.2 percent). All three banks have substantially larger branch networks. CBNA operated 61 branches and 255 ATMs representing 8.8 percent of total branches and 11.1 percent of ATMs.

Table A – Demographic Information of the Assessment Area Assessment Area: Chicago CSA						
Demographic Characteristics	**#**	**Low % of #**	**Moderate % of #**	**Middle % of #**	**Upper % of #**	**NA* % of #**
Geographies (Census Tracts)	1,975	14.1	24.0	28.3	32.8	0.9
Population by Geography	8,385,941	10.1	24.0	30.8	34.9	0.2
Housing Units by Geography	3,334,182	10.4	22.8	30.8	35.7	0.3
Owner-Occupied Units by Geography	1,933,214	4.5	18.0	34.4	43.0	0.1
Occupied Rental Units by Geography	1,095,864	17.5	29.8	26.1	25.9	0.7
Vacant Units by Geography	305,104	22.4	28.0	24.7	24.5	0.5
Businesses by Geography	580,582	4.9	15.4	29.0	50.2	0.5
Farms by Geography	9,005	3.4	15.2	37.8	43.5	0.1
Family Distribution by Income Level	1,985,710	23.5	16.3	18.5	41.7	0.0
Household Distribution by Income Level	3,029,078	25.4	15.2	17.0	42.4	0.0
Median Family Income MSA - 16984 Chicago-Naperville-Evanston, IL		$75,024	Median Housing Value			$248,020
Median Family Income MSA - 20994 Elgin, IL		$80,899	Median Gross Rent			$1,055
Median Family Income MSA - 29404 Lake County-Kenosha County, IL-WI		$87,137	Families Below Poverty Level			10.5%

Source: 2015 ACS and 2019 D&B Data
Due to rounding, totals may not equal 100.0%
(*) The NA category consists of geographies that have not been assigned an income classification.

Chicago is an important financial center in the U.S. and in the world; a large transportation, logistics, and warehousing center; a major tourist destination; and has a growing high-tech sector. Chicago also is an important center of higher education, with many leading universities. Information from Moody's Analytics indicated the Chicago MSA had a well-diversified economy. Key sectors of the economy based on percentage of total employment included Professional and Business Services, Education and Health Services, Government, and Leisure and Hospitality Services. Major employers in the AA included Advocate Health Care System, the University of Chicago, Abbott Laboratories, JPMorgan Chase, and Northwestern Memorial Healthcare.

According to the Bureau of Labor Statistics, the annual average unemployment rate in the Chicago MSA AA was 4.8 percent in 2017, 4.0 percent in 2018, and 3.8 percent in 2019. This was consistent with the overall Illinois state unemployment rates of 4.9 percent, 4.3 percent, and 4.0 percent, respectively.

Job-rich areas are found in the north and west suburbs, which are included in the Chicago AA. Fewer jobs are found in LMI communities, particularly in areas of the City of Chicago south and west of downtown, and in some southern suburbs. Several initiatives in the region, to which banks have provided loans, investments, and services, address this disparate concentration of employment by increasing the number of businesses and jobs in LMI communities, improving the skills of LMI residents, encouraging investments in affordable housing near public transportation facilities, and providing affordable and employer-assisted housing proximate to job centers.

The region continued to be impacted by state and local budgetary pressures, along with above average crime rates, which had an impact on population growth. The area experienced a worse than expected

outflow of population over the evaluation period, which negatively impacted job growth. Illinois continues to experience a high level of foreclosures, with the third highest level among the 50 states. Two of the top five counties for foreclosures in Illinois were in the Chicago MSA. In addition, although home values had rebounded in recent years overall, many areas continued to see home values struggling to bounce back, specifically homes located in low- and moderate-income geographies. A study by a local university showed the home values in geographic areas south of downtown Chicago, which had a higher percentage of properties in LMI geographies, were struggling the most. As a result, refinance and home equity loan opportunities were still limited for these areas where property values are still "underwater."

Community Contacts

To understand the credit and community development needs in the area examiners reviewed two community contacts made during the evaluation period. The organizations included a community loan fund and the public housing authority. The organizations noted a need for affordable housing throughout the AA and commercial retail property in LMI neighborhoods.

Scope of Evaluation in Illinois

The Chicago CSA received a full-scope review. The three AAs were combined in evaluating performance with each test.

CONCLUSIONS WITH RESPECT TO PERFORMANCE TESTS IN ILLINOIS

LENDING TEST

The bank's performance under the Lending Test in Illinois is rated Outstanding.

Conclusions for Area Receiving a Full-Scope Review

Based on a full-scope review, the bank's performance in the Chicago MSA is excellent.

Lending Activity

Lending levels reflect excellent responsiveness to AA credit needs considering the number and dollar amount of home mortgage, small business, and CD lending activities relative to CBNA's capacity based on deposits, competition, and market presence.

Number of Loans				
Assessment Area	Home Mortgage	Small Business	Community Development	Total
Chicago MSA	14,280	54,558	58	68,896
BRSA-Illinois	0	0	14	14
Total	14,280	54,558	72	68,910

Dollar Volume of Loans (000s)				
Assessment Area	Home Mortgage	Small Business	Community Development	Total
Chicago MSA	4,123,757	416,117	859,020	5,398,894
BRSA-Illinois	0	0	123,870	123,870
Total	4,123,757	416,117	982,890	5,522,764

*The tables present the data for all assessment areas. The narrative below addresses performance in full-scope areas only.

CBNA ranked seventh in deposits within the AA with 3.6 percent market share. In small loans to businesses, CBNA ranked third with a 7.7 percent market share placing it in the top 1 percent of lenders. This is a highly competitive market with 246 small business lenders. The other top lenders were American Express (30.5 percent) and Bank of America (16.9 percent). In overall HMDA lending, CBNA ranked 23rd with 1.1 percent market share. This is a very competitive market with 868 home mortgage lenders and 270 depository institutions. The top HMDA lenders were JPMorgan Chase (9.5 percent), Wells Fargo (7.7 percent), and Guaranteed Rate Inc. (6.5 percent). JPMorgan Chase has a substantially larger branch presence in the AA.

Distribution of Loans by Income Level of the Geography

The bank exhibits an excellent geographic distribution of loans in its AA.

Home Mortgage Loans

Refer to Table O in the state of Illinois section of appendix D for the facts and data used to evaluate the geographic distribution of the bank's home mortgage loan originations and purchases.

The geographic distribution of home mortgage loans is excellent. The proportion of loans in LMI geographies exceeded the proportion of owner-occupied homes in those geographies and the aggregate distribution of loans. The low-level of owner-occupied housing and high percentage of vacant units in low-income geographies were considered in our conclusion.

Small Loans to Businesses

Refer to Table Q in the state of Illinois section of appendix D for the facts and data used to evaluate the geographic distribution of the bank's originations and purchases of small loans to businesses.

The geographic distribution of small loans to businesses is excellent. The proportion of loans in low-income geographies equaled the proportion of businesses located in those geographies and exceeded the aggregate distribution of loans. The proportion of loans in moderate-income geographies exceeded the proportion of businesses located in those geographies and the aggregate distribution of loans.

Lending Gap Analysis

Examiners reviewed summary reports and maps and analyzed home mortgage and small business lending activity to identify any gaps in the geographic distribution of loans in all full-scope AAs. Examiners did not identify any unexplained conspicuous gaps in any of the areas they reviewed.

Distribution of Loans by Income Level of the Borrower

The bank exhibits an excellent distribution of loans among individuals of different income levels and businesses of different sizes.

Home Mortgage Loans

Refer to Table P in the state of Illinois section of appendix D for the facts and data used to evaluate the borrower distribution of the bank's home mortgage loan originations and purchases.

The borrower distribution of home mortgage loans is excellent. Examiners considered housing costs in relation to the median family incomes in the AA, which limited the affordability for low-income families. The proportion of loans to low-income borrowers is weaker than the proportion of low-income families within the AA and exceeded the aggregate distribution of loans. The proportion of loans to moderate-income borrowers exceeded both the proportion of moderate-income families and the aggregate distribution of loans.

Small Loans to Businesses

Refer to Table R in the state of Illinois section of appendix D for the facts and data used to evaluate the borrower distribution of the bank's origination and purchase of small loans to businesses.

The borrower distribution of small loans to businesses was excellent. The proportion of loans is near to the proportion of small businesses and significantly exceeded aggregate distribution of loans.

Community Development Lending

The bank is a leader in making CD loans.

The Lending Activity Tables, shown above, set forth the information and data used to evaluate the bank's level of CD lending. These tables include all CD loans, including multifamily loans that also qualify as CD loans. The dollar volume equaled 49.2 percent of allocated tier 1 capital.

CD lending had a significantly positive impact on the overall Lending Test of the rating area.

The bank took a leadership role in originating CD loans that were responsive to the identified needs of the Chicago MSA and were also complex and flexible. Most of the loans addressed affordable housing. Examples include:

- $12.5 million construction loan to build 88 units of affordable housing in Chicago that was awarded LIHTCs utilizing the HUD Rental Assistance Demonstration program with the Chicago Housing Authority. The apartments are covered by a Section 8 HAP. All units are restricted to households with income levels at or below 60 percent of the AMI.

- $9.1 million permanent financing for the acquisition and renovation of a 100-unit, eight-property portfolio in Chicago that was awarded LIHTCs. All units are restricted to households with income levels at or below 60 percent of the AMI.

Product Innovation and Flexibility

The bank uses innovative and/or flexible lending practices to serve AA credit needs. CBNA originated 2,180 loans totaling $394 million under its affordable mortgage products programs. The Lender Paid Assistance program accounted for the majority (66 percent) of affordable mortgage products originated in the AA during the evaluation period.

INVESTMENT TEST

The bank's performance under the Investment Test in Illinois is rated Outstanding.

Conclusions for Area Receiving a Full-Scope Review

Based on a full-scope review, the bank's performance in the Chicago MSA is excellent.

The bank has an excellent level of qualified CD investment and grants, often in a leadership position, particularly those that are not routinely provided by private investors.

The bank exhibits excellent responsiveness to credit and community economic development needs. The bank makes extensive use of innovative and/or complex investments to support CD initiatives.

Qualified Investments										
Assessment Area	Prior Period*		Current Period		Total				Unfunded Commitments**	
	#	$(000's)	#	$(000's)	#	% of Total #	$(000's)	% of Total $	#	$(000's)
Chicago MSA	34	$165,401	122	$153,201	156	95.7	$318,602	94.1	0	0
BSRA-State of Illinois	2	$10,199	5	$9,821	7	4.3	$20,020	5.9	0	0

* Prior Period Investments means investments made in a previous evaluation period that are outstanding as of the examination date.
** Unfunded Commitments means legally binding investment commitments that are tracked and recorded by the institution's financial reporting system.

In addition to investments made in its assessment area, the bank also made two prior period investments totaling $10.2 million and five current period investments totaling $9.8 million in the BSRA consisting of the state of Illinois. Four of the five current period investments addressed affordable housing.

The combined prior and current period dollar volume represents 18.2 percent of tier 1 capital allocated to the AA. There are numerous investment opportunities in the Chicago MSA. The bank's investments and grants were very effective and responsive in meeting community credit needs, including affordable housing, access to healthcare, neighborhood revitalization, and access to community services. Investment activity includes NMTCs, HTCs and grants and donations.

Examples of the bank's qualified investments include:

- $4.1 million investment in a NMTC fund to finance the construction of a community center located in an economically distressed and underserved moderate-income area of Chicago. The community center will serve 1,000 individuals through academic programs, tutoring, financial literacy classes, and entrepreneurship training programs.

- $1.8 million investment in a proprietary HTC fund to provide the equity needed to finance the rehabilitation of an arts center located in a low-income geography in Aurora. When completed, the center will provide a performing arts school, a restaurant, and 42 apartments. Almost all the apartments will be restricted to households at 60 percent of AMI. The center will also provide 89 permanent full-time employment jobs with most to LMI individuals.

- $1.7 million NMTC investment to assist in bringing a much-needed medical care facility to Chicago's South Side, which is home to some of the city's most impoverished neighborhoods. The area has not had an adult trauma care facility since a nearby hospital closed in 1991. The project will create 126 permanent positions, 82 of which are expected to be held by LMI individuals.

- $100,000 donation to support the development of a land trust that will acquire, rehabilitate, and place foreclosed and/or blighted homes back on the market at affordable prices. The land trust will hold a 99-year lease on the land and codify restrictions on the sale of the homes to ensure the homes will remain affordable in perpetuity.

SERVICE TEST

The bank's performance under the Service Test in Illinois is rated High Satisfactory.

Conclusions for Area Receiving a Full-Scope Review

Based on a full-scope review, the bank's performance in the Chicago MSA is good.

Retail Banking Services

Service delivery systems are accessible to geographies and individuals of different income levels in the bank's AA.

Distribution of Branch Delivery System											
Assessment Area	Deposits	Branches						Population			
	% of Rated Area Deposits in AA	# of BANK Branches	% of Rated Area Branches in AA	Location of Branches by Income of Geographies (%)				% of Population within Each Geography			
				Low	Mod	Mid	Upp	Low	Mod	Mid	Upp
Chicago MSA	100.0	61	100.0	4.9	14.8	23.0	57.4	10.1	24.0	30.8	34.9

The overall distribution of branches is good after considering branches in MUI geographies that are near to LMI geographies. The distribution is poor in low-income geographies and adequate in moderate-income geographies. The proportion of branches in low-income geographies was well below the proportion of the population in low-income geographies. The proportion of branches in moderate-income geographies was below the proportion of the population in moderate-income geographies. Examiners determined that 13 branches in MUI geographies provided additional access to retail banking services in LMI geographies. Of the 13 branches, two branches provided additional access to retail banking services in low-income geographies and the remaining 11 branches provided additional access to retail banking services in moderate-income geographies. Examiners considered the additional

accessibility of these branches which had a positive effect on the overall service delivery systems conclusion.

The bank had 255 bank-owned deposit taking ATMs with 11 (4.3 percent) located in low-income geographies and 35 (13.7 percent) located in moderate-income geographies. In addition to bank-owned ATMs, customers can make cash withdrawals and balance inquiries at more than 1,700 ATMs without fees or surcharges. Digital banking platform usage by LMI households and customers in LMI geographies was comparable to usage by MUI households and customers in MUI geographies. Based on customer usage data for ATMs and other digital banking platforms, ADS had a positive effect on the overall service delivery systems conclusion.

Distribution of Branch Openings/Closings						
	Branch Openings/Closings					
Assessment Area	# of Branch Openings	# of Branch Closings	Net change in Location of Branches (+ or -)			
			Low	Mod	Mid	Upp
Chicago MSA	0	1	0	0	-1	0

To the extent changes have been made, the bank's opening and closing of branches has not adversely affected the accessibility of its delivery systems, particularly in LMI geographies and/or to LMI individuals. The bank determined the branch was financially underperforming in deposits and teller volume.

Services, including where appropriate, business hours, are tailored to the convenience and needs of its assessment areas, particularly LMI geographies and/or individuals. Approximately 92 percent of the branches in LMI geographies were opened for Saturday banking compared with 63 percent of the branches in MUI geographies.

Community Development Services

The bank provided a relatively high level of CD services.

During the evaluation period, 239 employees contributed 732 hours in providing 39 community development services primarily targeted to LMI individuals. These community development services benefitted 5,968 LMI individuals and families. In addition, 15 employees served on the boards or committees of 18 non-profit organizations in the AA. Employees primarily provided financial literacy, mentoring, and technical assistance. Examples include:

- 94 employees contributed 173 hours during 11 sessions to teach 1,838 elementary school children from LMI families about the importance of saving money through the Teach Children to Save campaign.
- 25 employees contributed 95 hours toward providing 16 homebuyer education workshops or seminars that benefitted 486 LMI individuals.
- Eight employees contributed 264 hours to mentor eight junior and high school LMI students in schools located in the AA.

State Rating

State of Nevada

CRA rating for the State of Nevada: Outstanding
The Lending Test is rated: Outstanding
The Investment Test is rated: Outstanding
The Service Test is rated: Outstanding

The major factors that support this rating include:

- Lending levels reflect excellent responsiveness to AA credit needs.
- Excellent geographic distribution of loans.
- Excellent borrower distribution of loans.
- The bank is a leader in making CD loans.
- Excellent level of CD investments.
- Retail delivery systems are readily accessible to all portions of the AA and the bank provides an adequate level of CD services.

Description of Institution's Operations in Nevada

CBNA has delineated one AA within the state of Nevada consisting of the Las Vegas-Henderson-Paradise MSA in its entirety (Las Vegas MSA). CBNA had $1.3 billion in deposits and ranked 12th with 0.5 percent market share. The deposits represent 0.6 percent of the bank's adjusted deposits. The top three banks were Charles Schwab Bank (70 percent), Wells Fargo Bank (6.7 percent), and Bank of America (5.7 percent). Both Bank of America and Wells Fargo have substantially larger branch networks. CBNA operated nine branches and 24 ATMs within the AA representing 1.3 percent of total branches and 1 percent of the bank's ATMs.

Table A – Demographic Information of the Assessment Area Assessment Area: Las Vegas MSA						
Demographic Characteristics	**#**	**Low % of #**	**Moderate % of #**	**Middle % of #**	**Upper % of #**	**NA* % of #**
Geographies (Census Tracts)	487	5.7	26.3	37.2	30.6	0.2
Population by Geography	2,035,572	5.0	25.3	39.2	30.3	0.2
Housing Units by Geography	857,131	5.6	24.9	38.7	30.6	0.2
Owner-Occupied Units by Geography	380,425	1.9	16.9	41.7	39.5	0.0
Occupied Rental Units by Geography	344,021	8.7	33.0	36.9	21.1	0.2
Vacant Units by Geography	132,685	8.1	27.0	34.8	29.5	0.6
Businesses by Geography	129,471	3.6	21.3	38.2	36.2	0.6
Farms by Geography	1,830	2.3	19.9	41.3	36.4	0.1
Family Distribution by Income Level	465,442	20.7	18.4	20.5	40.5	0.0
Household Distribution by Income Level	724,446	22.6	17.0	18.8	41.6	0.0
Median Family Income MSA - 29820 Las Vegas-Henderson-Paradise, NV MSA		$59,993	Median Housing Value			$169,213
			Families Below Poverty Level			11.9%
			Median Gross Rent			$1,032

Source: 2015 ACS and 2019 D&B Data
Due to rounding, totals may not equal 100.0%
(*) The NA category consists of geographies that have not been assigned an income classification.

According to Moody's Analytics November 2019, the Las Vegas MSA was maintaining its job growth level over the U.S. average, but job growth has dipped below the West Region's (West) average. However, unlike many metro areas in the West, a near-comprehensive count of payrolls suggests that the Las Vegas MSA has fared better in 2019 than sample data indicates. The leisure/hospitality industry added positions at a solid pace, while other private services lagged. Job growth in professional/business services cooled after a strong run in 2018, while healthcare hiring was at its slowest rate in a decade. Construction continued to outperform. The jobless rate has held steady at 4.3 percent even as the labor force climbs. A tighter labor market pushed up average hourly earnings, but home prices barely moved. A rebound in residential building helped to mitigate supply constraints and tempered price pressures.

Tourism is a key driver of the local economy, but slower growth in national consumer spending next year will cause net hiring in leisure/hospitality to decelerate. Still, healthy tourism indicators coupled with new projects on the Las Vegas Strip will send job growth above the U.S. and West averages by mid-2020.

Healthcare's southern Nevada footprint will expand even as job growth returns to a more sustainable pace. New hospital expansions are being considered to meet growing demand as more baby boomers reach retirement age. Robust population growth, especially among those age 65 and older, will preserve above-average job gains.

After rising at one of the fastest paces among metro areas last year, home price appreciation recently dipped below the U.S. average. Inventory has improved, but a four-month supply of homes for sale is still well below the six-month supply in a balanced market. Many potential homebuyers were priced out

of the market last year as house prices rose twice as fast as incomes. An increase in construction of more affordable homes and multifamily units will support home sales over the near term. As housing starts trend higher, house price appreciation will continue to decelerate through 2022.

Community Contacts

To understand the credit and community development needs in the area, two community based organizations including a social services agency and a non-profit housing counselor/affordable housing developer were contacted by another bank regulatory agency. CD needs identified within the AA include affordable housing, loan programs with closing costs assistance, and primary and behavioral health care in underserved communities.

Scope of Evaluation in Nevada

The Las Vegas AA received a full-scope review.

CONCLUSIONS WITH RESPECT TO PERFORMANCE TESTS IN NEVADA

LENDING TEST

The bank's performance under the Lending Test in Nevada is rated Outstanding.

Conclusions for Area Receiving a Full-Scope Review

Based on a full-scope review, the bank's performance in the Las Vegas AA is excellent.

Lending Activity

Lending levels reflect excellent responsiveness to AA credit needs considering the number and dollar amount of home mortgage, small business, and CD lending activities relative to the bank's capacity based on deposits, competition, and market presence.

Number of Loans				
Assessment Area	Home Mortgage	Small Business	Community Development	Total
Las Vegas MSA	14,280	9,624	25	23,929
BRSA-Nevada	0	0	17	17
Total	14,280	9,624	42	23,946

Dollar Volume of Loans (000s)				
Assessment Area	Home Mortgage	Small Business	Community Development	Total
Las Vegas MSA	4,123,757	57,852	250,270	4,431,879
BRSA-Nevada	0	0	291,501	291,501
Total	4,123,757	57,852	541,771	4,723,380

CBNA ranked 12th in deposits within the AA with 0.5 percent market share. In small loans to businesses, CBNA ranked sixth with a 5.7 percent market share placing it in the top 4 percent of lenders. This is a very competitive market with 161 small business lenders. The other top lenders were American Express

(23.4 percent), JPMorgan Chase (18.4 percent), and Bank of America (13.7 percent). In overall HMDA lending, CBNA ranked 76th with 0.3 percent market share. This is a very competitive market with 560 home mortgage lenders compared to 46 depository institutions. The top HMDA lenders were Wells Fargo (6.9 percent), Quicken Loans (6.1 percent), and US Bank (4.5 percent)

Distribution of Loans by Income Level of the Geography

The bank exhibits an excellent geographic distribution of loans in its AA.

Home Mortgage Loans

Refer to Table O in the state of Nevada section of appendix D for the facts and data used to evaluate the geographic distribution of the bank's home mortgage loan originations and purchases.

The geographic distribution of home mortgages was excellent. The proportion of loans in LMI geographies exceeded the proportion of owner-occupied housing in those geographies and the aggregate distribution of loans. The low percentage of owner-occupied housing in low-income geographies and competition among lenders was considered in the evaluation.

Small Loans to Businesses

Refer to Table Q in the state of Nevada section of appendix D for the facts and data used to evaluate the geographic distribution of the bank's originations and purchases of small loans to businesses.

The geographic distribution of small loans to businesses was excellent. The proportion of loans in LMI geographies was near to the proportion of businesses in those geographies and exceeded the aggregate distribution of loans.

Lending Gap Analysis

Examiners reviewed summary reports and maps and analyzed home mortgage and small business lending activity to identify any gaps in the geographic distribution of loans in all full-scope AAs. Examiners did not identify any unexplained conspicuous gaps in any of the areas they reviewed.

Distribution of Loans by Income Level of the Borrower

The bank exhibits an excellent distribution of loans among individuals of different income levels and businesses of different sizes.

Home Mortgage Loans

Refer to Table P in the state of Nevada section of appendix D for the facts and data used to evaluate the borrower distribution of the bank's home mortgage loan originations and purchases.

The borrower distribution of home mortgage loans is excellent. The proportion of loans to low-income borrowers was weaker than the proportion of low-income families and significantly exceeded the aggregate distribution of loans. The proportion of loans to moderate-income borrowers exceeded the proportion of moderate-income families and the aggregate distribution of loans.

Small Loans to Businesses

Refer to Table R in the state of Nevada section of appendix D for the facts and data used to evaluate the borrower distribution of the bank's origination and purchase of small loans to businesses.

The borrower distribution of small loans to businesses was excellent. The proportion of loans to small businesses was near to the proportion of small businesses and significantly exceeded the aggregate distribution of loans.

Community Development Lending

The bank is a leader in making CD loans.

CD lending had a significant impact on the overall Lending Test conclusion for the rating area.

The Lending Activity Tables, shown above, set forth the information and data used to evaluate the bank's level of CD lending. These tables include all CD loans, including multifamily loans that also qualify as CD loans. The dollar volume equaled 159.1 percent of allocated tier 1 capital.

The bank took a leadership role in originating CD loans that were responsive to the identified needs of the Las Vegas MSA and were also complex and/or flexible. Examples include:

- $26 million construction loan and a $3.5 million catalyst loan for 176 units of affordable housing in Clark County, NV that was awarded LIHTCs. Of the 176 units, 152 units are restricted to households with income levels at or below 60 percent of the AMI.

- $13 million construction loan for 120 units of affordable housing in Clark County, NV that was awarded LIHTCs and is covered by a Section 8 HAP contract. All units are restricted to persons aged 55 or older with income levels at or below 60 percent of the AMI.

Product Innovation and Flexibility

The bank uses innovative and/or flexible lending practices to serve AA credit needs. CBNA originated 372 loans totaling $73 million under its affordable mortgage products. The Lender Paid Assistance and NACA programs accounted for the large majority (82.3 percent) of the affordable mortgage products originated in the AA during the evaluation period.

INVESTMENT TEST

The bank's performance under the Investment Test in Nevada is rated Outstanding.

Conclusions for Area Receiving a Full-Scope Review

Based on a full-scope review, the bank's performance in the Las Vegas MSA is excellent.

The bank has an excellent level of qualified CD investment and grants, often in a leadership position, particularly those that are not routinely provided by private investors.

The bank exhibits excellent responsiveness to credit and community economic development needs. The bank makes extensive use of innovative and/or complex investments to support CD initiatives.

Qualified Investments										
Assessment Area	Prior Period*		Current Period		Total				Unfunded Commitments**	
	#	$(000's)	#	$(000's)	#	% of Total #	$(000's)	% of Total $	#	$(000's)
Las Vegas AA	6	$27,336	7	$10,423	13	92.9	$37,759	78.3	0	0
BSRA Nevada	0	$0	1	$10,454	1	7.1	$10,454	21.7	0	0

* Prior Period Investments means investments made in a previous evaluation period that are outstanding as of the examination date.
** Unfunded Commitments means legally binding investment commitments that are tracked and recorded by the institution's financial reporting system.

The combined prior and current period dollar volume represents 24 percent of allocated tier 1 capital. There are numerous investment opportunities in the Las Vegas MSA. The bank's investments and grants were very effective and responsive in meeting community credit needs, including access to community services. Investment activity included NMTCs, bonds, and grants and donations. In addition to investments made in its AA, the bank also made one current period investment totaling $10.5 million in the BSRA consisting of the state of Nevada. This investment addressed the need of affordable housing.

Examples of the bank's qualified investments include:

- $5 million investment in a NMTC fund to finance the construction of a newly established college preparatory institution to educate underserved at-risk youth in Clark County. The institution will serve over 400 high school students.

- $5 million general obligation building bond for Clark County. The proceeds will be used to finance the acquisition, construction, improvement, and equipment of school facilities. Sixty four percent of students in the school district qualify for free or reduced lunch under the National School Lunch Program.

- $150,000 donation to help establish a financial wellness center. The center serves vulnerable families with one or more risk factors including housing instability, underemployment or unemployment, and issues negatively impacting work performance. Counselors at the center work with participants to identify barriers to financial stability, develop action plans for increased financial health, and connect with community resources to achieve financial goals.

- $50,000 donation to a local non-profit organization to help launch a pilot program to assist low-income residents at risk of eviction. Under the program, the residents receive personal financial assessments and one-on-one financial coaching and counseling to build financial stability and self-sufficiency.

SERVICE TEST

The bank's performance under the Service Test in Nevada is rated Outstanding.

Conclusions for Area Receiving a Full-Scope Review

Based on a full-scope review, the bank's performance in the Las Vegas MSA is excellent.

Retail Banking Services

Service delivery systems are readily accessible to geographies and individuals of different income levels in the institution's AA.

Distribution of Branch Delivery System											
Assessment Area	Deposits	Branches						Population			
	% of Rated Area Deposits in AA	# of BANK Branches	% of Rated Area Branches in AA	Location of Branches by Income of Geographies (%)				% of Population within Each Geography			
				Low	Mod	Mid	Upp	Low	Mod	Mid	Upp
Las Vegas MSA	100.0	9	100.0	11.1	22.2	44.4	22.2	5.0	25.3	39.2	30.3

The overall distribution of branches is excellent. The distribution is excellent in low-income geographies and good in moderate-income geographies. The proportion of branches in low-income geographies exceeded the proportion of the population in low-income geographies. The proportion of branches in moderate-income geographies was near to the proportion of the population in moderate-income geographies. Examiners determined that two branches in MUI geographies provided additional access to retail banking services in moderate-income geographies, which had a positive effect on the overall service delivery systems conclusion.

The bank had 24 ATMs with two (8.3 percent) located in low-income geographies and four (16.7 percent) located in moderate-income geographies. In addition to bank-owned ATMs, customers can make cash withdrawals and balance inquiries at more than 450 ATMs without fees or surcharges. Digital banking platform usage by LMI households and customers in LMI geographies were comparable to usage by MUI households and customers in MUI geographies. Based on customer usage data for ATMs and other digital banking platforms during the evaluation period, ADS had a positive effect on the overall service delivery systems conclusion.

The bank did not open or close branches in the AA during the evaluation period.

Services, including where appropriate, business hours, do not vary in a way that inconveniences its assessment areas, particularly LMI geographies and/or individuals. Branch operating hours were consistent throughout the AA. In LMI geographies, all branches were opened on Saturdays while all except one branch in MUI geographies were opened on Saturday.

Community Development Services

The bank provides an adequate level of CD services.

- Twenty seven CBNA employees contributed 21 hours in providing three financial education sessions primarily targeted to LMI individuals. These community development services benefitted 359 LMI individuals.

State Rating

Commonwealth of Puerto Rico Rating

CRA rating for the Commonwealth of Puerto Rico: Satisfactory
The Lending Test is rated: High Satisfactory
The Investment Test is rated: Outstanding
The Service Test is rated: High Satisfactory

The major factors that support this rating include:

- Lending levels reflect excellent responsiveness to AA credit needs.
- Adequate geographic distribution of loans.
- Excellent borrower distribution of loans.
- The bank is a leader in making CD loans.
- Excellent level of CD investments.
- The bank provided a relatively high level of CD services.

Description of Institution's Operations in Puerto Rico

CBNA has delineated one AA within Puerto Rico consisting of the San Juan-Bayamon-Caguas MSA (San Juan MSA) in its entirety. The bank operated one branch in the MSA. CBNA had $21.3 billion of deposits in Puerto Rico with $17.6 billion of these deposits being International Banking Entity (IBE) deposits. IBE deposits can only come from nonresidents of Puerto Rico and whose primary location is located outside of the commonwealth. Adjusting deposits for IBE results in AA deposits of $3.7 billion representing 1.7 percent of adjusted deposits. CBNA ranked second in market share for deposits at 28.6 percent, when including IBE deposits. Primary competitors are Banco Popular de Puerto Rico (45.5 percent) and FirstBank (8.6 percent).

Table A – Demographic Information of the Assessment Area Assessment Area: San Juan MSA						
Demographic Characteristics	**#**	**Low % of #**	**Moderate % of #**	**Middle % of #**	**Upper % of #**	**NA* % of #**
Geographies (Census Tracts)	598	5.0	26.8	36.0	25.8	6.5
Population by Geography	2,263,582	3.8	26.5	40.4	29.0	0.2
Housing Units by Geography	983,154	3.9	26.3	39.3	30.0	0.4
Owner-Occupied Units by Geography	548,972	1.8	24.4	41.2	32.6	0.1
Occupied Rental Units by Geography	245,270	8.8	28.6	37.2	24.8	0.6
Vacant Units by Geography	188,912	3.9	28.8	36.9	29.5	1.0
Businesses by Geography	14,937	5.5	22.8	24.9	44.3	2.5
Farms by Geography	179	5.0	32.4	34.1	28.5	0.0
Family Distribution by Income Level	558,600	26.5	15.0	15.7	42.8	0.0
Household Distribution by Income Level	794,242	28.0	13.9	14.6	43.5	0.0
Median Family Income MSA - 41980 San Juan-Bayamon-Caguas, PR MSA		$25,617	Median Housing Value			$140,983
			Median Gross Rent			$499
			Families Below Poverty Level			37.8%

Source: 2015 ACS and 2019 D&B Data
Due to rounding, totals may not equal 100.0%
(*) The NA category consists of geographies that have not been assigned an income classification.

According to Moody's Analytics September 2019, job growth in Puerto Rico has slowed to very low levels. Goods producers and professional services, which led the recovery from Hurricane Maria early on, have not added to payrolls. Retail is declining, but a second wind in healthcare and leisure/hospitality has compensated for retail's weakness. Average hourly earnings are rising faster than on the rest of the island.

Stimulus from disaster relief will cool this year but will pick up thereafter. Until now, disaster relief has largely taken the form of debris removal, private insurance payments, and Federal Emergency Management Agency (FEMA) Individual Assistance to those with uncovered losses. Nearly 70 percent of federal funds obligated to the MSA for debris removal has been disbursed. This has been good or logistics, which seems to be one of the few industries still benefiting from disaster relief this year.

Funding for debris removal will wind down, as will private insurance payouts and FEMA Individual Assistance. The Individual Assistance program has approved $420 per capita in the MSA, the highest among Puerto Rico's three largest metro areas. Waning stimulus from private insurers and Individual Assistance has likely contributed to the cooldown in construction and private services hiring. Fortunately, this will be temporary. About $1.5 billion in Community Development Block Grants will land in Puerto Rico, which will lead to a flurry of housing repairs and homebuilding. Further, only a quarter of FEMA Public Assistance funds, obligated to San Juan for the reconstruction of roads and bridges, as well as buildings and equipment, has been disbursed; the rest will come on-line over the medium term. The combination of these block grants and FEMA Public Assistance program outlays will ramp up into 2023 and is expected to deliver another boost to construction and certain private services.

Uncertainty over the creditability of the Act 154 foreign corporation excise tax will negatively impact the area the most. The metro area has the island's largest concentration of life sciences corporations, many of which have been claiming tax credits against Act 154 since 2011. An exodus of U.S.-based corporations is unlikely since they have incurred sunk costs in the MSA. However, it caps the upside potential to future big-ticket corporate investments in the area.

Community Contacts

OCC and NY Federal Reserve Bank representatives met with several community organizations during the evaluation period. Following Hurricanes Maria and Irma in 2017, the island was severely impacted. Many residents were displaced, and services disrupted. There is a severe shortage of affordable housing, a need for disaster relief, and a need for job creation and economic revitalization.

Scope of Evaluation in Puerto Rico

The San Juan AA received a full-scope review. CBNA does not offer retail services within Puerto Rico. The branch operated like a wholesale bank and management focused its efforts on CD lending, investments, and services. The volume of home mortgages was all buybacks/repurchases from government sponsored mortgage enterprises (GSE). These are HMDA reportable and were not considered in our evaluation of the Lending Test. Lending performance included small loans to businesses and CD lending.

CONCLUSIONS WITH RESPECT TO PERFORMANCE TESTS IN PUERTO RICO

LENDING TEST

The bank's performance under the Lending Test in Puerto Rico is rated High Satisfactory.

Conclusions for Area Receiving a Full-Scope Review

Based on a full-scope review, the bank's performance in the San Juan AA is good.

Lending Activity

Lending levels reflect excellent responsiveness to AA credit needs.

Number of Loans				
Assessment Area	Home Mortgage	Small Business	Community Development	Total
San Juan MSA	85	3,275	5	3,365

Dollar Volume of Loans				
Assessment Area	Home Mortgage	Small Business	Community Development	Total
San Juan MSA	8,179	14,704	63,026	85,909

The FDIC deposit market share of 28.6 percent in the San Juan MSA is inflated for CBNA due to the IBE deposits housed in Puerto Rico. CBNA ranked third among 38 small business lenders with 11.2 percent market share. Banco Popular led the market with 46.8 percent followed by American Express with 20.5 percent. For CBNA, the average loan size was $4,000 compared to $83,000 for Banco Popular and $14,000 for American Express.

Distribution of Loans by Income Level of the Geography

The bank exhibits an adequate geographic distribution of loans in its AA.

Home Mortgage Loans

The home mortgage loans reported during the evaluation period consisted entirely of buybacks/ repurchases from GSEs, are reportable under HMDA, and were not evaluated under the Lending Test. Table O presented in Appendix D is for informational purposes only.

Small Loans to Businesses

Refer to Table Q in the commonwealth of Puerto Rico section of appendix D for the facts and data used to evaluate the geographic distribution of the bank's originations and purchases of small loans to businesses.

The geographic distribution of small loans to businesses is adequate. The proportion of loans in low-income geographies was significantly weaker than the proportion of businesses located in those geographies and below the aggregate distribution of loans. The portion of loans in moderate-income geographies was near to the percentage of businesses located in those geographies and exceeded the aggregate distribution of loans. Economic conditions resulting from the impact of two natural disasters (hurricanes) were considered in the evaluation.

Lending Gap Analysis

Examiners reviewed summary reports and maps and analyzed home mortgage and small business lending activity to identify any gaps in the geographic distribution of loans in all full-scope AAs. Examiners did not identify any unexplained conspicuous gaps in any of the areas they reviewed.

Distribution of Loans by Income Level of the Borrower

The bank exhibits an excellent distribution of loans among businesses of different sizes.

Home Mortgage Loans

As noted earlier, the home mortgage loans reported during the evaluation period consisted entirely of buybacks/repurchases from GSEs, are reportable under HMDA, and were not evaluated under the Lending Test. The tables presented in appendix D are for informational purpose.

Small Loans to Businesses

Refer to Table R in the commonwealth of Puerto Rico section of appendix D for the facts and data used to evaluate the borrower distribution of the bank's origination and purchase of small loans to businesses.

The borrower distribution of small loans to businesses was excellent. The proportion of loans to small businesses exceeded the percentage of small businesses and the aggregate distribution of loans.

Community Development Lending

The bank is a leader in making CD loans.

CD lending had a significantly positive impact on the overall Lending Test in Puerto Rico

The Lending Activity Tables, shown above, set forth the information and data used to evaluate the bank's level of CD lending. These tables include all CD loans, including multifamily loans that also qualify as CD loans. The dollar volume equaled 14 percent of allocated tier 1 capital.

The bank took a leadership role in originating CD loans that were responsive to the identified needs of the San Juan MSA and were also complex and/or flexible. One example includes:

- $45.9 million construction loan for the development of 200 units of affordable housing in Caguas Municipio, PR that was awarded LIHTCs and is covered by a Section 8 HAP contract. All units are restricted to seniors with income levels at or below 60 percent of the AMI.

INVESTMENT TEST

The bank's performance under the Investment Test in Puerto Rico is rated Outstanding.

Conclusions for Area Receiving a Full-Scope Review

Based on a full-scope review, the bank's performance in the San Juan AA is excellent.

The bank has an excellent level of qualified CD investments and grants, often in a leadership position, particularly those that are not routinely provided by private investors.

The bank exhibits excellent responsiveness to credit and community economic development needs. The bank makes extensive use of innovative and/or complex investments to support CD initiatives.

Qualified Investments										
Assessment Area	Prior Period*		Current Period		Total				Unfunded Commitments**	
	#	$(000's)	#	$(000's)	#	% of Total #	$(000's)	% of Total $	#	$(000's)
San Juan AA	6	$65,690	6	$653	12	85.7	$66,343	99.5	0	0
BSRA- Puerto Rico	0	$0	2	$300	2	14.3	$300	0.5	0	0

* Prior Period Investments means investments made in a previous evaluation period that are outstanding as of the examination date.
** Unfunded Commitments means legally binding investment commitments that are tracked and recorded by the institution's financial reporting system.

The combined prior and current period dollar volume represents 14.7 percent of allocated tier 1 capital. The bank's investments and grants were effective and responsive in meeting community credit needs, including affordable housing and community revitalization and stabilization. While current period investment activity consists of donations, it is noted that the substantial majority of the bank's prior

period investment activity occurred in late 2016 and consisted of complex investments that still have a very significant impact in the AA. In addition to investments made in the AA, the bank made two current period investments totaling $300,000 in the BSRA consisting of the commonwealth of Puerto Rico which addressed hurricane disaster relief.

Examples of the institution's qualified investments include:

- $150,000 donation to an area foundation to assist three HUD-approved housing counseling organizations serving LMI residents of Puerto Rico. The organizations provided homeownership, rental, and financial capability counseling along with foreclosure prevention classes.

- $252,500 donation to a community land trust. The land trust provides for permanent and secure housing for LMI residents living in informal settlements in San Juan, secures land tenure for eligible LMI families, and supported the establishment of a strategy to effectively manage these properties.

SERVICE TEST

The bank's performance under the Service Test in Puerto Rico is rated High Satisfactory

Conclusions for Area Receiving a Full-Scope Review

Based on a full-scope review, the bank's performance in the San Juan MSA is good.

Retail Banking Services

The branch does not provide retail banking services and operates more like a wholesale banking office. Examiners gave primary consideration to the bank's CD services because the bank's business model is consistent with the provision of CD services.

Community Development Services

The bank provided a relatively high level of CD services, given performance context consideration.

During the evaluation period, 15 employees contributed 22 hours in providing three community development services primarily targeted to LMI individuals. These community development services benefitted 213 LMI individuals. The employees taught the children about the importance of saving money through the Teach Children to Save campaign. Additionally, one employee served on the board of a non-profit organization that provides community services within a public housing project in the AA.

State Rating

State of South Dakota

CRA rating for the State of South Dakota: Outstanding

The Lending Test is rated: Outstanding
The Investment Test is rated: Outstanding
The Service Test is rated: High Satisfactory

The major factors that support this rating include:

- Lending levels reflect excellent responsiveness to AA credit needs.
- Excellent geographic distribution of loans.
- Good borrower distribution of loans.
- The bank is a leader in making CD loans.
- Excellent level of CD investments.
- Retail delivery systems are reasonably accessible to all portions of the AA and the bank is a leader in providing CD services.

Description of Institution's Operations in South Dakota

CBNA has delineated one AA within the state of South Dakota consisting of the Sioux Falls MSA in its entirety. Sioux Falls is also the location of the bank's main office. Nearly all the deposits are non-branch/"main office" deposits. Main office deposits do not reflect traditional retail customer relationships, rather they are wholesale funds. The main office deposits do not reflect where any of CBNA's customers are located, where they work, or where they conduct business. The adjusted deposits of the Sioux Falls AA are $18 million. Wells Fargo, whose main office is also located in Sioux Falls, had a market share of 53 percent, and operated 13 branches. Other banks within the state were MetaBank and First Premier. CBNA operates one branch within the AA.

Table A – Demographic Information of the Assessment Area Assessment Area: Sioux Falls MSA						
Demographic Characteristics	**#**	**Low % of #**	**Moderate % of #**	**Middle % of #**	**Upper % of #**	**NA* % of #**
Geographies (Census Tracts)	57	0.0	29.8	49.1	21.1	0.0
Population by Geography	242,731	0.0	27.8	50.7	21.5	0.0
Housing Units by Geography	100,015	0.0	30.6	48.9	20.5	0.0
Owner-Occupied Units by Geography	63,268	0.0	20.0	55.3	24.8	0.0
Occupied Rental Units by Geography	30,682	0.0	51.0	36.5	12.5	0.0
Vacant Units by Geography	6,065	0.0	38.6	45.7	15.7	0.0
Businesses by Geography	23,421	0.0	35.0	39.8	25.2	0.0
Farms by Geography	1,405	0.0	7.1	72.1	20.8	0.0
Family Distribution by Income Level	61,621	19.0	18.1	24.4	38.5	0.0
Household Distribution by Income Level	93,950	22.0	18.1	18.9	41.0	0.0
Median Family Income MSA - 43620 Sioux Falls, SD MSA		$72,948	Median Housing Value			$157,049
			Families Below Poverty Level			7.1%
			Median Gross Rent			$720

Source: 2015 ACS and 2019 D&B Data
Due to rounding, totals may not equal 100.0%
(*) The NA category consists of geographies that have not been assigned an income classification.

According to Moody's Analytics October 2019, Sioux Falls job growth is outpacing that of both the state and the nation, driven by rapid hiring in healthcare. Gains are broad-based, with most industries adding to headcounts. The impressive pace of hiring has allowed the labor market to absorb numerous new entrants, keeping the unemployment rate low at 2.6 percent. Low unemployment is in turn spurring above-average wage growth. Major employers in the area include Sanford Health, Avera Health, Smithfield Foods (formerly John Morrell & Co.), Hy-Vee Inc., and Wells Fargo. Population additions and a healthy labor market have pushed up housing demand, and prices are rising faster than they are nationally.

Healthy demographics will be the key factor extending the MSA's expansion. Population growth in 2018 ranked in the top 30 of metro areas nationally, and labor force gains over the last year up to October 2019 have been faster than in all but six metro areas. Rapid population growth will also provide a strong source of healthcare demand. Healthcare is closely linked to population. The proportion of residents age 65 and older, the largest users of healthcare, is lower than it is nationally but is growing more quickly. Due to a low state and local tax burden, seniors can stretch their fixed incomes further, providing an incentive to relocate to the Sioux Falls MSA. This will allow rapid gains in the 65-plus cohort to continue. Healthcare is already the top-performing industry in the MSA, with net hiring over the last year faster than in any other Midwest metro area.

Contractors will benefit from both the growing population and the expansion in healthcare. Hospitals will provide a significant source of demand for construction companies into next year. On the residential side, population growth will continue to push up housing demand. As of October 2019, housing permit issuance has been subdued. However, the residential vacancy rate remains about 2 percentage points lower than the national average. New-home construction will have to pick up to keep the housing market

adequately supplied. Home price appreciation is rapid, which will encourage builders to enter the market. Growing demand combined with the currently constrained supply will allow homebuilders to keep pace with nonresidential construction.

Community Contacts

To understand the credit and community development needs in the area, two community-based organization were contacted by another bank regulatory agency. The organizations included a local economic development agency and the local farm service agency. The representatives stated the need for affordable housing, credit and resources for small businesses, financial education, and job creation for LMI individuals.

Scope of Evaluation in South Dakota

The Sioux Falls MSA received a full-scope review. There are no low-income geographies in the AA. Conclusions for the geographic distribution of loans was based on performance in the moderate-income geographies.

CONCLUSIONS WITH RESPECT TO PERFORMANCE TESTS IN SOUTH DAKOTA

LENDING TEST

The bank's performance under the Lending Test in South Dakota is rated Outstanding.

Conclusions for Area Receiving a Full-Scope Review

Based on a full-scope review, the bank's performance in the Sioux Falls MSA is excellent.

Lending Activity

Lending levels reflect excellent responsiveness to AA credit needs.

Number of Loans				
Assessment Area	Home Mortgage	Small Business	Community Development	Total
Sioux Falls	140	678	2	820
BRSA-State of South Dakota	0	0	1	1

Dollar Volume of Loans (000s)				
Assessment Area	Home Mortgage	Small Business	Community Development	Total
Sioux Falls	28,050	4,200	11,529	43,779
BRSA-South Dakota	0	0	1,035	1,035

The FDIC deposit market share in the Sioux Falls MSA is inflated for CBNA due to the "main office" deposits housed in the one branch. In small loans to businesses, CBNA ranked tenth with 3.4 percent market share. There is strong competition in the area with 73 lenders compared to 41 depository

institutions. The top lenders in the market were The First National Bank in Sioux Falls (13.1 percent), JPMorgan Chase (11.9 percent), and American Express (9 percent). In overall HMDA lending, CBNA ranked 53rd with 0.17 percent market share. The AA is a highly competitive market with 212 home lenders. The top lenders in the market were Plains Commerce Bank (12.3 percent), Wells Fargo Bank (8 percent), and Citizens Bank (7 percent).

Distribution of Loans by Income Level of the Geography

The bank exhibits an excellent geographic distribution of loans in its AA.

Home Mortgage Loans

Refer to Table O in the state of South Dakota section of appendix D for the facts and data used to evaluate the geographic distribution of the bank's home mortgage loan originations and purchases.

The geographic distribution of home mortgage loans was excellent. The proportion of loans in moderate-income geographies significantly exceeded the proportion of owner-occupied housing in the AA and the aggregate distribution of loans.

Small Loans to Businesses

Refer to Table Q in the state of South Dakota section of appendix D for the facts and data used to evaluate the geographic distribution of the bank's originations and purchases of small loans to businesses.

The geographic distribution of small loans to businesses was excellent. The proportion of small loans to businesses in moderate-income geographies was comparable to the percentage of businesses located in those geographies and the aggregate distribution of loans.

Lending Gap Analysis

Examiners reviewed summary reports and maps and analyzed home mortgage and small business lending activity to identify any gaps in the geographic distribution of loans in all full-scope AAs. Examiners did not identify any unexplained conspicuous gaps in any of the areas they reviewed.

Distribution of Loans by Income Level of the Borrower

The bank exhibits a good distribution of loans among individuals of different income levels and businesses of different sizes.

Home Mortgage Loans

Refer to Table P in the state of South Dakota section of appendix D for the facts and data used to evaluate the borrower distribution of the bank's home mortgage loan originations and purchases.

The borrower distribution of home mortgage loans was excellent. The proportion of loans to LMI borrowers exceeded the proportion of LMI families within the AA and significantly exceeded the aggregate distribution of loans.

Small Loans to Businesses

Refer to Table R in the state of South Dakota section of appendix D for the facts and data used to evaluate the borrower distribution of the bank's origination and purchase of small loans to businesses.

The borrower distribution of small loans to businesses was good. The proportion of loans to small businesses was near to the percentage of small businesses and significantly exceeded the aggregate distribution of loans.

Community Development Lending

The bank is a leader in making CD loans.

CD lending had a significantly positive impact on the overall Lending Test rating in South Dakota.

The Lending Activity Tables, shown above, set forth the information and data used to evaluate the bank's level of CD lending. These tables include all CD loans, including multifamily loans that also qualify as CD loans.

The bank took a leadership role in originating CD loans that were responsive to the identified needs of the Sioux Falls MSA and were also complex and flexible. One example includes:

- $9.7 million to finance the renovation of 144-units of multifamily affordable housing consisting of two apartment complexes Minnehaha County, SD that was awarded LIHTC and is covered by a Section 8 HAP contract. All units are restricted to households with income levels at or below 60 percent of the AMI.

Product Innovation and Flexibility

The bank makes extensive use of innovative and/or flexible lending practices to serve AA credit needs. CBNA originated 11 loans totaling $1.5 million under its affordable mortgage products programs. The large majority (81.8 percent) were through the Lender Paid Assistance program.

INVESTMENT TEST

The bank's performance under the Investment Test in South Dakota is rated Outstanding.

Conclusions for Area Receiving a Full-Scope Review

Based on a full-scope review, the bank's performance in the Sioux Falls AA is excellent.

The bank has an excellent level of qualified CD investments and grants, occasionally in a leadership position, particularly those that are not routinely provided by private investors.

The bank exhibits excellent responsiveness to credit and community economic development needs. The bank occasionally uses innovative and/or complex investments to support CD initiatives.

Qualified Investments										
Assessment Area	Prior Period*		Current Period		Total				Unfunded Commitments**	
	#	$(000's)	#	$(000's)	#	% of Total #	$(000's)	% of Total $	#	$(000's)
Full Review:										
Sioux Falls AA	2	$7,428	11	$1,157	13	72.2	$8,585	97.0	0	0
BSRA South Dakota	0	$0	5	$265	5	27.8	$265	3.00	0	0

* Prior Period Investments' means investments made in a previous evaluation period that are outstanding as of the examination date.
** Unfunded Commitments' means legally binding investment commitments that are tracked and recorded by the bank's financial reporting system.

In addition to investments made in its assessment areas, the bank also made five donations totaling $265,000 in the broader statewide and regional area consisting of the state of South Dakota.

The combined prior and current period dollar volume represents more than four times the allocated tier 1 capital. The bank's investments targeted affordable housing and community services. Investment activity consists of an affordable housing bond and grants and donations.

In addition to the investments made in the bank's AA, five additional donations were made in the BSRA in the state of South Dakota that targeted community services among tribal communities.

Examples of the bank's qualified investments include:

- $450,000 donation to support a workforce development and education program that connected over 250 unskilled and unemployed youth in the Sioux Falls MSA.

- $65,000 donation to a non-profit affordable housing organization to help them diversify program offerings to serve more LMI families. The organization provides financial education and helps individuals and families prepare for homeownership.

SERVICE TEST

The bank's performance under the Service Test in South Dakota is rated High Satisfactory.

Conclusions for Area Receiving a Full-Scope Review

Based on a full-scope review, the bank's performance in the Sioux Falls MSA is good.

Retail Banking Services

Service delivery systems are accessible to geographies and individuals of different income levels in the bank's AA.

Distribution of Branch Delivery System											
Assessment Area	Deposits	Branches						Population			
	% of Rated Area Deposits in AA	# of BANK Branches	% of Rated Area Branches in AA	Location of Branches by Income of Geographies (%)				% of Population within Each Geography			
				Low	Mod	Mid	Upp	Low	Mod	Mid	Upp
Sioux Falls MSA	100.0	1	100.0	0.0	0.0	0.0	100.0	0.0	27.8	50.7	21.5

The overall distribution of branches is good, considering performance context. Citibank has only one branch in the AA. In September 2019 (last three months of the evaluation period), the bank relocated its corporate office, which included the branch, from a moderate-income geography to a new corporate office campus located in an upper-income geography. There was no option for the branch to remain in its former location. For most of the evaluation period, this branch was accessible to individuals and businesses throughout the AA. After the relocation, the branch was not adjacent to or within walking distance of any moderate-income geographies.

The bank did not open or close any branches in the AA during the evaluation period.

Services, including where appropriate, business hours, do not vary in a way that inconveniences the various portions of its AA, particularly LMI geographies and/or individuals. The branch is only open for weekday banking.

Community Development Services

The bank is a leader in providing CD services.

During the evaluation period, 120 employees contributed 422 hours in providing 20 community development services primarily targeted to LMI individuals. These community development services benefitted 1,393 LMI individuals and families. In addition, seven employees served on the boards or committees of four non-profit organizations in the AA. Employees primarily provided financial literacy, mentoring, and technical assistance. Examples include:

- 90 employees contributed 75 hours to teach 809 elementary school children from LMI families about the importance of saving money through the Teach Children to Save campaign.

- 25 employees contributed 130 hours to provide financial education to 432 students from LMI families. Training was held through 16 sessions at Junior Achievement.

Appendix A: Scope of Examination

The following table identifies the time-period covered in this evaluation, affiliate activities that were reviewed, and loan products considered. The table also reflects the MSAs and non-MSAs that received comprehensive examination review, designated by the term "full-scope," and those that received a less comprehensive review, designated by the term "limited-scope".

Time Period Reviewed:	01/01/2017 to 12/31/2019	
Bank Products Reviewed:	Home mortgage, small business, community development loans, qualified investments, community development services	
Affiliate(s)	**Affiliate Relationship**	**Products Reviewed**
Citi Mortgage, Inc. Citicorp USA, Inc. (CUSA)	Subsidiary Subsidiary	Home Mortgage Loans CD Loans and Investments
List of Assessment Areas and Type of Examination		
Rating and Assessment Areas	**Type of Exam**	**Other Information**
MMSAs		
NY CSA	Full-scope	NJ: Bergen, Hudson, Passaic Counties NY: Bronx, Kings, Nassau, New York, Queens, Richmond, Rockland, Suffolk, and Westchester Counties CT: Fairfield County
DC-MD-VA MMSA	Full-scope	DC: DC in its entirety MD: Montgomery and Prince George's Counties VA: Arlington and Fairfax Counties, Alexandria City, Fairfax City, and Falls Church City
States		
California		
Los Angeles CSA	Full-scope	Los Angeles, Orange, Riverside, San Bernardino, and Ventura Counties
San Jose-San Francisco CSA	Full-scope	San Francisco, San Mateo, Alameda, Contra Costa, Marin, Santa Clara, Merced, Stanislaus, Napa, Santa Cruz, Sonoma, and San Joaquin Counties.
Bakersfield MSA	Limited-scope	Kern County
Fresno CSA	Limited-scope	Fresno County
Sacramento MSA	Limited-scope	Sacramento County
San Diego MSA	Limited-scope	San Diego County
Florida		
Miami MSA	Full-Scope	Miami-Dade, Broward, and Palm Beach Counties
Jacksonville AA	Limited-scope	Duvall County only
Illinois		
Chicago MSA	Full-scope	Cook, DuPage, McHenry, Will, Lake, and Kane Counties
Nevada		
Las Vegas MSA	Full-scope	Clark County
Puerto Rico		
San Juan	Full-scope	Aguas Buenas Municipio, Aibonito Municipio, Barceloneta Municipio, Barranquitas Municipio, Bayamón Municipio, Caguas Municipio, Canóvanas Municipio, Carolina Municipio, Cataño Municipio, Cayey Municipio, Ceiba Municipio, Ciales Municipio, Cidra Municipio, Comerío

		Municipio, Corozal Municipio, Dorado Municipio, Fajardo Municipio, Florida Municipio, Guaynabo Municipio, Gurabo Municipio, Humacao Municipio, Juncos Municipio, Las Piedras Municipio, Loíza Municipio, Luquillo Municipio, Manatí Municipio, Maunabo Municipio, Morovis Municipio, Naguabo Municipio, Naranjito Municipio, Orocovis Municipio, Río Grande Municipio, San Juan Municipio, San Lorenzo Municipio, Toa Alta Municipio, Toa Baja Municipio, Trujillo Alto Municipio, Vega Alta Municipio, Vega Baja Municipio, Yabucoa Municipio
South Dakota		
Sioux Falls MSA	Full-scope	Lincoln, McCook, Minnehaha, and Turner Counties

Appendix B: Summary of MMSA and State Ratings

RATINGS CITIBANK, N.A.				
Overall Bank:	Lending Test Rating*	Investment Test Rating	Service Test Rating	Overall Bank/State/ Multistate Rating
Citibank, N.A.	Outstanding	Outstanding	High Satisfactory	Outstanding
MMSA or State:				
NY MMSA	Outstanding	Outstanding	High Satisfactory	Outstanding
DC-MD-VA MSSA	Outstanding	Outstanding	Outstanding	Outstanding
California	Outstanding	Outstanding	Outstanding	Outstanding
Florida	Outstanding	Outstanding	Outstanding	Outstanding
Illinois	Outstanding	Outstanding	High Satisfactory	Outstanding
Nevada	Outstanding	Outstanding	Outstanding	Outstanding
Puerto Rico	High Satisfactory	Outstanding	High Satisfactory	Satisfactory
South Dakota	Outstanding	Outstanding	High Satisfactory	Outstanding

* The Lending Test is weighted more heavily than the Investment and Service Tests in the overall rating.

Appendix C: Definitions and Common Abbreviations

The following terms and abbreviations are used in this performance evaluation, including the CRA tables. The definitions are intended to provide the reader with a general understanding of the terms, not a strict legal definition.

Affiliate: Any company that controls, is controlled by, or is under common control with another company. A company is under common control with another company if the same company directly or indirectly controls both companies. For example, a bank subsidiary is controlled by the bank and is, therefore, an affiliate.

Aggregate Lending (Aggt.): The number of loans originated and purchased by all reporting lenders (HMDA or CRA) in specified income categories as a percentage of the aggregate number of loans originated and purchased by all reporting lenders in the state/assessment area.

Census Tract (CT): A small, relatively permanent statistical subdivision of a county delineated by a local committee of census data users for the purpose of presenting data. Census tracts nest within counties, and their boundaries normally follow visible features, but may follow legal geography boundaries and other non-visible features in some instances, Census tracts ideally contain about 4,000 people and 1,600 housing units.

Combined Statistical Area (CSA): A geographic entity consisting of two or more adjacent Core Based Statistical Areas with employment interchange measures of at least 15. An employment interchange measure is a measure of ties between two adjacent entities. The employment interchange measure is the sum of the percentage of workers living in the smaller entity who work in the larger entity and the percentage of employment in the smaller entity that is accounted for by workers who reside in the larger entity.

Community Development (CD): Affordable housing (including multifamily rental housing) for low- or moderate-income individuals; community services targeted to low- or moderate-income individuals; activities that promote economic development by financing businesses or farms that meet Small Business Administration Development Company or Small Business Investment Company programs size eligibility standards or have gross annual revenues of $1 million or less; or activities that revitalize or stabilize low- or moderate-income geographies, distressed or underserved nonmetropolitan middle-income geographies, or designated disaster areas.

Community Reinvestment Act (CRA): The statute that requires the OCC to evaluate a bank's record of meeting the credit needs of its entire community, including LMI areas, consistent with the safe and sound operation of the bank, and to take this record into account when evaluating certain corporate applications filed by the bank.

Consumer Loan(s): A loan(s) to one or more individuals for household, family, or other personal expenditures. A consumer loan does not include a home mortgage, small business, or small farm loan. This definition includes the following categories: motor vehicle loans, credit card loans, other secured consumer loans, and other unsecured consumer loans.

Family: Includes a householder and one or more other persons living in the same household who are related to the householder by birth, marriage, or adoption. The number of family households always

equals the number of families; however, a family household may also include non-relatives living with the family. Families are classified by type as either a married-couple family or other family, which is further classified into 'male householder' (a family with a male householder' and no wife present) or 'female householder' (a family with a female householder and no husband present).

Full-Scope Review: Performance under the Lending, Investment, and Service Tests is analyzed considering performance context, quantitative factors (e.g., geographic distribution, borrower distribution, and total number and dollar amount of investments), and qualitative factors (e.g., innovativeness, complexity, and responsiveness).

Geography: A census tract delineated by the United States Bureau of the Census in the most recent decennial census.

Home Mortgage Disclosure Act (HMDA): The statute that requires certain mortgage lenders that conduct business or have banking offices in a metropolitan statistical area to file annual summary reports of their mortgage lending activity. The reports include such data as the race, gender, and the income of applicants, the amount of loan requested, the disposition of the application (e.g., approved, denied, and withdrawn), the lien status of the collateral, any requests for preapproval, and loans for manufactured housing.

Home Mortgage Loans: A closed-end mortgage loan or an open-end line of credit as these terms are defined under §1003.2 of this title, and that is not an excluded transaction under §1003.3(c)(1) through (10) and (13) of this title.

Household: Includes all persons occupying a housing unit. Persons not living in households are classified as living in group quarters. In 100 percent tabulations, the count of households always equals the count of occupied housing units.

Limited-Scope Review: Performance under the Lending, Investment, and Service Tests is analyzed using only quantitative factors (e.g., geographic distribution, borrower distribution, total number and dollar amount of investments, and branch distribution).

Low-Income Individual: Individual income that is less than 50 percent of the area median income.

Low Income Geography: A census tract with a median family income that is less than 50 percent.

Market Share: The number of loans originated and purchased by the institution as a percentage of the aggregate number of loans originated and purchased by all reporting lenders in the state/assessment area.

Median Family Income (MFI): The median income determined by the U.S. Census Bureau every five years and used to determine the income level category of geographies. The median is the point at which half of the families have income above, and half below, a range of incomes. Also, the median income determined by the Federal Financial Institutions Examination Council (FFIEC) annually that is used to determine the income level category of individuals. For any given area, the median is the point at which half of the families have income above, and half below, a range of incomes.

Metropolitan Division: As defined by Office of Management and Budget, a county or group of counties within a Core Based Statistical Area that contains an urbanized population of at least 2.5 million. A Metropolitan Division consists of one or more main/secondary counties that represent an

employment center or centers, plus adjacent counties associated with the main/secondary county or counties through commuting ties.

Metropolitan Statistical Area: An area, defined by the Office of Management and Budget, as a core based statistical area associated with at least one urbanized area that has a population of at least 50,000. The Metropolitan Statistical Area comprises the central county or counties containing the core, plus adjacent outlying counties having a high degree of social and economic integration with the central county or counties as measured through commuting.

Middle-Income: Individual income that is at least 80 percent and less than 120 percent of the area median income, or a median family income that is at least 80 percent and less than 120 percent, in the case of a geography

Moderate-Income: Individual income that is at least 50 percent and less than 80 percent of the area median income, or a median family income that is at least 50 percent and less than 80 percent, in the case of a geography.

Multifamily: Refers to a residential structure that contains five or more units**.**

MMSA (state): Any multistate metropolitan statistical area or multistate combined statistical area, as defined by the Office of Management and Budget.

Owner-Occupied Units: Includes units occupied by the owner or co-owner, even if the unit has not been fully paid for or is mortgaged.

Qualified Investment: A qualified investment is defined as any lawful investment, deposit, membership share, or grant that has as its primary purpose community development.

Rating Area: A rated area is a state or multi-state metropolitan statistical area. For an institution with domestic branches in only one state, the institution's CRA rating would be the state rating. If an institution maintains domestic branches in more than one state, the institution will receive a rating for each state in which those branches are located. If an institution maintains domestic branches in two or more states within a multi-state metropolitan statistical area, the institution will receive a rating for the multi-state metropolitan statistical area.

Small Loan(s) to Business(es): A loan included in 'loans to small businesses' as defined in the Consolidated Report of Condition and Income (Call Report) instructions. These loans have original amounts of $1 million or less and typically are either secured by nonfarm or nonresidential real estate or are classified as commercial and industrial loans.

Small Loan(s) to Farm(s): A loan included in 'loans to small farms' as defined in the instructions for preparation of the Consolidated Report of Condition and Income (Call Report). These loans have original amounts of $500,000 or less and are either secured by farmland or are classified as loans to finance agricultural production and other loans to farmers.

Tier 1 Capital: The total of common shareholders' equity, perpetual preferred shareholders' equity with non-cumulative dividends, retained earnings and minority interests in the equity accounts of consolidated subsidiaries.

Upper-Income: Individual income that is at least 120 percent of the area median income, or a median family income that is at least 120 percent, in the case of a geography.

Appendix D: Tables of Performance Data

Content of Standardized Tables

A separate set of tables is provided for each state. All multistate metropolitan statistical areas, if applicable, are presented in one set of tables. References to the "bank" include activities of any affiliates that the bank provided for consideration (refer to appendix A: Scope of the Examination). For purposes of reviewing the Lending Test tables, the following are applicable: (1) purchased loans are treated the same as originations; and (2) "aggregate" is the percentage of the aggregate number of reportable loans originated and purchased by all HMDA or CRA reporting lenders in the MMSA/assessment area. Deposit data are compiled by the FDIC and are available as of June 30th of each year. Tables without data are not included in this PE.

The following is a listing and brief description of the tables included in each set:

Table O. **Assessment Area Distribution of Home Mortgage Loans by Income Category of the Geography** - Compares the percentage distribution of the number of loans originated and purchased by the bank in low-, moderate-, middle-, and upper-income geographies to the percentage distribution of owner-occupied housing units throughout those geographies. The table also presents aggregate peer data for the years the data is available.

Table P. **Assessment Area Distribution of Home Mortgage Loans by Income Category of the Borrower** - Compares the percentage distribution of the number of loans originated and purchased by the bank to low-, moderate-, middle-, and upper-income borrowers to the percentage distribution of families by income level in each MMSA/assessment area. The table also presents aggregate peer data for the years the data is available.

Table Q. **Assessment Area Distribution of Loans to Small Businesses by Income Category of the Geography** - The percentage distribution of the number of small loans (less than or equal to $1 million) to businesses that were originated and purchased by the bank in low-, moderate-, middle-, and upper-income geographies compared to the percentage distribution of businesses (regardless of revenue size) in those geographies. Because aggregate small business data are not available for geographic areas smaller than counties, it may be necessary to compare bank loan data to aggregate data from geographic areas larger than the bank's assessment area.

Table R. **Assessment Area Distribution of Loans to Small Businesses by Gross Annual Revenue** - Compares the percentage distribution of the number of small loans (loans less than or equal to $1 million) originated and purchased by the bank to businesses with revenues of $1 million or less to: 1) the percentage distribution of businesses with revenues of greater than $1 million; and, 2) the percentage distribution of businesses for which revenues are not available. The table also presents aggregate peer small business data for the years the data is available.

Table O: Assessment Area Distribution of Home Mortgage Loans by Income Category of the Geography 2017-19

Assessment Area:	Total Home Mortgage Loans				Low-Income Tracts			Moderate-Income Tracts			Middle-Income Tracts			Upper-Income Tracts			Not Available-Income Tracts		
	#	$	% of Total	Overall Market	% of Owner-Occupied Housing Units	% Bank Loans	Aggregate	% of Owner-Occupied Housing Units	% Bank Loans	Aggregate	% of Owner-Occupied Housing Units	% Bank Loans	Aggregate	% of Owner-Occupied Housing Units	% Bank Loans	Aggregate	% of Owner-Occupied Housing Units	% Bank Loans	Aggregate
New York CSA	45,778	21,752,496	100.0	293,576	3.0	4.0	4.2	13.5	17.0	14.0	35.9	29.8	34.2	47.5	49.2	47.5	0.1	0.1	0.1
Total	**45,778**	**21,752,496**	**100.0**	**293,576**	**3.0**	**4.0**	**4.2**	**13.5**	**17.0**	**14.0**	**35.9**	**29.8**	**34.2**	**47.5**	**49.2**	**47.5**	**0.1**	**0.1**	**0.1**

Source: 2015 ACS Census; 01/01/2017 - 12/31/2019 Bank Data, 2019 HMDA Aggregate Data, "--" data not available.
Due to rounding, totals may not equal 100.0%

Table P: Assessment Area Distribution of Home Mortgage Loans by Income Category of the Borrower 2017-19

Assessment Area:	Total Home Mortgage Loans				Low-Income Borrowers			Moderate-Income Borrowers			Middle-Income Borrowers			Upper-Income Borrowers			Not Available-Income Borrowers		
	#	$	% of Total	Overall Market	% Families	% Bank Loans	Aggregate	% Families	% Bank Loans	Aggregate	% Families	% Bank Loans	Aggregate	% Families	% Bank Loans	Aggregate	% Families	% Bank Loans	Aggregate
New York CSA	45,778	21,752,496	100.0	293,576	27.3	3.3	3.4	15.8	11.4	11.4	16.9	15.3	18.9	40.1	51.5	50.7	0.0	18.5	15.6
Total	**45,778**	**21,752,496**	**100.0**	**293,576**	**27.3**	**3.3**	**3.4**	**15.8**	**11.4**	**11.4**	**16.9**	**15.3**	**18.9**	**40.1**	**51.5**	**50.7**	**0.0**	**18.5**	**15.6**

Source: 2015 ACS Census; 01/01/2017 - 12/31/2019 Bank Data, 2019 HMDA Aggregate Data, "--" data not available.
Due to rounding, totals may not equal 100.0%

Table Q: Assessment Area Distribution of Loans to Small Businesses by Income Category of the Geography **2017-19**

Assessment Area:	Total Loans to Small Businesses				Low-Income Tracts			Moderate-Income Tracts			Middle-Income Tracts			Upper-Income Tracts			Not Available-Income Tracts		
	#	$	% of Total	Overall Market	% Businesses	% Bank Loans	Aggregate	% Businesses	% Bank Loans	Aggregate	% Businesses	% Bank Loans	Aggregate	% Businesses	% Bank Loans	Aggregate	% Businesses	% Bank Loans	Aggregate
New York CSA	97,316	896,634	100.0	576,810	7.1	8.4	7.2	16.8	20.5	16.6	28.3	31.2	28.0	46.4	39.3	46.9	1.3	0.6	1.3
Total	**97,316**	**896,634**	**100.0**	**576,810**	**7.1**	**8.4**	**7.2**	**16.8**	**20.5**	**16.6**	**28.3**	**31.2**	**28.0**	**46.4**	**39.3**	**46.9**	**1.3**	**0.6**	**1.3**

Source: 2019 D&B Data; 01/01/2017 - 12/31/2019 Bank Data; 2019 CRA Aggregate Data, "--" data not available.
Due to rounding, totals may not equal 100.0%

Table R: Assessment Area Distribution of Loans to Small Businesses by Gross Annual Revenues **2017-19**

Assessment Area:	Total Loans to Small Businesses				Businesses with Revenues <= 1MM			Businesses with Revenues > 1MM		Businesses with Revenues Not Available	
	#	$	% of Total	Overall Market	% Businesses	% Bank Loans	Aggregate	% Businesses	% Bank Loans	% Businesses	% Bank Loans
New York CSA	97,316	896,634	100.0	576,810	88.0	82.2	44.4	5.7	11.8	6.3	6.0
Total	**97,316**	**896,634**	**100.0**	**576,810**	**88.0**	**82.2**	**44.4**	**5.7**	**11.8**	**6.3**	**6.0**

Source: 2019 D&B Data; 01/01/2017 - 12/31/2019 Bank Data; 2019 CRA Aggregate Data, "--" data not available.
Due to rounding, totals may not equal 100.0%

Table O: Assessment Area Distribution of Home Mortgage Loans by Income Category of the Geography **2017-19**

Assessment Area:	Total Home Mortgage Loans				Low-Income Tracts			Moderate-Income Tracts			Middle-Income Tracts			Upper-Income Tracts			Not Available-Income Tracts		
	#	$	% of Total	Overall Market	% of Owner-Occupied Housing Units	% Bank Loans	Aggregate	% of Owner-Occupied Housing Units	% Bank Loans	Aggregate	% of Owner-Occupied Housing Units	% Bank Loans	Aggregate	% of Owner-Occupied Housing Units	% Bank Loans	Aggregate	% of Owner-Occupied Housing Units	% Bank Loans	Aggregate
DC MSA	6,378	3,078,460	100.0	161,865	4.7	7.3	5.7	15.8	18.6	15.4	34.7	28.7	35.0	44.7	44.8	43.6	0.2	0.6	0.3
Total	**6,378**	**3,078,460**	**100.0**	**161,865**	**4.7**	**7.3**	**5.7**	**15.8**	**18.6**	**15.4**	**34.7**	**28.7**	**35.0**	**44.7**	**44.8**	**43.6**	**0.2**	**0.6**	**0.3**

Source: 2015 ACS Census; 01/01/2017 - 12/31/2019 Bank Data, 2019 HMDA Aggregate Data, "--" data not available.
Due to rounding, totals may not equal 100.0%

Table P: Assessment Area Distribution of Home Mortgage Loans by Income Category of the Borrower **2017-19**

Assessment Area:	Total Home Mortgage Loans				Low-Income Borrowers			Moderate-Income Borrowers			Middle-Income Borrowers			Upper-Income Borrowers			Not Available-Income Borrowers		
	#	$	% of Total	Overall Market	% Families	% Bank Loans	Aggregate	% Families	% Bank Loans	Aggregate	% Families	% Bank Loans	Aggregate	% Families	% Bank Loans	Aggregate	% Families	% Bank Loans	Aggregate
DC MSA	6,378	3,078,460	100.0	161,865	22.9	9.9	6.3	16.1	19.2	16.8	19.2	13.4	21.2	41.9	41.4	38.4	0.0	16.1	17.3
Total	**6,378**	**3,078,460**	**100.0**	**161,865**	**22.9**	**9.9**	**6.3**	**16.1**	**19.2**	**16.8**	**19.2**	**13.4**	**21.2**	**41.9**	**41.4**	**38.4**	**0.0**	**16.1**	**17.3**

Source: 2015 ACS Census; 01/01/2017 - 12/31/2019 Bank Data, 2019 HMDA Aggregate Data, "--" data not available.
Due to rounding, totals may not equal 100.0%

Table Q: Assessment Area Distribution of Loans to Small Businesses by Income Category of the Geography **2017-19**

Assessment Area:	Total Loans to Small Businesses				Low-Income Tracts			Moderate-Income Tracts			Middle-Income Tracts			Upper-Income Tracts			Not Available-Income Tracts		
	#	$	% of Total	Overall Market	% Businesses	% Bank Loans	Aggregate	% Businesses	% Bank Loans	Aggregate	% Businesses	% Bank Loans	Aggregate	% Businesses	% Bank Loans	Aggregate	% Businesses	% Bank Loans	Aggregate
DC MSA	22,054	174,470	100.0	111,484	5.2	5.5	4.7	16.9	19.1	16.8	33.6	33.6	33.3	43.6	41.3	44.7	0.7	0.4	0.5
Total	**22,054**	**174,470**	**100.0**	**111,484**	**5.2**	**5.5**	**4.7**	**16.9**	**19.1**	**16.8**	**33.6**	**33.6**	**33.3**	**43.6**	**41.3**	**44.7**	**0.7**	**0.4**	**0.5**

Source: 2019 D&B Data; 01/01/2017 - 12/31/2019 Bank Data; 2019 CRA Aggregate Data, "--" data not available.
Due to rounding, totals may not equal 100.0%

Table R: Assessment Area Distribution of Loans to Small Businesses by Gross Annual Revenues **2017-19**

Assessment Area:	Total Loans to Small Businesses				Businesses with Revenues <= 1MM			Businesses with Revenues > 1MM		Businesses with Revenues Not Available	
	#	$	% of Total	Overall Market	% Businesses	% Bank Loans	Aggregate	% Businesses	% Bank Loans	% Businesses	% Bank Loans
DC MSA	22,054	174,470	100.0	111,484	86.7	82.2	49.7	5.2	11.4	8.1	6.4
Total	**22,054**	**174,470**	**100.0**	**111,484**	**86.7**	**82.2**	**49.7**	**5.2**	**11.4**	**8.1**	**6.4**

Source: 2019 D&B Data; 01/01/2017 - 12/31/2019 Bank Data; 2019 CRA Aggregate Data, "--" data not available.
Due to rounding, totals may not equal 100.0%

Table O: Assessment Area Distribution of Home Mortgage Loans by Income Category of the Geography **2017-19**

Assessment Area:	Total Home Mortgage Loans				Low-Income Tracts			Moderate-Income Tracts			Middle-Income Tracts			Upper-Income Tracts			Not Available-Income Tracts		
	#	$	% of Total	Overall Market	% of Owner-Occupied Housing Units	% Bank Loans	Aggregate	% of Owner-Occupied Housing Units	% Bank Loans	Aggregate	% of Owner-Occupied Housing Units	% Bank Loans	Aggregate	% of Owner-Occupied Housing Units	% Bank Loans	Aggregate	% of Owner-Occupied Housing Units	% Bank Loans	Aggregate
Bakersfield MSA	551	79,408	0.9	27,175	5.6	4.7	3.7	15.8	22.7	11.0	32.3	27.9	29.3	46.2	44.5	55.4	0.1	0.2	0.5
Fresno-Hanford CSA	1,031	237,597	1.8	32,204	3.0	3.0	2.2	23.2	29.2	17.6	22.8	21.0	21.1	51.0	46.8	59.1	0.0	0.0	0.0
Los Angeles CSA	32,352	15,363,767	55.1	616,841	2.6	3.9	2.4	18.6	26.4	17.4	30.8	24.9	31.0	47.9	44.7	48.9	0.1	0.2	0.3
Sacramento MSA	1,990	648,956	3.4	96,423	5.2	8.0	6.2	19.9	31.5	18.4	35.4	30.7	33.5	39.4	29.8	41.8	0.0	0.0	0.1
San Diego MSA	2,913	1,756,604	5.0	132,961	2.8	4.7	2.9	15.1	20.3	14.9	35.5	26.9	34.8	46.6	48.2	47.5	0.0	0.0	0.0
San Jose-San Francisco CSA	19,905	13,819,106	33.9	332,153	3.8	5.6	4.1	16.9	19.9	17.1	37.4	32.0	37.3	41.8	42.3	41.4	0.1	0.2	0.1
Total	**58,742**	**31,905,437**	**100.0**	**1,237,757**	**3.2**	**4.6**	**3.2**	**17.9**	**24.1**	**17.0**	**33.2**	**27.5**	**33.0**	**45.6**	**43.6**	**46.6**	**0.1**	**0.2**	**0.2**

Source: 2015 ACS Census; 01/01/2017 - 12/31/2019 Bank Data, 2019 HMDA Aggregate Data, "--" data not available.
Due to rounding, totals may not equal 100.0%

Table P: Assessment Area Distribution of Home Mortgage Loans by Income Category of the Borrower **2017-19**

	Total Home Mortgage Loans				Low-Income Borrowers			Moderate-Income Borrowers			Middle-Income Borrowers			Upper-Income Borrowers			Not Available-Income Borrowers		
Assessment Area:	**#**	**$**	**% of Total**	**Overall Market**	**% Families**	**% Bank Loans**	**Aggregate**	**% Families**	**% Bank Loans**	**Aggregate**	**% Families**	**% Bank Loans**	**Aggregate**	**% Families**	**% Bank Loans**	**Aggregate**	**% Families**	**% Bank Loans**	**Aggregate**
Bakersfield MSA	551	79,408	1.3	27,175	24.8	6.2	2.4	16.4	19.2	9.8	16.1	15.8	18.9	42.7	33.4	44.6	0.0	25.4	24.3
Fresno-Hanford CSA	1,031	237,597	1.8	32,204	25.0	4.7	2.5	16.1	11.9	7.9	16.5	13.8	18.2	42.5	42.1	49.5	0.0	27.5	21.9
Los Angeles CSA	32,352	15,363,767	55.1	616,841	23.9	4.1	2.3	16.5	13.8	7.1	17.6	14.0	16.7	42.0	50.0	55.0	0.0	18.0	19.0
Sacramento MSA	1,990	648,956	3.4	96,423	24.4	8.9	3.5	16.4	22.0	13.7	18.5	15.7	22.2	40.6	28.4	43.4	0.0	24.9	17.2
San Diego MSA	2,913	1,756,604	5.0	132,961	23.6	4.6	2.2	16.9	14.1	7.2	17.8	11.8	17.7	41.7	48.6	53.3	0.0	20.8	19.6
San Jose-San Francisco CSA	19,905	13,819,106	33.9	332,153	23.8	4.9	3.3	16.2	13.1	9.8	18.3	14.3	19.0	41.7	55.9	55.3	0.0	11.8	12.6
Total	**58,742**	**31,905,437**	**100.0**	**1,237,757**	**24.0**	**4.6**	**2.7**	**16.4**	**13.9**	**8.4**	**17.8**	**14.1**	**17.9**	**41.8**	**50.9**	**53.6**	**0.0**	**16.5**	**17.4**

Source: 2015 ACS Census; 01/01/2017 - 12/31/2019 Bank Data, 2019 HMDA Aggregate Data, "--" data not available.
Due to rounding, totals may not equal 100.0%

Table Q: Assessment Area Distribution of Loans to Small Businesses by Income Category of the Geography **2017-19**

Assessment Area:	Total Loans to Small Businesses				Low-Income Tracts			Moderate-Income Tracts			Middle-Income Tracts			Upper-Income Tracts			Not Available-Income Tracts		
	#	$	% of Total	Overall Market	% Businesses	% Bank Loans	Aggregate	% Businesses	% Bank Loans	Aggregate	% Businesses	% Bank Loans	Aggregate	% Businesses	% Bank Loans	Aggregate	% Businesses	% Bank Loans	Aggregate
Bakersfield MSA	6,256	32,253	1.8	15,184	5.7	5.2	4.5	19.9	20.1	17.5	27.5	29.4	24.6	46.1	44.8	52.7	0.7	0.5	0.7
Fresno-Hanford CSA	7,349	51,929	2.1	19,951	6.1	5.2	4.5	27.8	25.1	23.7	21.2	24.5	22.8	43.7	44.9	48.1	1.2	0.3	0.9
Los Angeles CSA	206,264	1,286,884	59.5	634,259	4.7	4.8	4.7	19.9	23.8	20.1	27.2	29.7	27.4	46.6	41.2	46.5	1.5	0.5	1.3
Sacramento MSA	14,850	82,423	4.3	47,780	9.5	7.0	8.1	21.9	21.8	21.3	31.3	31.9	29.9	35.1	38.9	39.4	2.2	0.4	1.2
San Diego MSA	35,149	236,930	10.1	105,095	5.5	5.5	4.9	14.9	17.3	14.1	34.9	34.7	34.5	44.5	42.5	46.4	0.2	0.1	0.1
San Jose-San Francisco CSA	76,968	520,614	22.2	279,057	8.2	7.3	7.7	18.6	20.0	18.8	33.0	36.1	34.2	39.6	36.4	38.9	0.5	0.2	0.4
Total	**346,836**	**2,211,033**	**100.0**	**1,101,326**	**6.0**	**5.6**	**5.6**	**19.3**	**22.2**	**19.3**	**29.6**	**31.6**	**29.8**	**43.9**	**40.3**	**44.3**	**1.1**	**0.4**	**0.9**

Source: 2019 D&B Data; 01/01/2017 - 12/31/2019 Bank Data; 2019 CRA Aggregate Data, "--" data not available.
Due to rounding, totals may not equal 100.0%

Table R: Assessment Area Distribution of Loans to Small Businesses by Gross Annual Revenues **2017-19**

Assessment Area:	Total Loans to Small Businesses				Businesses with Revenues <= 1MM			Businesses with Revenues > 1MM		Businesses with Revenues Not Available	
	#	$	% of Total	Overall Market	% Businesses	% Bank Loans	Aggregate	% Businesses	% Bank Loans	% Businesses	% Bank Loans
Bakersfield MSA	6,256	32,253	1.8	15,184	85.7	83.0	42.7	4.4	7.0	9.9	9.9
Fresno-Hanford CSA	7,349	51,929	2.1	19,951	85.0	82.2	42.1	4.9	9.4	10.0	8.4
Los Angeles CSA	206,264	1,286,884	59.5	634,259	88.6	83.5	50.4	4.8	8.5	6.6	8.0
Sacramento MSA	14,850	82,423	4.3	47,780	87.2	83.0	50.2	4.1	7.5	8.7	9.5
San Diego MSA	35,149	236,930	10.1	105,095	88.8	83.4	49.2	4.5	8.4	6.7	8.2
San Jose-San Francisco CSA	76,968	520,614	22.2	279,057	87.2	80.1	51.3	5.2	8.6	7.6	11.3
Total	**346,836**	**2,211,033**	**100.0**	**1,101,326**	**88.1**	**82.7**	**50.2**	**4.8**	**8.5**	**7.1**	**8.8**

Source: 2019 D&B Data; 01/01/2017 - 12/31/2019 Bank Data; 2019 CRA Aggregate Data, "--" data not available.
Due to rounding, totals may not equal 100.0%

Table O: Assessment Area Distribution of Home Mortgage Loans by Income Category of the Geography **2017-19**

Assessment Area:	Total Home Mortgage Loans				Low-Income Tracts			Moderate-Income Tracts			Middle-Income Tracts			Upper-Income Tracts			Not Available-Income Tracts		
	#	$	% of Total	Overall Market	% of Owner-Occupied Housing Units	% Bank Loans	Aggregate	% of Owner-Occupied Housing Units	% Bank Loans	Aggregate	% of Owner-Occupied Housing Units	% Bank Loans	Aggregate	% of Owner-Occupied Housing Units	% Bank Loans	Aggregate	% of Owner-Occupied Housing Units	% Bank Loans	Aggregate
Jacksonville AA	545	88,669	6.7	34,755	5.8	2.9	2.7	23.6	30.3	20.6	39.8	36.3	41.2	30.8	30.5	35.5	0.0	0.0	0.0
Miami MSA	7,595	2,633,961	93.3	168,916	2.6	3.1	2.2	23.2	27.8	20.7	32.9	25.5	33.5	41.2	43.2	43.3	0.2	0.4	0.3
Total	**8,140**	**2,722,630**	**100.0**	**203,671**	**3.0**	**3.1**	**2.3**	**23.2**	**28.0**	**20.7**	**33.8**	**26.2**	**34.8**	**39.8**	**42.3**	**42.0**	**0.1**	**0.4**	**0.3**

Source: 2015 ACS Census; 01/01/2017 — 12/31/2019 Bank Data, 2019 HMDA Aggregate Data, "—" data not available.
Due to rounding, totals may not equal 100.0%

Table P: Assessment Area Distribution of Home Mortgage Loans by Income Category of the Borrower **2017-19**

Assessment Area:	Total Home Mortgage Loans				Low-Income Borrowers			Moderate-Income Borrowers			Middle-Income Borrowers			Upper-Income Borrowers			Not Available-Income Borrowers		
	#	$	% of Total	Overall Market	% Families	% Bank Loans	Aggregate	% Families	% Bank Loans	Aggregate	% Families	% Bank Loans	Aggregate	% Families	% Bank Loans	Aggregate	% Families	% Bank Loans	Aggregate
Jacksonville AA	545	88,669	6.7	34,755	25.1	9.5	7.1	18.1	14.1	19.8	19.7	15.0	21.5	37.2	23.9	30.6	0.0	37.4	21.0
Miami MSA	7,595	2,633,961	93.3	168,916	23.1	4.2	3.0	17.0	13.2	10.3	17.7	13.1	18.8	42.2	45.3	50.7	0.0	24.1	17.1
Total	**8,140**	**2,722,630**	**100.0**	**203,671**	**23.4**	**4.6**	**3.7**	**17.1**	**13.3**	**12.0**	**18.0**	**13.3**	**19.2**	**41.5**	**43.9**	**47.3**	**0.0**	**25.0**	**17.8**

Source: 2015 ACS Census; 01/01/2017 — 12/31/2019 Bank Data, 2019 HMDA Aggregate Data, "—" data not available.
Due to rounding, totals may not equal 100.0%

Table Q: Assessment Area Distribution of Loans to Small Businesses by Income Category of the Geography **2017-19**

Assessment Area:	Total Loans to Small Businesses				Low-Income Tracts			Moderate-Income Tracts			Middle-Income Tracts			Upper-Income Tracts			Not Available-Income Tracts		
	#	$	% of Total	Overall Market	% Businesses	% Bank Loans	Aggregate	% Businesses	% Bank Loans	Aggregate	% Businesses	% Bank Loans	Aggregate	% Businesses	% Bank Loans	Aggregate	% Businesses	% Bank Loans	Aggregate
Jacksonville AA	5,328	28,437	8.2	22,545	6.3	5.6	6.6	25.2	28.6	24.2	33.5	35.0	32.7	35.1	30.9	36.5	0.0	0.0	0.0
Miami MSA	59,351	373,261	91.8	281,179	4.2	3.7	4.5	21.9	23.2	22.2	28.3	28.5	27.2	44.4	43.8	44.9	1.2	0.8	1.2
Total	**64,679**	**401,698**	**100.0**	**303,724**	**4.4**	**3.9**	**4.6**	**22.3**	**23.6**	**22.4**	**28.8**	**29.0**	**27.6**	**43.5**	**42.7**	**44.3**	**1.1**	**0.7**	**1.1**

Source: 2019 D&B Data; 01/01/2017 — 12/31/2019 Bank Data; 2019 CRA Aggregate Data, "—" data not available.
Due to rounding, totals may not equal 100.0%

Table R: Assessment Area Distribution of Loans to Small Businesses by Gross Annual Revenues **2017-19**

Assessment Area:	Total Loans to Small Businesses				Businesses with Revenues <= 1MM			Businesses with Revenues > 1MM		Businesses with Revenues Not Available	
	#	$	% of Total	Overall Market	% Businesses	% Bank Loans	Aggregate	% Businesses	% Bank Loans	% Businesses	% Bank Loans
Jacksonville AA	5,328	28,437	8.2	22,545	88.2	85.4	44.4	4.0	11.1	7.8	3.6
Miami MSA	59,351	373,261	91.8	281,179	92.0	83.3	48.2	3.3	11.2	4.7	5.5
Total	**64,679**	**401,698**	**100.0**	**303,724**	**91.6**	**83.5**	**48.0**	**3.4**	**11.2**	**5.0**	**5.4**

Source: 2019 D&B Data; 01/01/2017 — 12/31/2019 Bank Data; 2019 CRA Aggregate Data, "—" data not available. Due to rounding, totals may not equal 100.0%

Table O: Assessment Area Distribution of Home Mortgage Loans by Income Category of the Geography **2017-19**

Assessment Area:	Total Home Mortgage Loans				Low-Income Tracts			Moderate-Income Tracts			Middle-Income Tracts			Upper-Income Tracts			Not Available-Income Tracts		
	#	$	% of Total	Overall Market	% of Owner-Occupied Housing Units	% Bank Loans	Aggregate	% of Owner-Occupied Housing Units	% Bank Loans	Aggregate	% of Owner-Occupied Housing Units	% Bank Loans	Aggregate	% of Owner-Occupied Housing Units	% Bank Loans	Aggregate	% of Owner-Occupied Housing Units	% Bank Loans	Aggregate
Chicago MSA	14,280	4,123,757	100.0	283,639	4.5	5.9	3.4	18.0	21.6	14.3	34.4	29.0	32.7	43.0	43.2	49.5	0.1	0.3	0.1
Total	**14,280**	**4,123,757**	**100.0**	**283,639**	**4.5**	**5.9**	**3.4**	**18.0**	**21.6**	**14.3**	**34.4**	**29.0**	**32.7**	**43.0**	**43.2**	**49.5**	**0.1**	**0.3**	**0.1**

Source: 2015 ACS Census; 01/01/2017 — 12/31/2019 Bank Data, 2019 HMDA Aggregate Data, "—" data not available.
Due to rounding, totals may not equal 100.0%

Table P: Assessment Area Distribution of Home Mortgage Loans by Income Category of the Borrower **2017-19**

Assessment Area:	Total Home Mortgage Loans				Low-Income Borrowers			Moderate-Income Borrowers			Middle-Income Borrowers			Upper-Income Borrowers			Not Available-Income Borrowers		
	#	$	% of Total	Overall Market	% Families	% Bank Loans	Aggregate	% Families	% Bank Loans	Aggregate	% Families	% Bank Loans	Aggregate	% Families	% Bank Loans	Aggregate	% Families	% Bank Loans	Aggregate
Chicago MSA	14,280	4,123,757	100.0	283,639	23.5	8.7	5.5	16.3	17.8	16.3	18.5	15.4	20.8	41.7	36.5	42.1	0.0	21.7	15.3
Total	**14,280**	**4,123,757**	**100.0**	**283,639**	**23.5**	**8.7**	**5.5**	**16.3**	**17.8**	**16.3**	**18.5**	**15.4**	**20.8**	**41.7**	**36.5**	**42.1**	**0.0**	**21.7**	**15.3**

Source: 2015 ACS Census; 01/01/2017 — 12/31/2019 Bank Data, 2019 HMDA Aggregate Data, "—" data not available to rounding, totals may not equal 100.0%

Table Q: Assessment Area Distribution of Loans to Small Businesses by Income Category of the Geography **2017-19**

Assessment Area:	Total Loans to Small Businesses				Low-Income Tracts			Moderate-Income Tracts			Middle-Income Tracts			Upper-Income Tracts			Not Available-Income Tracts		
	#	$	% of Total	Overall Market	% Businesses	% Bank Loans	Aggregate	% Businesses	% Bank Loans	Aggregate	% Businesses	% Bank Loans	Aggregate	% Businesses	% Bank Loans	Aggregate	% Businesses	% Bank Loans	Aggregate
Chicago MSA	54,558	416,117	100.0	232,089	4.9	4.9	4.0	15.4	17.9	16.0	29.0	32.3	31.1	50.2	44.7	48.7	0.5	0.2	0.2
Total	**54,558**	**416,117**	**100.0**	**232,089**	**4.9**	**4.9**	**4.0**	**15.4**	**17.9**	**16.0**	**29.0**	**32.3**	**31.1**	**50.2**	**44.7**	**48.7**	**0.5**	**0.2**	**0.2**

Source: 2019 D&B Data; 01/01/2017 - 12/31/2019 Bank Data; 2019 CRA Aggregate Data, "--" data not available.
Due to rounding, totals may not equal 100.0%

Table R: Assessment Area Distribution of Loans to Small Businesses by Gross Annual Revenues **2017-19**

Assessment Area:	Total Loans to Small Businesses				Businesses with Revenues <= 1MM			Businesses with Revenues > 1MM		Businesses with Revenues Not Available	
	#	$	% of Total	Overall Market	% Businesses	% Bank Loans	Aggregate	% Businesses	% Bank Loans	% Businesses	% Bank Loans
Chicago MSA	54,558	416,117	100.0	232,089	83.8	82.5	48.3	6.7	11.0	9.5	6.6
Total	**54,558**	**416,117**	**100.0**	**232,089**	**83.8**	**82.5**	**48.3**	**6.7**	**11.0**	**9.5**	**6.6**

Source: 2019 D&B Data; 01/01/2017 - 12/31/2019 Bank Data; 2019 CRA Aggregate Data, "--" data not available.
Due to rounding, totals may not equal 100.0%

Table O: Assessment Area Distribution of Home Mortgage Loans by Income Category of the Geography **2017-19**

Assessment Area:	Total Home Mortgage Loans				Low-Income Tracts			Moderate-Income Tracts			Middle-Income Tracts			Upper-Income Tracts			Not Available-Income Tracts		
	#	$	% of Total	Overall Market	% of Owner-Occupied Housing Units	% Bank Loans	Aggregate	% of Owner-Occupied Housing Units	% Bank Loans	Aggregate	% of Owner-Occupied Housing Units	% Bank Loans	Aggregate	% of Owner-Occupied Housing Units	% Bank Loans	Aggregate	% of Owner-Occupied Housing Units	% Bank Loans	Aggregate
Las Vegas MSA	2,069	589,231	100.0	110,807	1.9	2.3	1.4	16.9	21.2	12.7	41.7	40.8	42.0	39.5	35.7	43.9	0.0	0.0	0.0
Total	**2,069**	**589,231**	**100.0**	**110,807**	**1.9**	**2.3**	**1.4**	**16.9**	**21.2**	**12.7**	**41.7**	**40.8**	**42.0**	**39.5**	**35.7**	**43.9**	**0.0**	**0.0**	**0.0**

Source: 2015 ACS Census; 01/01/2017 - 12/31/2019 Bank Data, 2019 HMDA Aggregate Data, "--" data not available.
Due to rounding, totals may not equal 100.0%

Table P: Assessment Area Distribution of Home Mortgage Loans by Income Category of the Borrower **2017-19**

Assessment Area:	Total Home Mortgage Loans				Low-Income Borrowers			Moderate-Income Borrowers			Middle-Income Borrowers			Upper-Income Borrowers			Not Available-Income Borrowers		
	#	$	% of Total	Overall Market	% Families	% Bank Loans	Aggregate	% Families	% Bank Loans	Aggregate	% Families	% Bank Loans	Aggregate	% Families	% Bank Loans	Aggregate	% Families	% Bank Loans	Aggregate
Las Vegas MSA	2,069	589,231	100.0	110,807	20.7	7.6	4.1	18.4	20.8	14.8	20.5	16.7	21.1	40.5	29.6	37.7	0.0	25.3	22.4
Total	**2,069**	**589,231**	**100.0**	**110,807**	**20.7**	**7.6**	**4.1**	**18.4**	**20.8**	**14.8**	**20.5**	**16.7**	**21.1**	**40.5**	**29.6**	**37.7**	**0.0**	**25.3**	**22.4**

Source: 2015 ACS Census; 01/01/2017 - 12/31/2019 Bank Data, 2019 HMDA Aggregate Data, "--" data not available.
Due to rounding, totals may not equal 100.0%

Table Q: Assessment Area Distribution of Loans to Small Businesses by Income Category of the Geography **2017-19**

Assessment Area:	Total Loans to Small Businesses				Low-Income Tracts			Moderate-Income Tracts			Middle-Income Tracts			Upper-Income Tracts			Not Available-Income Tracts		
	#	$	% of Total	Overall Market	% Businesses	% Bank Loans	Aggregate	% Businesses	% Bank Loans	Aggregate	% Businesses	% Bank Loans	Aggregate	% Businesses	% Bank Loans	Aggregate	% Businesses	% Bank Loans	Aggregate
Las Vegas MSA	9,624	57,852	100.0	51,646	3.6	3.4	3.1	21.3	20.9	18.3	38.2	37.6	37.6	36.2	37.8	40.8	0.6	0.2	0.3
Total	**9,624**	**57,852**	**100.0**	**51,646**	**3.6**	**3.4**	**3.1**	**21.3**	**20.9**	**18.3**	**38.2**	**37.6**	**37.6**	**36.2**	**37.8**	**40.8**	**0.6**	**0.2**	**0.3**

Source: 2019 D&B Data; 01/01/2017 - 12/31/2019 Bank Data; 2019 CRA Aggregate Data, "--" data not available.
Due to rounding, totals may not equal 100.0%

Table R: Assessment Area Distribution of Loans to Small Businesses by Gross Annual Revenues **2017-19**

Assessment Area:	Total Loans to Small Businesses				Businesses with Revenues <= 1MM			Businesses with Revenues > 1MM		Businesses with Revenues Not Available	
	#	$	% of Total	Overall Market	% Businesses	% Bank Loans	Aggregate	% Businesses	% Bank Loans	% Businesses	% Bank Loans
Las Vegas MSA	9,624	57,852	100.0	51,646	86.6	78.3	47.1	4.6	12.5	8.8	9.2
Total	**9,624**	**57,852**	**100.0**	**51,646**	**86.6**	**78.3**	**47.1**	**4.6**	**12.5**	**8.8**	**9.2**

Source: 2019 D&B Data; 01/01/2017 - 12/31/2019 Bank Data; 2019 CRA Aggregate Data, "--" data not available.
Due to rounding, totals may not equal 100.0%

Table O: Assessment Area Distribution of Home Mortgage Loans by Income Category of the Geography **2017-19**

Assessment Area:	Total Home Mortgage Loans				Low-Income Tracts			Moderate-Income Tracts			Middle-Income Tracts			Upper-Income Tracts			Not Available-Income Tracts		
	#	$	% of Total	Overall Market	% of Owner-Occupied Housing Units	% Bank Loans	Aggregate	% of Owner-Occupied Housing Units	% Bank Loans	Aggregate	% of Owner-Occupied Housing Units	% Bank Loans	Aggregate	% of Owner-Occupied Housing Units	% Bank Loans	Aggregate	% of Owner-Occupied Housing Units	% Bank Loans	Aggregate
San Juan MSA	85	8,179	100.0	14,609	1.8	4.7	1.5	24.4	17.6	15.3	41.2	29.4	36.6	32.6	45.9	46.0	0.1	2.4	0.4
Total	**85**	**8,179**	**100.0**	**14,609**	**1.8**	**4.7**	**1.5**	**24.4**	**17.6**	**15.3**	**41.2**	**29.4**	**36.6**	**32.6**	**45.9**	**46.0**	**0.1**	**2.4**	**0.4**

Source: 2015 ACS Census; 01/01/2017 - 12/31/2019 Bank Data, 2019 HMDA Aggregate Data, "--" data not available.
Due to rounding, totals may not equal 100.0%

Table P: Assessment Area Distribution of Home Mortgage Loans by Income Category of the Borrower **2017-19**

Assessment Area:	Total Home Mortgage Loans				Low-Income Borrowers			Moderate-Income Borrowers			Middle-Income Borrowers			Upper-Income Borrowers			Not Available-Income Borrowers		
	#	$	% of Total	Overall Market	% Families	% Bank Loans	Aggregate	% Families	% Bank Loans	Aggregate	% Families	% Bank Loans	Aggregate	% Families	% Bank Loans	Aggregate	% Families	% Bank Loans	Aggregate
San Juan MSA	85	8,179	100.0	14,609	26.5	--	1.0	15.0	1.9	6.7	15.7	1.9	13.1	42.8	28.8	49.0	0.0	80.0	30.3
Total	**85**	**8,179**	**100.0**	**14,609**	**26.5**	**--**	**1.0**	**15.0**	**1.9**	**6.7**	**15.7**	**1.9**	**13.1**	**42.8**	**28.8**	**49.0**	**0.0**	**80.0**	**30.3**

Source: 2015 ACS Census; 01/01/2017 - 12/31/2019 Bank Data, 2019 HMDA Aggregate Data, "--" data not available.
Due to rounding, totals may not equal 100.0%

Table Q: Assessment Area Distribution of Loans to Small Businesses by Income Category of the Geography **2017-19**

Assessment Area:	Total Loans to Small Businesses				Low-Income Tracts			Moderate-Income Tracts			Middle-Income Tracts			Upper-Income Tracts			Not Available-Income Tracts		
	#	$	% of Total	Overall Market	% Businesses	% Bank Loans	Aggregate	% Businesses	% Bank Loans	Aggregate	% Businesses	% Bank Loans	Aggregate	% Businesses	% Bank Loans	Aggregate	% Businesses	% Bank Loans	Aggregate
San Juan MSA	3,275	14,704	100.0	12,793	5.5	2.6	3.7	22.8	20.0	18.0	24.9	33.3	26.3	44.3	43.4	51.2	2.5	0.6	0.9
Total	**3,275**	**14,704**	**100.0**	**12,793**	**5.5**	**2.6**	**3.7**	**22.8**	**20.0**	**18.0**	**24.9**	**33.3**	**26.3**	**44.3**	**43.4**	**51.2**	**2.5**	**0.6**	**0.9**

Source: 2019 D&B Data; 01/01/2017 - 12/31/2019 Bank Data; 2019 CRA Aggregate Data, "--" data not available.
Due to rounding, totals may not equal 100.0%

Table R: Assessment Area Distribution of Loans to Small Businesses by Gross Annual Revenues **2017-19**

Assessment Area:	Total Loans to Small Businesses				Businesses with Revenues <= 1MM			Businesses with Revenues > 1MM		Businesses with Revenues Not Available	
	#	$	% of Total	Overall Market	% Businesses	% Bank Loans	Aggregate	% Businesses	% Bank Loans	% Businesses	% Bank Loans
San Juan MSA	3,275	14,704	100.0	12,793	67.2	82.7	57.1	18.0	9.4	14.8	7.8
Total	**3,275**	**14,704**	**100.0**	**12,793**	**67.2**	**82.7**	**57.1**	**18.0**	**9.4**	**14.8**	**7.8**

Source: 2019 D&B Data; 01/01/2017 - 12/31/2019 Bank Data; 2019 CRA Aggregate Data, "--" data not available.
Due to rounding, totals may not equal 100.0%

Table O: Assessment Area Distribution of Home Mortgage Loans by Income Category of the Geography **2017-19**

Assessment Area:	Total Home Mortgage Loans				Low-Income Tracts			Moderate-Income Tracts			Middle-Income Tracts			Upper-Income Tracts			Not Available-Income Tracts		
	#	$	% of Total	Overall Market	% of Owner-Occupied Housing Units	% Bank Loans	Aggregate	% of Owner-Occupied Housing Units	% Bank Loans	Aggregate	% of Owner-Occupied Housing Units	% Bank Loans	Aggregate	% of Owner-Occupied Housing Units	% Bank Loans	Aggregate	% of Owner-Occupied Housing Units	% Bank Loans	Aggregate
Sioux Falls MSA	140	28,050	100.0	13,196	0.0	0.0	0.0	20.0	27.1	14.7	55.3	57.9	52.2	24.8	15.0	33.1	0.0	0.0	0.0
Total	**140**	**28,050**	**100.0**	**13,196**	**0.0**	**0.0**	**0.0**	**20.0**	**27.1**	**14.7**	**55.3**	**57.9**	**52.2**	**24.8**	**15.0**	**33.1**	**0.0**	**0.0**	**0.0**

Source: 2015 ACS Census; 01/01/2017 - 12/31/2019 Bank Data, 2019 HMDA Aggregate Data, "--" data not available.
Due to rounding, totals may not equal 100.0%

Table P: Assessment Area Distribution of Home Mortgage Loans by Income Category of the Borrower **2017-19**

Assessment Area:	Total Home Mortgage Loans				Low-Income Borrowers			Moderate-Income Borrowers			Middle-Income Borrowers			Upper-Income Borrowers			Not Available-Income Borrowers		
	#	$	% of Total	Overall Market	% Families	% Bank Loans	Aggregate	% Families	% Bank Loans	Aggregate	% Families	% Bank Loans	Aggregate	% Families	% Bank Loans	Aggregate	% Families	% Bank Loans	Aggregate
Sioux Falls MSA	140	28,050	100.0	13,196	19.0	21.4	10.3	18.1	25.0	22.5	24.4	7.9	23.2	38.5	11.4	31.2	0.0	34.3	12.8
Total	**140**	**28,050**	**100.0**	**13,196**	**19.0**	**21.4**	**10.3**	**18.1**	**25.0**	**22.5**	**24.4**	**7.9**	**23.2**	**38.5**	**11.4**	**31.2**	**0.0**	**34.3**	**12.8**

Source: 2015 ACS Census; 01/01/2017 - 12/31/2019 Bank Data, 2019 HMDA Aggregate Data, "--" data not available.
Due to rounding, totals may not equal 100.0%

Table Q: Assessment Area Distribution of Loans to Small Businesses by Income Category of the Geography **2017-19**

Assessment Area:	Total Loans to Small Businesses				Low-Income Tracts			Moderate-Income Tracts			Middle-Income Tracts			Upper-Income Tracts			Not Available-Income Tracts		
	#	$	% of Total	Overall Market	% Businesses	% Bank Loans	Aggregate	% Businesses	% Bank Loans	Aggregate	% Businesses	% Bank Loans	Aggregate	% Businesses	% Bank Loans	Aggregate	% Businesses	% Bank Loans	Aggregate
Sioux Falls MSA	678	4,200	100.0	5,903	0.0	0.0	0.0	35.0	34.1	35.4	39.8	34.1	37.4	25.2	31.9	27.2	0.0	0.0	0.0
Total	**678**	**4,200**	**100.0**	**5,903**	**0.0**	**0.0**	**0.0**	**35.0**	**34.1**	**35.4**	**39.8**	**34.1**	**37.4**	**25.2**	**31.9**	**27.2**	**0.0**	**0.0**	**0.0**

Source: 2019 D&B Data; 01/01/2017 - 12/31/2019 Bank Data; 2019 CRA Aggregate Data, "--" data not available.
Due to rounding, totals may not equal 100.0%

Table R: Assessment Area Distribution of Loans to Small Businesses by Gross Annual Revenues **2017-19**

Assessment Area:	Total Loans to Small Businesses				Businesses with Revenues <= 1MM			Businesses with Revenues > 1MM		Businesses with Revenues Not Available	
	#	$	% of Total	Overall Market	% Businesses	% Bank Loans	Aggregate	% Businesses	% Bank Loans	% Businesses	% Bank Loans
Sioux Falls MSA	678	4,200	100.0	5,903	84.6	77.1	50.2	5.3	9.3	10.1	13.6
Total	**678**	**4,200**	**100.0**	**5,903**	**84.6**	**77.1**	**50.2**	**5.3**	**9.3**	**10.1**	**13.6**

Source: 2019 D&B Data; 01/01/2017 - 12/31/2019 Bank Data; 2019 CRA Aggregate Data, "--" data not available.
Due to rounding, totals may not equal 100.0%

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION

WASHINGTON, D.C. 20549

FORM 10-K

(Mark One)

☒ **ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the fiscal year ended December 31, 2022

OR

☐ **TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the transition period from to
Commission file number 1-9924

Citigroup Inc.

(Exact name of registrant as specified in its charter)

Delaware	**52-1568099**
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification No.)
388 Greenwich Street, New York NY	**10013**
(Address of principal executive offices)	(Zip code)

(212) 559-1000
(Registrant's telephone number, including area code)

Securities registered pursuant to Section 12(b) of the Securities Exchange Act of 1934 formatted in Inline XBRL: See Exhibit 99.01

Securities registered pursuant to Section 12(g) of the Act: none

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. Yes ☒ No ☐

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or 15(d) of the Act. Yes ☐ No ☒

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes ☒ No ☐

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). Yes ☒ No ☐

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company, or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company" and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer ☒	**Accelerated filer** ☐	**Non-accelerated filer** ☐	**Smaller reporting company** ☐
			Emerging growth company ☐

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act. Yes ☐

Indicate by check mark whether the Registrant has filed a report on and attestation to its management's assessment of the effectiveness of its internal control over financial reporting under Section 404(b) of the Sarbanes-Oxley Act (15 U.S.C. 7262(b)) by the registered public accounting firm that prepared or issued its audit report. ☒

If securities are registered pursuant to Section 12(b) of the Act, indicate by check mark whether the financial statements of the registrant included in the filing reflect the correction of an error to previously issued financial statements. ☐

Indicate by check mark whether any of those error corrections are restatements that required a recovery analysis of incentive-based compensation received by any of the registrant's executive officers during the relevant recovery period pursuant to §240.10D-1(b). ☐

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Act). Yes ☐ No ☒

The aggregate market value of Citigroup Inc. common stock held by non-affiliates of Citigroup Inc. on June 30, 2022 was approximately $88.9 billion.

Number of shares of Citigroup Inc. common stock outstanding on January 31, 2023: 1,943,712,436

Documents Incorporated by Reference: Portions of the registrant's proxy statement for the annual meeting of stockholders scheduled to be held on April 25, 2023 are incorporated by reference in this Form 10-K in response to Items 10, 11, 12, 13 and 14 of Part III.

Available on the web at www.citigroup.com

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* For additional information regarding Citigroup's Directors, see "Corporate Governance" and "Proposal 1: Election of Directors" in the definitive Proxy Statement for Citigroup's Annual Meeting of Stockholders scheduled to be held on April 25, 2023, to be filed with the SEC (the Proxy Statement), incorporated herein by reference.

** See "Compensation Discussion and Analysis," "The Personnel and Compensation Committee Report," and "2022 Summary Compensation Table and Compensation Information" and "CEO Pay Ratio" in the Proxy Statement, incorporated herein by reference, other than disclosure under the heading "Pay versus Performance" information responsive to Item 402(v) of Regulation S-K of SEC rules.

*** See "About the Annual Meeting," "Stock Ownership," and "Equity Compensation Plan Information" in the Proxy Statement, incorporated herein by reference.

**** See "Corporate Governance—Director Independence," "—Certain Transactions and Relationships, Compensation Committee Interlocks and Insider Participation" and "—Indebtedness" in the Proxy Statement, incorporated herein by reference.

***** See "Proposal 2: Ratification of Selection of Independent Registered Public Accountants" in the Proxy Statement, incorporated herein by reference.

CITIGROUP'S 2022 ANNUAL REPORT ON FORM 10-K

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OVERVIEW

Citigroup's history dates back to the founding of the City Bank of New York in 1812.

Citigroup is a global diversified financial services holding company whose businesses provide consumers, corporations, governments and institutions with a broad, yet focused, range of financial products and services, including consumer banking and credit, corporate and investment banking, securities brokerage, trade and securities services and wealth management. Citi has approximately 200 million customer accounts and does business in nearly 160 countries and jurisdictions.

At December 31, 2022, Citi had approximately 240,000 full-time employees, compared to approximately 223,400 full-time employees at December 31, 2021. For additional information, see "Human Capital Resources and Management" below.

Throughout this report, "Citigroup," "Citi" and "the Company" refer to Citigroup Inc. and its consolidated subsidiaries. For a list of certain terms and acronyms used herein, see "Glossary of Terms and Acronyms" at the end of this report. All "Note" references correspond to the Notes to the Consolidated Financial Statements.

Additional Information

Additional information about Citigroup is available on Citi's website at www.citigroup.com. Citigroup's recent annual reports on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K and proxy statements, as well as other filings with the U.S. Securities and Exchange Commission (SEC) are available free of charge through Citi's website by clicking on the "Investors" tab and selecting "SEC Filings." The SEC's website also contains these filings and other information regarding Citi at www.sec.gov.

For a discussion of 2021 versus 2020 results of operations of *Institutional Clients Group (ICG)*, *Personal Banking and Wealth Management (PBWM)*, *Legacy Franchises* and *Corporate/Other*, see each respective business's results of operations in Citigroup's Annual Report on Form 10-K for the year ended December 31, 2021 and its Current Report on Form 8-K dated May 10, 2022 (as amended by a Current Report on Form 8-K/A dated May 10, 2022) (collectively referred to as Citigroup's 2021 Annual Report on Form 10-K).

Certain reclassifications have been made to the prior periods' financial statements and disclosures to conform to the current period's presentation.

Please see "Risk Factors" below for a discussion of material risks and uncertainties that could impact Citi's businesses, results of operations and financial condition.

Non-GAAP Financial Measures

Citi prepares its financial statements in accordance with U.S. GAAP and also presents certain non-GAAP financial measures (non-GAAP measures) that exclude certain items or otherwise include components that differ from the most directly comparable measures calculated in accordance with U.S. GAAP. Non-GAAP measures are provided as additional useful information to assess Citi's financial condition and results of operations (including period-to-period operating performance). These non-GAAP measures are not intended as a substitute for GAAP financial measures and may not be defined or calculated the same way as non-GAAP measures with similar names used by other companies. For more information, including the reconciliation of these non-GAAP financial measures to their corresponding GAAP financial measures, see the respective sections where the measures are presented and described and the "Glossary of Terms and Acronyms" below.

Citigroup is managed pursuant to three operating segments: *Institutional Clients Group*, *Personal Banking and Wealth Management* and *Legacy Franchises*. Activities not assigned to the operating segments are included in *Corporate/Other*.

Citigroup Operating Segments

Institutional Clients Group (ICG)

- **Services**
  - Treasury and trade solutions (TTS)
  - Securities services
- **Markets**
  - Equity markets
  - Fixed income markets
- **Banking**
  - Investment banking
  - Corporate lending

Personal Banking and Wealth Management (PBWM)

- **U.S. Personal Banking**
  - Cards
    - Branded cards
    - Retail services
  - Retail banking
- **Global Wealth Management (Global Wealth)**
  - Private bank
  - Wealth at Work
  - Citigold

Legacy Franchises

- **Asia Consumer Banking (Asia Consumer)**
  - Retail banking and cards for the remaining 8 exit markets (China, India, Indonesia, Korea, Poland, Russia, Taiwan and Vietnam)
- **Mexico Consumer Banking (Mexico Consumer)** and **Mexico Small Business and Middle-Market Banking (Mexico SBMM)**
  - Retail banking and cards
- **Legacy Holdings Assets**
  - Certain North America consumer mortgage loans
  - Other legacy assets

Corporate/Other

- **Corporate Treasury managed portfolios**
- **Operations and technology**
- **Global staff functions and other corporate expenses**
- **Discontinued operations**

The following are the four regions in which Citigroup operates. The regional results are fully reflected in the operating segments and *Corporate/Other* above.

Citigroup Regions(1)

- **North America**
- **Europe, Middle East and Africa (EMEA)**
- **Latin America**
- **Asia**

(1) North America includes the U.S., Canada and Puerto Rico, Latin America includes Mexico and Asia includes Japan.

MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

EXECUTIVE SUMMARY

As described further throughout this Executive Summary, Citi demonstrated continued progress across the franchise during 2022:

- Citi's revenues increased 5% versus the prior year, including net gains on sales of Citi's Philippines and Thailand consumer banking businesses versus a loss on sale of Citi's Australia consumer banking business in the prior year. Excluding these divestiture-related impacts (see "2022 Results Summary" below), revenues increased 3%, driven by higher net interest income, partially offset by lower non-interest revenues.
- Citi's expenses increased 6% versus the prior year, including divestiture-related impacts in both the current and prior years. Excluding these divestiture-related impacts (see "2022 Results Summary" below), expenses increased 8%, driven by continued investments in Citi's transformation, business-led investments and volume-related expenses, as well as other risk and control investments and inflation, all partially offset by productivity savings, the impact of foreign exchange translation and the expense reduction from the closure of five exit markets (see also "Expenses" below).
- Citi's cost of credit was $5.2 billion, versus $(3.8) billion in the prior year, largely reflecting a net build of $1.2 billion in the allowance for credit losses (ACL) for loans and unfunded commitments, primarily due to consumer loan growth and a deterioration in macroeconomic assumptions, compared to a net ACL release of $8.8 billion in the prior year.
- Citi returned $7.3 billion to common shareholders in the form of dividends and share repurchases.
- Citi's Common Equity Tier 1 (CET1) Capital ratio increased to 13.0% as of December 31, 2022, compared to 12.2% as of December 31, 2021 (for additional information, see "Capital Resources" below). Citi's required regulatory CET1 Capital ratio was 12.0% as of January 1, 2023, under the Basel III Standardized Approach.
- Citi made substantial progress on its consumer banking business divestitures in 2022, closing sales in five exit markets and working toward closing four additional sale transactions, as well as progressing with the ongoing wind-downs of the Korea consumer banking business and Russia consumer, local commercial and institutional businesses.

2022 Results Summary

Citigroup

Citigroup reported net income of $14.8 billion, or $7.00 per share, compared to net income of $22.0 billion, or $10.14 per share in the prior year. The decrease in net income was primarily driven by the higher cost of credit, resulting from loan growth in *Personal Banking and Wealth Management (PBWM)* and a deterioration in macroeconomic assumptions, and the higher operating expenses, partially offset by the higher revenues. Citigroup's effective tax rate was 19.4% in the current year versus 19.8% in the prior year. Earnings per share (EPS) decreased 31%, reflecting the decrease in net income, partially offset by a 4% decline in average diluted shares outstanding.

As discussed above, results for 2022 included divestiture-related impacts of approximately $(184) million in after-tax earnings, substantially all of which were recorded in *Legacy Franchises* (for additional information, see discussion below). Collectively, divestiture-related impacts had a $0.09 negative impact on EPS. This compares to divestiture-related negative impacts on EPS of $0.80 in 2021. (As used throughout this Form 10-K, Citi's results of operations and financial condition excluding the divestiture-related impacts are non-GAAP financial measures. Citi believes the presentation of its results of operations and financial condition excluding the divestiture-related impacts described above provides a meaningful depiction of the underlying fundamentals of its broader results and *Legacy Franchises*' results for investors, industry analysts and others.)

Results for 2022 included pretax divestiture-related impacts of approximately $82 million (approximately $(184) million after-tax), substantially all of which were recorded in *Legacy Franchises*, primarily consisting of the following:

- Approximately $618 million Philippines gain on sale recorded in revenues
- Approximately $209 million Thailand gain on sale recorded in revenues
- Approximately $(64) million incremental Australia consumer business loss on sale recorded in revenues
- Approximately $535 million goodwill impairment recorded in expenses due to re-segmentation and timing of divestitures
- Approximately $161 million of aggregate divestiture-related costs

Results for 2021 included pretax divestiture-related impacts of $(1.9) billion (approximately $(1.6) billion after-tax) in *Legacy Franchises*, which primarily consisted of the following:

- Approximately $(694) million Australia loss on sale recorded in revenues
- Approximately $1.1 billion related to charges incurred from the voluntary early retirement program (VERP) in connection with the wind-down of the Korea consumer banking business recorded in expenses
- Contract modification costs related to the Asia divestitures of $119 million

Citigroup revenues of $75.3 billion increased 5% versus the prior year. Excluding the divestiture-related impacts, revenues were up 3%, as the impact of higher interest rates across businesses and strong loan growth in *PBWM* were partially offset by declines in Banking in *Institutional Clients*

Group (ICG) and Asia investment product revenue in Global Wealth Management (Global Wealth), as well as the reduction in revenues from the closure of five exit markets and ongoing wind-downs.

Citigroup's end-of-period loans were $657 billion, down 2% versus the prior year, largely driven by *Legacy Franchises* and the impact of foreign exchange translation. The decline in *Legacy Franchises* primarily reflected the reclassification of loans to *Other assets* to reflect held-for-sale (HFS) accounting, as a result of the signing of sale agreements for consumer banking businesses in Asia Consumer Banking (Asia Consumer), as well as the impact of the ongoing Korea and Russia wind-downs.

Citigroup's end-of-period deposits were $1.4 trillion, up 4% versus the prior year, largely driven by Treasury and trade solutions in *ICG*, partially offset by the impact of foreign exchange translation.

Expenses

Citigroup's operating expenses of $51.3 billion increased 6% in 2022. Reported expenses included divestiture-related impacts of approximately $696 million in the current year and approximately $1.2 billion in the prior year, substantially all of which were recorded in *Legacy Franchises*. Excluding these divestiture-related impacts, expenses increased 8% versus the prior year, largely driven by the following:

- Approximately 2% by transformation investments, with about two-thirds related to the risk, controls, data and finance programs (approximately 25% of the program investments were related to technology).
- Approximately 1% by business-led investments, as Citi continues to hire commercial and investment bankers, as well as client advisors in Global Wealth, and continues to invest in client experience, front-office platforms and onboarding.
- Approximately 1% by higher volume-related expenses across both *PBWM* and *ICG*.
- Approximately 3% by other risk and control investments and inflation, partially offset by a Revlon-related wire transfer recovery, productivity savings, the impact of foreign exchange translation and the expense reduction from the exit markets.

Citi expects to incur higher expenses in 2023, primarily driven by transformation-related investments, volume-related expenses and inflation-related impacts.

Cost of Credit

Citi's total provisions for credit losses and for benefits and claims was a cost of $5.2 billion, compared to a benefit of $3.8 billion in the prior year. Results in 2022 included net credit losses of $3.8 billion versus $4.9 billion in the prior year. The higher cost of credit was driven by the net build of $1.2 billion in the ACL for loans and unfunded commitments, compared to a net ACL release of $8.8 billion in the prior year, partially offset by the lower net credit losses. The net ACL build was primarily due to cards loan growth in *PBWM* and a deterioration in macroeconomic assumptions. For additional information on Citi's ACL, see "Significant Accounting Policies and Significant Estimates—Citi's Allowance for Credit Losses (ACL)" below.

Net credit losses of $3.8 billion decreased 23% from the prior year, largely driven by lower consumer net credit losses. Consumer net credit losses decreased 20% to $3.6 billion, reflecting low loss rates in the first half of 2022, followed by the ongoing normalization of losses toward pre-pandemic levels, particularly in Retail services cards business in *PBWM*. Corporate net credit losses decreased 54% to $178 million, largely driven by improvements in portfolio credit quality.

Citi expects to incur higher net credit losses in 2023, primarily driven by continued normalization toward pre-pandemic levels, particularly in the cards business in *PBWM*.

For additional information on Citi's consumer and corporate credit costs, see each respective business's results of operations and "Credit Risk" below.

Capital

Citigroup's CET1 Capital ratio was 13.0% as of December 31, 2022, compared to 12.2% as of December 31, 2021, based on the Basel III Standardized Approach for determining risk-weighted assets (RWA). The increase was primarily driven by net income, impacts from the closing of the Australia, Philippines and other Asia consumer banking business sales and business actions to reduce RWA, partially offset by the return of capital to common shareholders and interest rate impacts on Citigroup's investment portfolio. The increase in Citi's CET1 Capital ratio was also partially offset by the impact of adopting the Standardized Approach for Counterparty Credit Risk (SA-CCR) on January 1, 2022.

Citigroup's Supplementary Leverage ratio as of December 31, 2022 was 5.8%, compared to 5.7% as of December 31, 2021. The increase was driven by a decrease in Total Leverage Exposure, partly offset by lower Tier 1 Capital. For additional information on Citi's capital ratios and related components, see "Capital Resources" below.

Citi has continued to pause common share repurchases in order to absorb any temporary capital impacts related to any potential signing of a sale agreement for its Mexico Consumer and Small Business and Middle-Market Banking (Mexico Consumer/SBMM) business (for additional information, see "Macroeconomic and Other Risks and Uncertainties" and the capital return risk factor in "Risk Factors" below) and to continue to have ample capital to serve its clients.

Institutional Clients Group

ICG net income of $10.7 billion decreased 25%, driven by a net ACL release in the prior year, versus a net ACL build in the current year, and higher expenses, partially offset by higher revenues. *ICG* operating expenses of $26.3 billion increased 10%, primarily driven by continued investment in Citi's transformation, business-led investments and volume-related expenses, partially offset by a Revlon-related wire transfer recovery, the impact of foreign exchange translation and productivity savings.

ICG revenues of $41.2 billion increased 3% (including losses on loan hedges), as revenue growth in Services and Markets was partially offset by lower revenues in Banking. Results included a gain on loan hedges of $307 million,

compared with a loss on loan hedges of $140 million in the prior year.

Services revenues of $16.0 billion increased 27%. Treasury and trade solutions (TTS) revenues of $12.2 billion increased 32%, driven by 46% growth in net interest income and 10% growth in non-interest revenue. The strong performance in TTS was driven by the benefit of higher interest rates, as well as business actions, including balance sheet optimization and managing deposit pricing, deepening of relationships with existing clients and an increase in new clients across segments. Securities services revenues of $3.9 billion increased 15%, as net interest income increased 59%, driven by higher interest rates across currencies, as well as the impact of foreign exchange translation, partially offset by a 1% decrease in non-interest revenue due to the impact of lower global financial markets.

Markets revenues of $19.1 billion increased 7% versus the prior year, largely driven by Fixed income markets, partially offset by lower client activity levels in Equity markets, as well as business actions to reduce RWA. Fixed income markets revenues of $14.6 billion increased 13%, driven by strength in rates and currencies. Equity markets revenues of $4.6 billion were down 9%, largely reflecting reduced client activity in equity derivatives versus the prior year.

Banking revenues of $6.1 billion decreased 35%, including the gain on loan hedges in the current year and loss on loan hedges in the prior year. Excluding the gain and loss on loan hedges, Banking revenues of $5.8 billion decreased 39%, driven by lower revenues in Investment banking and Corporate lending. Investment banking revenues of $3.1 billion decreased 53%, as heightened macroeconomic uncertainty and volatility continued to impact client activity. Excluding the gain and loss on loan hedges, Corporate lending revenues decreased 8% versus the prior year, driven by the impact of foreign currency translation, higher cost of funds and higher hedging costs.

For additional information on the results of operations of *ICG* in 2022, see "*Institutional Clients Group*" below.

Personal Banking and Wealth Management

PBWM net income of $3.3 billion decreased 57% versus the prior year, largely driven by a net ACL release in the prior year versus a net ACL build in the current year, as well as higher expenses. *PBWM* operating expenses of $16.3 billion increased 11%, primarily driven by continued investments in Citi's transformation, other risk and control initiatives, volume-related expenses and business-led investments, partially offset by productivity savings.

PBWM revenues of $24.2 billion increased 4% versus the prior year, as net interest income growth, driven by strong loan growth across Branded cards and Retail services and higher interest rates, was partially offset by a decline in non-interest revenue, driven by lower investment product revenue in Global Wealth and higher partner payments in Retail services.

U.S. Personal Banking revenues of $16.8 billion increased 7% versus the prior year. Branded cards revenues of $8.9 billion increased 9%, driven by higher net interest income. In Branded cards, new account acquisitions increased 11%, card spend volumes increased 16% and average loans increased 11%. Retail services revenues of $5.5 billion increased 7%, driven by higher net interest income, partially offset by higher partner payments. Retail banking revenues of $2.5 billion were largely unchanged versus the prior year, as higher interest income and modest deposit growth were offset by lower mortgage revenues due to fewer mortgage originations.

Global Wealth revenues of $7.4 billion decreased 2% versus the prior year, as investment product revenue headwinds, particularly in Asia, more than offset net interest income growth from higher interest rates and higher loan and deposit volumes.

For additional information on the results of operations of *PBWM* in 2022, see "*Personal Banking and Wealth Management*" below.

Legacy Franchises

Legacy Franchises net loss of $12 million compared to net income of $1 million in the prior year, primarily driven by higher cost of credit, partially offset by lower expenses and higher revenues, primarily reflecting the Philippines and Thailand gains on sales in the current year and the Australia loss on sale in the prior year. *Legacy Franchises* expenses of $7.8 billion decreased 6%, largely driven by the absence of the Korea VERP charge in the prior year and the benefit from closing the five exit markets, partially offset by the $535 million goodwill impairment, an approximate $70 million impairment of long-lived assets related to the Russia consumer banking business and $156 million of other aggregate divestiture-related costs.

Legacy Franchises revenues of $8.5 billion increased 3% versus the prior year, primarily driven by the Philippines and Thailand gains on sale versus the Australia loss on sale in the prior year. Excluding these divestiture-related impacts, revenues decreased 15%, primarily driven by the reduction in revenues from the closings of the five exit markets, as well as the impact of the ongoing Korea and Russia wind-downs.

For additional information on the results of operations of *Legacy Franchises* in 2022, see "*Legacy Franchises*" below.

Corporate/Other

Corporate/Other net income was $879 million, compared to a net loss of $8 million in the prior year, reflecting higher revenue and lower expenses, partially offset by lower income tax benefits, as well as the second quarter of 2022 release of a CTA (cumulative translation adjustment) loss (net of hedges) from *Accumulated other comprehensive income (loss) (AOCI)* related to the substantial liquidation of a legacy U.K. consumer operation, recorded in discontinued operations. *Corporate/Other* operating expenses of $953 million decreased 31%, primarily driven by lower consulting expenses and the impact of certain legal settlements.

Corporate/Other revenues of $1.4 billion increased from $0.5 billion in the prior year, driven by higher net interest income, primarily from the investment portfolio, partially offset by lower non-interest revenue, primarily due to the absence of mark-to-market gains in the prior year as well as higher hedging costs.

For additional information on the results of operations of *Corporate/Other* in 2022, see "*Corporate/Other*" below.

Macroeconomic and Other Risks and Uncertainties

Various geopolitical and macroeconomic challenges and uncertainties continue to adversely impact economic conditions in the U.S. and globally. The U.S. and other countries have continued to experience significantly elevated levels of inflation, resulting in central banks implementing a series of interest rates increases, with additional increases expected in the near term. In addition to causing a humanitarian crisis, the war in Ukraine continues to disrupt energy and food markets. An economic rebound in China remains uncertain, due to the ongoing impacts from COVID-19, the amount of leverage in its economy and stress in the property sector. These and other factors have adversely affected financial markets, negatively impacted global economic growth rates, contributed to lower consumer confidence and increased the risk of recession in Europe, the U.S. and other countries. These and other factors could adversely affect Citi's customers, clients, businesses, funding costs, expenses and results during 2023.

In addition, Citi could incur a significant loss on sale in 2023, due to CTA losses (net of hedges) in *AOCI*, goodwill write-offs and other *AOCI* loss components, related to the potential signing of a sale agreement for any of its remaining consumer banking divestitures. The majority of these losses would be regulatory capital neutral at closing.

For a further discussion of trends, uncertainties and risks that will or could impact Citi's businesses, results of operations, capital and other financial condition during 2023, see "2022 Results Summary" above and "Risk Factors," each respective business's results of operations and "Managing Global Risk," including "Managing Global Risk—Other Risks—Country Risk—Russia," below.

CITI'S CONSENT ORDER COMPLIANCE

Citi has embarked on a multiyear transformation, with the target outcome to change Citi's business and operating models such that they simultaneously strengthen risk and controls and improve Citi's value to customers, clients and shareholders.

This includes efforts to effectively implement the October 2020 Federal Reserve Board (FRB) and Office of the Comptroller of the Currency (OCC) consent orders issued to Citigroup and Citibank, respectively. In the second quarter of 2021, Citi made an initial submission to the OCC, and submitted its plans to address the consent orders to both regulators during the third quarter of 2021. Citi continues to work constructively with the regulators and provides to both regulators on an ongoing basis additional information regarding its plans and progress. Citi will continue to reflect their feedback in its project plans and execution efforts.

As discussed above, Citi's efforts include continued investments in its transformation, including the remediation of its consent orders. Citi's CEO has made the strengthening of Citi's risk and control environment a strategic priority and has established a Chief Administrative Officer organization to centralize program management. In addition, the Citigroup and Citibank Boards of Directors each formed a Transformation Oversight Committee, an ad hoc committee of each Board, to provide oversight of management's remediation efforts under the consent orders. The Citi Board of Directors has determined that Citi's plans are responsive to the Company's objectives and that progress continues to be made on execution of the plans.

For additional information about the consent orders, see "Risk Factors—Compliance Risks" below and Citi's Current Report on Form 8-K filed with the SEC on October 7, 2020.

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RESULTS OF OPERATIONS

SUMMARY OF SELECTED FINANCIAL DATA

Citigroup Inc. and Consolidated Subsidiaries

In millions of dollars, except per share amounts	**2022**	2021	2020	2019	2018
Net interest income	**$ 48,668**	$ 42,494	$ 44,751	$ 48,128	$ 47,744
Non-interest revenue	**26,670**	29,390	30,750	26,939	26,292
Revenues, net of interest expense	**$ 75,338**	$ 71,884	$ 75,501	$ 75,067	$ 74,036
Operating expenses	**51,292**	48,193	44,374	42,783	43,023
Provisions for credit losses and for benefits and claims	**5,239**	(3,778)	17,495	8,383	7,568
Income from continuing operations before income taxes	**$ 18,807**	$ 27,469	$ 13,632	$ 23,901	$ 23,445
Income taxes	**3,642**	5,451	2,525	4,430	5,357
Income from continuing operations	**$ 15,165**	$ 22,018	$ 11,107	$ 19,471	$ 18,088
Income (loss) from discontinued operations, net of taxes	**(231)**	7	(20)	(4)	(8)
Net income before attribution of noncontrolling interests	**$ 14,934**	$ 22,025	$ 11,087	$ 19,467	$ 18,080
Net income attributable to noncontrolling interests	**89**	73	40	66	35
Citigroup's net income	**$ 14,845**	$ 21,952	$ 11,047	$ 19,401	$ 18,045
Earnings per share					
Basic					
Income from continuing operations	**$ 7.16**	$ 10.21	$ 4.75	$ 8.08	$ 6.69
Net income	**7.04**	10.21	4.74	8.08	6.69
Diluted					
Income from continuing operations	**$ 7.11**	$ 10.14	$ 4.73	$ 8.04	$ 6.69
Net income	**7.00**	10.14	4.72	8.04	6.68
Dividends declared per common share	**2.04**	2.04	2.04	1.92	1.54
Common dividends	**$ 4,028**	$ 4,196	$ 4,299	$ 4,403	$ 3,865
Preferred dividends[(1)]	**1,032**	1,040	1,095	1,109	1,174
Common share repurchases	**3,250**	7,600	2,925	17,875	14,545

Table continues on the next page, including footnotes.

SUMMARY OF SELECTED FINANCIAL DATA
(Continued)

Citigroup Inc. and Consolidated Subsidiaries

In millions of dollars, except per share amounts, ratios and direct staff	**2022**	2021	2020	2019	2018
At December 31:					
Total assets	**$ 2,416,676**	$ 2,291,413	$ 2,260,090	$ 1,951,158	$ 1,917,383
Total deposits	**1,365,954**	1,317,230	1,280,671	1,070,590	1,013,170
Long-term debt	**271,606**	254,374	271,686	248,760	231,999
Citigroup common stockholders' equity	**182,194**	182,977	179,962	175,262	177,760
Total Citigroup stockholders' equity	**201,189**	201,972	199,442	193,242	196,220
Average assets	**2,396,023**	2,347,709	2,226,454	1,978,805	1,920,242
Direct staff *(in thousands)*	**240**	223	210	200	204
Performance metrics					
Return on average assets	**0.62 %**	0.94 %	0.50 %	0.98 %	0.94 %
Return on average common stockholders' equity[2]	**7.7**	11.5	5.7	10.3	9.4
Return on average total stockholders' equity[2]	**7.5**	10.9	5.7	9.9	9.1
Return on tangible common equity (RoTCE)[3]	**8.9**	13.4	6.6	12.1	11.0
Efficiency ratio (total operating expenses/total revenues, net)	**68.1**	67.0	58.8	57.0	58.1
Basel III ratios					
CET1 Capital[4]	**13.03 %**	12.25 %	11.51 %	11.79 %	11.86 %
Tier 1 Capital[4]	**14.80**	13.91	13.06	13.33	13.43
Total Capital[4]	**15.46**	16.04	15.33	15.87	16.14
Supplementary Leverage ratio	**5.82**	5.73	6.99	6.20	6.40
Citigroup common stockholders' equity to assets	**7.54 %**	7.99 %	7.96 %	8.98 %	9.27 %
Total Citigroup stockholders' equity to assets	**8.33**	8.81	8.82	9.90	10.23
Dividend payout ratio[5]	**29**	20	43	24	23
Total payout ratio[6]	**53**	56	73	122	109
Book value per common share	**$ 94.06**	$ 92.21	$ 86.43	$ 82.90	$ 75.05
Tangible book value (TBV) per share[3]	**81.65**	79.16	73.67	70.39	63.79

(1) Certain series of preferred stock have semiannual payment dates. See Note 21.
(2) The return on average common stockholders' equity is calculated using net income less preferred stock dividends divided by average common stockholders' equity. The return on average total Citigroup stockholders' equity is calculated using net income divided by average Citigroup stockholders' equity.
(3) RoTCE and TBV are non-GAAP financial measures. For information on RoTCE and TBV, see "Capital Resources—Tangible Common Equity, Book Value Per Share, Tangible Book Value Per Share and Returns on Equity" below.
(4) Citi's binding CET1 Capital and Tier 1 Capital ratios were derived under the Basel III Standardized Approach as of December 31, 2022, 2021, 2019 and 2018, and were derived under the Basel III Advanced Approaches framework as of December 31, 2020. Citi's binding Total Capital ratio was derived under the Basel III Advanced Approaches framework for all periods presented.
(5) Dividends declared per common share as a percentage of net income per diluted share.
(6) Total common dividends declared plus common share repurchases as a percentage of net income available to common shareholders (*Net income* less preferred dividends). See "Consolidated Statement of Changes in Stockholders' Equity," Note 10 and "Equity Security Repurchases" below for the component details.

SEGMENT REVENUES AND INCOME (LOSS)

REVENUES

In millions of dollars	**2022**	2021	2020	**% Change 2022 vs. 2021**	% Change 2021 vs. 2020
Institutional Clients Group	**$ 41,206**	$ 39,836	$ 41,093	**3 %**	(3)%
Personal Banking and Wealth Management	**24,217**	23,327	25,140	**4**	(7)
Legacy Franchises	**8,472**	8,251	9,454	**3**	(13)
Corporate/Other	**1,443**	470	(186)	**NM**	NM
Total Citigroup net revenues	**$ 75,338**	$ 71,884	$ 75,501	**5 %**	(5)%

NM Not meaningful

INCOME

In millions of dollars	**2022**	2021	2020	**% Change 2022 vs. 2021**	% Change 2021 vs. 2020
Income (loss) from continuing operations					
Institutional Clients Group	**$ 10,738**	$ 14,308	$ 10,811	**(25)%**	32 %
Personal Banking and Wealth Management	**3,319**	7,734	1,322	**(57)**	NM
Legacy Franchises	**(9)**	(9)	(142)	**—**	94
Corporate/Other	**1,117**	(15)	(884)	**NM**	98
Income from continuing operations	**$ 15,165**	$ 22,018	$ 11,107	**(31)%**	98 %
Discontinued operations	**$ (231)**	$ 7	$ (20)	**NM**	NM
Less: Net income attributable to noncontrolling interests	**89**	73	40	**22 %**	83 %
Citigroup's net income	**$ 14,845**	$ 21,952	$ 11,047	**(32)%**	99 %

NM Not meaningful

SEGMENT BALANCE SHEET[1]—DECEMBER 31, 2022

In millions of dollars	Institutional Clients Group	Personal Banking and Wealth Management	Legacy Franchises	Corporate/Other and consolidating eliminations[2]	Citigroup parent company-issued long-term debt and stockholders' equity[3]	Total Citigroup consolidated
Assets						
Cash and deposits with banks, net of allowance	**$ 108,289**	**$ 6,411**	**$ 3,251**	**$ 224,074**	**$ —**	**$ 342,025**
Securities borrowed and purchased under agreements to resell, net of allowance	**364,673**	**425**	**303**	**—**	**—**	**365,401**
Trading account assets	**319,376**	**2,250**	**639**	**11,849**	**—**	**334,114**
Investments, net of allowance	**140,613**	**73**	**1,516**	**384,380**	**—**	**526,582**
Loans, net of unearned income and allowance for credit losses on loans	**279,337**	**324,260**	**36,650**	**—**	**—**	**640,247**
Other assets, net of allowance	**111,477**	**25,559**	**27,764**	**43,507**	**—**	**208,307**
Net intersegment liquid assets[4]	**406,143**	**134,852**	**26,592**	**(567,587)**	**—**	**—**
Total assets	**$ 1,729,908**	**$ 493,830**	**$ 96,715**	**$ 96,223**	**$ —**	**$ 2,416,676**
Liabilities and equity						
Total deposits	**$ 845,364**	**$ 437,813**	**$ 50,994**	**$ 31,783**	**$ —**	**$ 1,365,954**
Securities loaned and sold under agreements to repurchase	**199,895**	**80**	**2,469**	**—**	**—**	**202,444**
Trading account liabilities	**168,550**	**1,636**	**258**	**203**	**—**	**170,647**
Short-term borrowings	**34,785**	**2**	**4**	**12,305**	**—**	**47,096**
Long-term debt[3]	**93,219**	**189**	**75**	**11,866**	**166,257**	**271,606**
Other liabilities	**99,353**	**14,514**	**27,868**	**15,356**	**—**	**157,091**
Net intersegment funding (lending)[3]	**288,742**	**39,596**	**15,047**	**24,061**	**(367,446)**	**—**
Total liabilities	**$ 1,729,908**	**$ 493,830**	**$ 96,715**	**$ 95,574**	**$ (201,189)**	**$ 2,214,838**
Total stockholders' equity[5]	**—**	**—**	**—**	**649**	**201,189**	**201,838**
Total liabilities and equity	**$ 1,729,908**	**$ 493,830**	**$ 96,715**	**$ 96,223**	**$ —**	**$ 2,416,676**

(1) The supplemental information presented in the table above reflects Citigroup's consolidated GAAP balance sheet by reportable segment and component. The respective segment information depicts the assets and liabilities managed by each segment.
(2) Consolidating eliminations for total Citigroup and Citigroup parent company assets and liabilities are recorded within *Corporate/Other*.
(3) Total stockholders' equity and the majority of long-term debt of Citigroup are reflected on the Citigroup parent company balance sheet (see Notes 18 and 30). Citigroup allocates stockholders' equity and long-term debt to its businesses through intersegment allocations as shown above.
(4) Represents the attribution of Citigroup's liquid assets (primarily consisting of cash, marketable equity securities and available-for-sale debt securities) to the various businesses based on Liquidity Coverage ratio (LCR) assumptions.
(5) *Corporate/Other* equity represents noncontrolling interests.

INSTITUTIONAL CLIENTS GROUP

Institutional Clients Group (ICG) includes Services, Markets and Banking (for additional information on these businesses, see "Citigroup Operating Segments" above). *ICG* provides corporate, institutional and public sector clients around the world with a full range of wholesale banking products and services, including fixed income and equity sales and trading, foreign exchange, prime brokerage, derivative services, equity and fixed income research, corporate lending, investment banking and advisory services, cash management, trade finance and securities services. *ICG* transacts with clients in both cash instruments and derivatives, including fixed income, foreign currency, equity and commodity products.

ICG's revenue is generated primarily from fees and spreads associated with these activities. *ICG* earns fee income for assisting clients with transactional services and clearing and providing brokerage and investment banking services and other such activities. Such fees are recognized at the point in time when Citigroup's performance under the terms of a contractual arrangement is completed, which is typically at the trade/execution date or closing of a transaction. Revenue generated from these activities is recorded in *Commissions and fees* and *Investment banking fees*. Revenue is also generated from assets under custody and administration, which is recognized as/when the associated promised service is satisfied, which normally occurs at the point in time the service is requested by the customer and provided by Citi. Revenue generated from these activities is primarily recorded in *Administration and other fiduciary fees*. For additional information on these various types of revenues, see Note 5.

In addition, as a market maker, *ICG* facilitates transactions, including holding product inventory to meet client demand, and earns the differential between the price at which it buys and sells the products. These price differentials and the unrealized gains and losses on the inventory are recorded in *Principal transactions*. Mark-to-market gains and losses on certain credit derivatives (used to economically hedge the corporate loan portfolio) are also recorded in *Principal transactions* (for additional information on *Principal transactions* revenue, see Note 6). *Other* primarily includes realized gains and losses on available-for-sale (AFS) debt securities, gains and losses on equity securities not held in trading accounts and other non-recurring gains and losses. Interest income earned on assets held, less interest paid on long- and short-term debt, secured funding transactions and customers deposits, is recorded as *Net interest income.*

The amount and types of Markets revenues are impacted by a variety of interrelated factors, including market liquidity; changes in market variables such as interest rates, foreign exchange rates, equity prices, commodity prices and credit spreads, as well as their implied volatilities; investor confidence and other macroeconomic conditions. Assuming all other market conditions do not change, increases in client activity levels or bid/offer spreads generally result in increases in revenues. However, changes in market conditions can significantly impact client activity levels, bid/offer spreads and the fair value of product inventory. For example, a decrease in market liquidity may increase bid/offer spreads, decrease client activity levels and widen credit spreads on product inventory positions. *ICG*'s management of the Markets businesses involves daily monitoring and evaluation of the above factors at the trading desk as well as the country level.

In the Markets businesses, client revenues are those revenues directly attributable to client transactions at the time of inception, including commissions, interest or fees earned. Client revenues do not include the results of client facilitation activities (e.g., holding product inventory in anticipation of client demand) or the results of certain economic hedging activities.

ICG's international presence is supported by trading floors in approximately 80 countries and a proprietary network in 95 countries and jurisdictions. As previously disclosed, Citi intends to end nearly all of the institutional banking services it offers in Russia by the end of the first quarter of 2023. Going forward, Citi's only operations in Russia will be those necessary to fulfill its remaining legal and regulatory obligations. At this time, the estimated cost to be incurred in relation to this action is approximately $80 million (excluding the impact from any portfolio sales), primarily through 2024. For additional information about Citi's continued efforts to reduce its operations and exposure in Russia, see "*Legacy Franchises*" and "Managing Global Risk—Other Risks—Country Risk—Russia" below.

At December 31, 2022, *ICG* had $1.7 trillion in assets and $845 billion in deposits. Securities services managed $22.2 trillion in assets under custody and administration at December 31, 2022, of which Citi provided both custody and administrative services to certain clients related to $1.9 trillion of such assets. Managed assets under trust were $4.0 trillion at December 31, 2022. For additional information on these operations, see "Administration and Other Fiduciary Fees" in Note 5.

In millions of dollars, except as otherwise noted	**2022**	2021	2020	**% Change 2022 vs. 2021**	% Change 2021 vs. 2020
Commissions and fees	**$ 4,404**	$ 4,300	$ 3,961	**2 %**	9 %
Administration and other fiduciary fees	**2,684**	2,693	2,348	**—**	15
Investment banking fees[1]	**3,573**	6,709	4,982	**(47)**	35
Principal transactions	**13,633**	9,763	12,916	**40**	(24)
Other	**(999)**	1,372	1,136	**NM**	21
Total non-interest revenue	**$ 23,295**	$ 24,837	$ 25,343	**(6)%**	(2)%
Net interest income (including dividends)	**17,911**	14,999	15,750	**19**	(5)
Total revenues, net of interest expense	**$ 41,206**	$ 39,836	$ 41,093	**3 %**	(3)%
Total operating expenses[2]	**$ 26,299**	$ 23,949	$ 22,336	**10 %**	7 %

Net credit losses on loans	**$ 152**	$ 356	$ 877	**(57)%**	(59)%
Credit reserve build (release) for loans	**478**	(2,093)	2,582	**NM**	NM
Provision (release) for credit losses on unfunded lending commitments	**187**	(753)	1,390	**NM**	NM
Provisions for credit losses on HTM debt securities and other assets	**94**	—	20	**—**	100
Provisions (releases) for credit losses	**$ 911**	$ (2,490)	$ 4,869	**NM**	NM
Income from continuing operations before taxes	**$ 13,996**	$ 18,377	$ 13,888	**(24)%**	32 %
Income taxes	**3,258**	4,069	3,077	**(20)**	32
Income from continuing operations	**$ 10,738**	$ 14,308	$ 10,811	**(25)%**	32 %
Noncontrolling interests	**79**	83	50	**(5)**	66
Net income	**$ 10,659**	$ 14,225	$ 10,761	**(25)%**	32 %
Balance Sheet data *(in billions of dollars)*					
EOP assets	**$ 1,730**	$ 1,613	$ 1,592	**7 %**	1 %
Average assets	**1,716**	1,669	1,566	**3**	7
Efficiency ratio	**64 %**	60 %	54 %		
Average loans by reporting unit *(in billions of dollars)*					
Services	**$ 82**	$ 75	$ 70	**9 %**	7 %
Banking	**196**	196	217	**—**	(10)
Markets	**13**	16	11	**(19)**	45
Total	**$ 291**	$ 287	$ 298	**1 %**	(4)%
Average deposits by reporting unit *(in billions of dollars)*					
TTS	**$ 675**	$ 670	$ 646	**1 %**	4 %
Securities services	**133**	135	108	**(1)**	25
Services	**$ 808**	$ 805	$ 754	**— %**	7 %
Markets and Banking	**22**	23	26	**(4)**	(12)
Total	**$ 830**	$ 828	$ 780	**— %**	6 %

(1) Investment banking fees are substantially composed of underwriting and advisory revenues.
(2) 2020 includes an approximate $390 million operational loss related to certain legal matters. 2022 includes a Revlon-related wire transfer recovery.
NM Not meaningful

ICG Revenue Details

In millions of dollars		**2022**		2021		2020	**% Change 2022 vs. 2021**	% Change 2021 vs. 2020
Services								
Net interest income	**$**	**9,722**	$	6,595	$	7,581	**47 %**	(13)%
Non-interest revenue		**6,300**		5,987		5,165	**5**	16
Total Services revenues	**$**	**16,022**	$	12,582	$	12,746	**27 %**	(1)%
Net interest income	**$**	**8,306**	$	5,706	$	6,524	**46 %**	(13)%
Non-interest revenue		**3,857**		3,509		3,004	**10**	17
TTS revenues	**$**	**12,163**	$	9,215	$	9,528	**32 %**	(3)%
Net interest income	**$**	**1,416**	$	889	$	1,057	**59 %**	(16)%
Non-interest revenue		**2,443**		2,478		2,161	**(1)**	15
Securities services revenues	**$**	**3,859**	$	3,367	$	3,218	**15 %**	5 %
Markets								
Net interest income	**$**	**5,164**	$	5,161	$	5,182	**— %**	— %
Non-interest revenue		**13,949**		12,715		15,932	**10**	(20)
Total Markets revenues[1]	**$**	**19,113**	$	17,876	$	21,114	**7 %**	(15)%
Fixed income markets	**$**	**14,555**	$	12,880	$	17,040	**13 %**	(24)%
Equity markets		**4,558**		4,996		4,074	**(9)**	23
Total Markets revenues	**$**	**19,113**	$	17,876	$	21,114	**7 %**	(15)%
Rates and currencies	**$**	**11,743**	$	8,793	$	12,057	**34 %**	(27)%
Spread products / other fixed income		**2,812**		4,087		4,983	**(31)**	(18)
Total Fixed income markets revenues	**$**	**14,555**	$	12,880	$	17,040	**13 %**	(24)%
Banking								
Net interest income	**$**	**3,025**	$	3,243	$	2,987	**(7)%**	9 %
Non-interest revenue		**3,046**		6,135		4,246	**(50)**	44
Total Banking revenues	**$**	**6,071**	$	9,378	$	7,233	**(35)%**	30 %
Investment banking								
Advisory	**$**	**1,365**	$	1,796	$	1,010	**(24)%**	78 %
Equity underwriting		**611**		2,249		1,423	**(73)**	58
Debt underwriting		**1,133**		2,586		2,173	**(56)**	19
Total Investment banking revenues	**$**	**3,109**	$	6,631	$	4,606	**(53)%**	44 %
Corporate lending (excluding gains (losses) on loan hedges)[2]	**$**	**2,655**	$	2,887	$	2,686	**(8)%**	7 %
Total Banking revenues (excluding gains (losses) on loan hedges)[2]	**$**	**5,764**	$	9,518	$	7,292	**(39)%**	31 %
Gain (loss) on loan hedges[2]		**307**		(140)		(59)	**NM**	NM
Total Banking revenues (including gains (losses) on loan hedges)[2]	**$**	**6,071**	$	9,378	$	7,233	**(35)%**	30 %
Total *ICG* revenues, net of interest expense	**$**	**41,206**	$	39,836	$	41,093	**3 %**	(3)%

(1) Citi assesses its Markets business performance on a total revenue basis, as offsets may occur across revenue line items. For example, securities that generate *Net interest income* may be risk managed by derivatives that are recorded in *Principal transactions* revenue within *Non-interest revenue*. For a description of the composition of these revenue line items, see Notes 4, 5 and 6.

(2) Credit derivatives are used to economically hedge a portion of the corporate loan portfolio that includes both accrual loans and loans at fair value. Gain (loss) on loan hedges include the mark-to-market on the credit derivatives and the mark-to-market on the loans in the portfolio that are at fair value. The fixed premium costs of these hedges are netted against the corporate lending revenues to reflect the cost of credit protection. Citigroup's results of operations excluding the impact of gain (loss) on loan hedges are non-GAAP financial measures.

NM Not meaningful

The discussion of the results of operations for ICG below excludes (where noted) the impact of any gain (loss) on hedges of accrual loans, which are non-GAAP financial measures. For a reconciliation of these metrics to the reported results, see the table above.

2022 vs. 2021

Net income of $10.7 billion decreased 25%, primarily driven by substantially higher cost of credit and higher expenses, partially offset by higher revenues.

Revenues increased 3% (including gain (loss) on loan hedges), primarily reflecting higher Services and Markets revenues, partially offset by lower Banking revenues. Services revenues were up 27%, driven by higher revenues in both TTS and Securities services. Markets revenues were up 7%, primarily driven by higher Fixed income markets revenues, partially offset by lower Equity markets revenues and the impact of business actions taken to reduce RWA.

Banking revenues were down 35% (39% excluding the impact of gain (loss) on loan hedges), reflecting lower revenues in both Investment banking and Corporate lending.

Citi expects that revenues in its Markets and Investment banking businesses will continue to reflect the overall market environment during 2023.

Within Services:

- TTS revenues increased 32%, driven by 46% growth in net interest income and 10% growth in non-interest revenue, driven by deepening of existing client relations and gaining new clients across segments. The increase in net interest income was driven by both the cash and trade businesses, reflecting benefits from higher interest rates, balance sheet optimization, higher average deposits and higher average loans. Average deposits grew 1%, as volume growth was partially offset by the impact of foreign exchange translation. Average loans grew 11%, primarily driven by the strength in trade flows in Asia and Latin America, partially offset by loan sales in North America. Strong non-interest revenues growth across both cash and trade businesses reflected client engagement and growth from underlying drivers, including higher U.S. dollar clearing volumes (up 2%), cross-border flows (up 11%) and commercial card spend (up 49%).
- Securities services revenues increased 15%, primarily driven by an increase in net interest income, reflecting higher interest rates across currencies as well as the impact of foreign exchange translation. Non-interest revenues decreased 1%, due to the impact of foreign exchange translation and lower fees in the custody business tied to lower assets under custody and administration (decline of 7%), driven by declines in global financial markets. The decline in non-interest revenues was partially offset by continued elevated levels of corporate activity in issuer services and new client onboarding of $1.2 trillion in assets under custody and administration. Average deposits declined 7%, due to clients seeking higher rate alternatives.

Within Markets:

- Fixed income markets revenues increased 13%, driven by growth in rates and currencies across all regions, due to strong corporate and investor client engagement, partially offset by a decline in spread products, primarily driven by North America.
- Rates and currencies revenues increased 34%, reflecting increased market volatility, driven by rising interest rates and quantitative tightening, as central banks responded to elevated levels of inflation. Spread products and other fixed income revenues decreased 31%, due to continued lower client activity across spread products and a challenging credit market due to widening spreads for most of the year. The decline in spread products and other fixed income revenues was partially offset by strength in commodities, particularly with corporate clients, as the business assisted those clients in managing risk associated with the increased volatility.
- Equity markets revenues decreased 9%, driven by equity derivatives, primarily reflecting lower activity by both corporate and institutional clients compared to a strong prior year. The lower revenues also reflected a decline in equity cash, driven by lower client activity.

Within Banking:

- Investment banking revenues were down 53%, reflecting a significant decline in the overall market wallet and loss in wallet share, as heightened macroeconomic uncertainty and volatility continued to impact client activity. Advisory revenues decreased 24%, reflecting a decline in North America and EMEA, driven by the decline in the market wallet as well as loss in wallet share. Equity and debt underwriting revenues decreased 73% and 56% respectively, reflecting a decline in North America, EMEA and Asia and driven by the decline in the market wallet as well as wallet share loss. The decline in debt underwriting revenues also reflected markdowns on loan commitments and losses on loan sales.
- Corporate lending revenues increased 8%, including the impact of gain (loss) on loan hedges. Excluding the impact of gain (loss) on loan hedges, revenues decreased 8%, primarily driven by the impacts of foreign currency translation, higher cost of funds and higher hedging costs.

Expenses were up 10%, primarily driven by continued investment in Citi's transformation, business-led investments and volume-related expenses, partially offset by a Revlon-related wire transfer recovery, the impact of foreign exchange translation and productivity savings.

Provisions were $911 million, compared to a benefit of $2.5 billion in the prior year, driven by an ACL build, partially offset by lower net credit losses.

Net credit losses declined to $152 million, compared to $356 million in the prior year, driven by improvements in portfolio credit quality.

The ACL build was $759 million, compared to a release of $2.8 billion in the prior year. The ACL build was primarily driven by a deterioration in macroeconomic assumptions. For additional information on Citi's ACL, see "Significant Accounting Policies and Significant Estimates" below.

For additional information on *ICG*'s corporate credit portfolio, see "Managing Global Risk—Credit Risk—Corporate Credit" below.

For additional information on trends in *ICG*'s deposits and loans, see "Managing Global Risk—Liquidity Risk—Loans" and "—Deposits" below.

For additional information about trends, uncertainties and risks related to *ICG*'s future results, see "Executive Summary" above and "Risk Factors" and "Managing Global Risk—Other Risks—Country Risk—Argentina" and "—Russia" below.

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PERSONAL BANKING AND WEALTH MANAGEMENT

Personal Banking and Wealth Management (PBWM) consists of U.S. Personal Banking and Global Wealth Management (Global Wealth). U.S. Personal Banking includes Retail banking, which provides traditional banking services to retail and small business customers. U.S. Personal Banking's cards portfolio includes the following proprietary portfolios: Cash, Rewards and Value portfolios and co-branded cards (including, among others, American Airlines and Costco) within Branded cards, and co-brand and private label relationships (including, among others, The Home Depot, Best Buy, Sears and Macy's) within Retail services. Global Wealth includes Private bank, Wealth at Work and Citigold and provides financial services to clients from affluent to ultra-high-net-worth through banking, lending, mortgages, investment, custody and trust product offerings in 20 countries, including the U.S., Mexico and four wealth management centers: Singapore, Hong Kong, the UAE and London.

At December 31, 2022, U.S. Personal Banking had 654 retail bank branches concentrated in the six key metropolitan areas of New York, Chicago, Los Angeles, San Francisco, Miami and Washington, D.C. U.S. Personal Banking had $151 billion in outstanding credit card balances, $113 billion in deposits and $37 billion in retail banking loans.

At December 31, 2022, Global Wealth had $325 billion in deposits, $84 billion in mortgage loans, $61 billion in personal and small business loans and $5 billion in outstanding credit card balances.

In millions of dollars, except as otherwise noted	**2022**	2021	2020	**% Change 2022 vs. 2021**	% Change 2021 vs. 2020
Net interest income	**$ 22,656**	$ 20,646	$ 22,326	**10 %**	(8)%
Non-interest revenue	**1,561**	2,681	2,814	**(42)**	(5)
Total revenues, net of interest expense	**$ 24,217**	$ 23,327	$ 25,140	**4 %**	(7)%
Total operating expenses	**$ 16,258**	$ 14,610	$ 13,599	**11 %**	7 %
Net credit losses on loans	**$ 3,021**	$ 3,061	$ 5,229	**(1)%**	(41)%
Credit reserve build (release) for loans	**707**	(4,284)	4,613	**NM**	NM
Provision (release) for credit losses on unfunded lending commitments	**11**	(16)	26	**NM**	NM
Provisions for benefits and claims (PBC), and other assets	**15**	15	17	**—**	(12)
Provisions (release) for credit losses and PBC	**$ 3,754**	$ (1,224)	$ 9,885	**NM**	NM
Income from continuing operations before taxes	**$ 4,205**	$ 9,941	$ 1,656	**(58)%**	NM
Income taxes	**886**	2,207	334	**(60)**	NM
Income from continuing operations	**$ 3,319**	$ 7,734	$ 1,322	**(57)%**	NM
Noncontrolling interests	**—**	—	—	**—**	— %
Net income	**$ 3,319**	$ 7,734	$ 1,322	**(57)%**	NM
Balance Sheet data *(in billions of dollars)*					
EOP assets	**$ 494**	$ 464	$ 453	**6 %**	2 %
Average assets	**476**	467	454	**2**	3
Average loans	**321**	307	304	**5**	1
Average deposits	**435**	417	358	**4**	16
Efficiency ratio	**67 %**	63 %	54 %		
Net credit losses as a percentage of average loans	**0.94**	1.00	1.72		
Revenue by reporting unit and component					
Branded cards	**$ 8,892**	$ 8,190	$ 8,799	**9 %**	(7)%
Retail services	**5,450**	5,082	5,965	**7**	(15)
Retail banking	**2,501**	2,506	2,790	**—**	(10)
U.S. Personal Banking	**$ 16,843**	$ 15,778	$ 17,554	**7 %**	(10)%
Private bank	**$ 2,762**	$ 2,943	$ 2,882	**(6)%**	2 %
Wealth at Work	**730**	691	677	**6**	2
Citigold	**3,882**	3,915	4,027	**(1)**	(3)
Global Wealth	**$ 7,374**	$ 7,549	$ 7,586	**(2)%**	— %
Total	**$ 24,217**	$ 23,327	$ 25,140	**4 %**	(7)%

NM Not meaningful

2022 vs. 2021

Net income was $3.3 billion, compared to $7.7 billion in the prior year, reflecting significantly higher cost of credit and higher expenses, partially offset by higher revenues.

Revenues increased 4%, primarily due to higher net interest income, driven by strong loan growth in Branded cards and Retail services and higher interest rates. The increase was partially offset by lower non-interest revenue, reflecting lower investment product revenue in Global Wealth and higher partner payments in Retail services resulting from higher revenues.

U.S. Personal Banking revenues increased 7%, reflecting higher revenues in cards.

Cards revenues increased 8%. Branded cards revenues increased 9%, primarily driven by higher net interest income on higher loan balances. Branded cards new account acquisitions increased 11% and card spend volume increased 16%. Average loans increased 11%, reflecting the higher card spend volumes.

Retail services revenues increased 7%, primarily driven by higher net interest income on higher loan balances and lower payment rates, partially offset by the increase in partner payments. The increase in partner payments reflected higher income sharing as a result of higher revenues (for additional information on partner payments, see Note 5). Retail services credit card spend volume increased 8% and average loans increased 6%, reflecting the higher card spend volumes.

Retail banking revenues were largely unchanged, as the higher interest rates and modest deposit growth were offset by lower mortgage revenues due to fewer mortgage originations, driven by the higher interest rates. Average deposits increased 3%, largely reflecting higher levels of consumer liquidity in the first half of 2022.

Global Wealth revenues decreased 2%, reflecting investment product revenue headwinds, particularly in Asia, driven by overall market volatility, partially offset by net interest income growth, driven by higher interest rates and higher loan and deposit volumes. Average loans increased 2% and average deposits increased 5%. Client assets decreased 8%, primarily driven by declines in equity market valuations. Global Wealth advisors increased 4% during 2022. Private bank revenues decreased 6%, Citigold revenues decreased 1% and Wealth at Work revenues increased 6%.

Expenses increased 11%, primarily driven by continued investments in Citi's transformation, other risk and control initiatives, volume-related expenses and business-led investments, partially offset by productivity savings.

Provisions were $3.8 billion, compared to a benefit of $1.2 billion in the prior year, largely driven by a net ACL build. Net credit losses decreased 1%, driven by historically low loss rates experienced in the first half of 2022, followed by the ongoing normalization of losses toward pre-pandemic levels, particularly in Retail services (net credit losses up 7% to $1.3 billion). Branded cards net credit losses declined 17% to $1.4 billion.

The net ACL build was $0.7 billion, compared to a net release of $4.3 billion in the prior year, primarily driven by U.S. Cards loan growth and a deterioration in macroeconomic assumptions. For additional information on Citi's ACL, see "Significant Accounting Policies and Significant Estimates" below.

For additional information on U.S. Personal Banking's Retail banking, and its Branded cards and Retail services portfolios, see "Credit Risk—Consumer Credit" below.

For additional information about trends, uncertainties and risks related to *PBWM*'s future results, see "Executive Summary" above and "Risk Factors" below.

LEGACY FRANCHISES

As of December 31, 2022, *Legacy Franchises* included (i) Asia Consumer Banking (Asia Consumer), representing the consumer banking operations of the remaining eight Asia and EMEA exit countries; (ii) Mexico Consumer Banking (Mexico Consumer) and Mexico Small Business and Middle-Market Banking (Mexico SBMM), collectively Mexico Consumer/SBMM, which Citi also plans to exit; and (iii) Legacy Holdings Assets (certain North America consumer mortgage loans and other legacy assets). Asia Consumer provides traditional retail banking and branded card products to retail and small business customers. Mexico Consumer/SBMM provides traditional retail banking and branded card products to consumers and small business customers and traditional middle-market banking products and services to commercial customers through Citibanamex.

Legacy Franchises also included the following consumer banking businesses prior to their sale: Australia, until its closing on June 1, 2022; the Philippines, until its closing on August 1, 2022; Thailand and Malaysia, until their closings on November 1, 2022; and Bahrain, until its closing on December 1, 2022. In addition, Citi has entered into agreements to sell its consumer banking businesses in India, Indonesia, Taiwan and Vietnam, and announced its wind-down of consumer banking operations in Korea and China and consumer banking and local commercial banking operations in Russia (see below). In December 2022, Citi announced the pursuit of sales of portfolios within its China consumer banking business, subject to applicable regulations. See Note 2 for additional information on *Legacy Franchises*' consumer banking business sales and wind-downs.

As previously disclosed, Citi announced the wind-down of its consumer banking and local commercial banking operations in Russia, including its active pursuit of sales of certain Russia consumer banking portfolios. In connection with this wind-down plan, Citi expects to incur approximately $110 million in costs (excluding the impact from any portfolio sales), primarily through 2024, largely driven by restructuring, vendor termination fees and other related charges. In December 2022, Citi (i) sold a portfolio of ruble-denominated personal installment loans, totaling approximately $240 million in outstanding loan balances as of the fourth quarter of 2022 and (ii) entered into a referral agreement to settle a portfolio of ruble-denominated credit card loans, subject to customer consents; the outstanding card loans balance was approximately $219 million as of the fourth quarter of 2022. For additional information about Citi's continued efforts to reduce its operations and exposure in Russia, see "*Institutional Clients Group*" above and "Risk Factors" and "Managing Global Risk—Other Risks—Country Risk—Russia" below.

At December 31, 2022, on a combined basis, *Legacy Franchises* had 1,438 retail branches, $23 billion in retail banking loans and $51 billion in deposits. In addition, the businesses had $8 billion in outstanding card loan balances, and Mexico SBMM had $7 billion in outstanding corporate loan balances. These amounts exclude approximately $12 billion of loans ($9 billion of retail banking loans and $3 billion of credit card loan balances) and approximately $16 billion of deposits, all of which were reclassified to *Other assets* and *Other liabilities* held-for-sale (HFS) as a result of Citi's agreements to sell its consumer banking businesses in India, Indonesia, Taiwan and Vietnam. See Note 2 for additional information.

In millions of dollars, except as otherwise noted		**2022**		2021		2020	**% Change 2022 vs. 2021**	% Change 2021 vs. 2020
Net interest income	**$**	**5,691**	$	6,250	$	6,973	**(9)%**	(10)%
Non-interest revenue		**2,781**		2,001		2,481	**39**	(19)
Total revenues, net of interest expense	**$**	**8,472**	$	8,251	$	9,454	**3 %**	(13)%
Total operating expenses	**$**	**7,782**	$	8,259	$	6,890	**(6)%**	20 %
Net credit losses on loans	**$**	**616**	$	1,478	$	1,505	**(58)%**	(2)%
Credit reserve build (release) for loans		**(229)**		(1,621)		1,116	**86**	NM
Provision (release) for credit losses on unfunded lending commitments		**93**		(19)		30	**NM**	NM
Provisions for benefits and claims (PBC), HTM debt securities and other assets		**91**		100		88	**(9)**	14
Provisions (releases) for credit losses and PBC	**$**	**571**	$	(62)	$	2,739	**NM**	NM
Income (loss) from continuing operations before taxes	**$**	**119**	$	54	$	(175)	**NM**	NM
Income taxes		**128**		63		(33)	**NM**	NM
Income (loss) from continuing operations	**$**	**(9)**	$	(9)	$	(142)	**— %**	94 %
Noncontrolling interests		**3**		(10)		(6)	**NM**	(67)
Net income (loss)	**$**	**(12)**	$	1	$	(136)	**NM**	101 %
Balance Sheet data *(in billions of dollars)*								
EOP assets	**$**	**97**	$	125	$	131	**(22)%**	(5)%
Average assets		**110**		127		128	**(13)**	(1)
EOP loans		**38**		65		84	**(42)**	(23)
EOP deposits		**51**		76		90	**(33)**	(16)
Efficiency ratio		**92 %**		100 %		73 %		
Revenue by reporting unit and component								
Asia Consumer	**$**	**3,811**	$	3,405	$	4,311	**12 %**	(21)%
Mexico Consumer/SBMM		**4,751**		4,651		4,885	**2**	(5)
Legacy Holdings Assets		**(90)**		195		258	**NM**	(24)
Total	**$**	**8,472**	$	8,251	$	9,454	**3 %**	(13)%

NM Not meaningful

2022 vs. 2021

Net loss was $12 million, compared to net income of $1 million in the prior year, primarily driven by higher cost of credit, partially offset by lower expenses and higher revenues.

Results for 2022 included divestiture-related impacts of approximately $87 million (approximately $(180) million after-tax), which primarily consisted of (i) an approximate $618 million Philippines gain on sale recorded in revenues, (ii) an approximate $209 million Thailand gain on sale recorded in revenues, (iii) an approximate $(64) million incremental Australia consumer banking loss on sale recorded in revenues, (iv) an approximate $535 million goodwill impairment recorded in expenses and (v) an approximate $156 million of other aggregate divestiture-related costs.

Results for 2021 included divestiture-related impacts of approximately $(1.9) billion (approximately $(1.6) billion after-tax), which primarily consisted of (i) an approximate $(694) million Australia loss on sale recorded in revenues, (ii) an approximate $1.1 billion related to charges incurred from the voluntary early retirement program (VERP) in connection with the wind-down of the Korea consumer banking business recorded in expenses and (iii) contract modification costs related to the Asia divestitures of approximately $119 million recorded in expenses.

Revenues increased 3%, primarily driven by higher revenues in Asia Consumer and Mexico Consumer/SBMM, partially offset by lower Legacy Holdings Assets revenues.

Asia Consumer revenues increased 12%, primarily driven by the Philippines and Thailand gains on sale, versus the Australia loss on sale in the prior year, partially offset by the loss of revenues from the closing of the five exit markets and impacts of the ongoing Korea and Russia wind-downs.

Mexico Consumer/SBMM revenues increased 2%, as cards revenues in Mexico Consumer increased 7% and SBMM revenues increased 9%, primarily due to higher interest rates and higher deposit and loan growth. The increase in revenues was partially offset by a 1% decrease in retail banking revenues, primarily driven by lower fiduciary fees reflecting declines in equity market valuations.

Legacy Holdings Assets revenues of $(90) million decreased from $195 million in the prior year, largely driven by a CTA loss (net of hedges) recorded in *AOCI* in the second quarter of 2022, related to the substantial liquidation of a legacy U.K. consumer operation (for additional information, see "*Corporate/Other*" below and Note 2), as well as the continued wind-down of Legacy Holdings Assets.

Expenses decreased 6%, primarily driven by the absence of the $1.2 billion divestiture-related costs in the prior year, including the Korea VERP of approximately $1.1 billion and contract modification costs related to Asia divestiture markets of approximately $119 million, and the benefit from the closing of the five exit markets. The decline was partially offset by an approximate $535 million goodwill impairment in the first quarter of 2022, an approximate $70 million impairment of long-lived assets related to the Russia consumer banking business in the second quarter of 2022 and approximately $156 million of other aggregate divestiture-related costs.

Provisions were $571 million, compared to a benefit of $62 million in the prior year, primarily driven by a lower net ACL release, partially offset by lower net credit losses. Net credit losses decreased 58%, primarily reflecting improved delinquencies in both Asia Consumer and Mexico Consumer and the reclassification of loans and net credit losses to reflect HFS accounting as a result of the signing of sale agreements for the aforementioned consumer banking businesses in Asia Consumer.

The net ACL release was $136 million, compared to a net release of $1.6 billion in the prior year. The continued release primarily reflected further improvement in portfolio credit quality. For additional information on Citi's ACL, see "Significant Accounting Policies and Significant Estimates" below.

For additional information about trends, uncertainties and risks related to *Legacy Franchises*' future results, see "Executive Summary" above and "Risk Factors" and "Managing Global Risk—Other Risks—Country Risk—Russia" below.

CORPORATE/OTHER

Activities not assigned to the operating segments (*ICG*, *PBWM* and *Legacy Franchises*) are included in *Corporate/Other*. *Corporate/Other* included certain unallocated costs of global staff functions (including finance, risk, human resources, legal and compliance-related costs), other corporate expenses and unallocated global operations and technology expenses and income taxes, as well as results of Corporate Treasury investment activities and discontinued operations. At December 31, 2022, *Corporate/Other* had $96 billion in assets, primarily related to the investment securities.

In millions of dollars	**2022**	2021	2020	**% Change 2022 vs. 2021**	% Change 2021 vs. 2020
Net interest income	**$ 2,410**	$ 599	$ (298)	**NM**	NM
Non-interest revenue	**(967)**	(129)	112	**NM**	NM
Total revenues, net of interest expense	**$ 1,443**	$ 470	$ (186)	**NM**	NM
Total operating expenses	**$ 953**	$ 1,375	$ 1,549	**(31)%**	(11)%
Provisions (releases) for HTM debt securities and other assets	**$ 3**	$ (2)	$ 2	**NM**	NM
Income (loss) from continuing operations before taxes	**$ 487**	$ (903)	$ (1,737)	**NM**	48 %
Income taxes (benefits)	**(630)**	(888)	(853)	**29 %**	(4)
Income (loss) from continuing operations	**$ 1,117**	$ (15)	$ (884)	**NM**	98 %
Income (loss) from discontinued operations, net of taxes	**(231)**	7	(20)	**NM**	NM
Net income (loss) before attribution of noncontrolling interests	**$ 886**	$ (8)	$ (904)	**NM**	99 %
Noncontrolling interests	**7**	—	(4)	**— %**	100
Net income (loss)	**$ 879**	$ (8)	$ (900)	**NM**	99 %

NM Not meaningful

2022 vs. 2021

Net income was $879 million, compared to a net loss of $8 million in the prior year, reflecting higher revenues and lower expenses, partially offset by lower income tax benefits and a second quarter of 2022 release of a CTA loss (net of hedges) from *AOCI*, recorded in discontinued operations, related to the substantial liquidation of a U.K. consumer legacy operation (for additional information, see "*Legacy Franchises*" above and Note 2).

Revenues were $1.4 billion, compared to $470 million in the prior year, driven by higher net interest income, partially offset by lower non-interest revenue. The higher net interest income was primarily due to the investment portfolio driven by higher balances, higher interest rates and lower mortgage-backed securities prepayments, partially offset by higher cost of funds related to higher institutional certificates of deposit. The lower non-interest revenue was primarily due to the absence of mark-to-market gains in the prior year as well as higher hedging costs.

Expenses decreased 31%, primarily driven by lower consulting expenses and the impact of certain legal settlements.

For additional information about trends, uncertainties and risks related to *Corporate/Other*'s future results, see "Executive Summary" above and "Risk Factors" below.

CAPITAL RESOURCES

Overview

Capital is used principally to support assets in Citi's businesses and to absorb potential losses, including credit, market and operational losses. Citi primarily generates capital through earnings from its operating businesses. Citi may augment its capital through issuances of common stock and noncumulative perpetual preferred stock, among other issuances. Further, Citi's capital levels may also be affected by changes in accounting and regulatory standards, as well as the impact of future events on Citi's business results, such as the signing or closing of divestitures and changes in interest and foreign exchange rates.

During 2022, Citi returned a total of $7.3 billion of capital to common shareholders in the form of $4.0 billion in dividends and $3.3 billion in share repurchases totaling approximately 56 million common shares. Citi has continued to pause common share repurchases in order to absorb any temporary capital impacts related to any potential signing of a sale agreement for its Mexico Consumer and Small Business and Middle-Market Banking (Mexico Consumer/SBMM) business (for additional information, see "Executive Summary —Macroeconomic and Other Risks and Uncertainties" above) and to continue to have ample capital to serve its clients. For additional information on capital-related trends, uncertainties and risks related to Citi's exit businesses, including the impact of CTA losses, see "Executive Summary" above and "Risk Factors—Strategic Risks" and "—Operational Risks" below.

Capital Management

Citi's capital management framework is designed to ensure that Citigroup and its principal subsidiaries maintain sufficient capital consistent with each entity's respective risk profile, management targets and all applicable regulatory standards and guidelines. Citi assesses its capital adequacy against a series of internal quantitative capital goals, designed to evaluate its capital levels in expected and stressed economic environments. Underlying these internal quantitative capital goals are strategic capital considerations, centered on preserving and building financial strength.

The Citigroup Capital Committee, with oversight from the Risk Management Committee of Citigroup's Board of Directors, has responsibility for Citi's aggregate capital structure, including the capital assessment and planning process, which is integrated into Citi's capital plan. Balance sheet management, including oversight of capital adequacy, for Citigroup and its subsidiaries is governed by each entity's Asset and Liability Committee, where applicable.

For additional information regarding Citi's capital planning and stress testing exercises, see "Stress Testing Component of Capital Planning" below.

Current Regulatory Capital Standards

Citi is subject to regulatory capital rules issued by the Federal Reserve Board (FRB), in coordination with the OCC and FDIC, including the U.S. implementation of the Basel III rules (for information on potential changes to the Basel III rules, see "Basel III Revisions" below). These rules establish an integrated capital adequacy framework, encompassing both risk-based capital ratios and leverage ratios.

Risk-Based Capital Ratios

The U.S. Basel III rules set forth the composition of regulatory capital (including the application of regulatory capital adjustments and deductions), as well as two comprehensive methodologies (a Standardized Approach and Advanced Approaches) for measuring total risk-weighted assets.

Total risk-weighted assets under the Standardized Approach include credit and market risk-weighted assets, which are generally prescribed supervisory risk weights. Total risk-weighted assets under the Advanced Approaches, which are primarily model based, include credit, market and operational risk-weighted assets. As a result, credit risk-weighted assets calculated under the Advanced Approaches are more risk sensitive than those calculated under the Standardized Approach. Market risk-weighted assets are currently calculated on a generally consistent basis under both the Standardized and Advanced Approaches. The Standardized Approach does not include operational risk-weighted assets.

Under the U.S. Basel III rules, Citigroup is required to maintain several regulatory capital buffers above the stated minimum capital requirements to avoid certain limitations on capital distributions and discretionary bonus payments to executive officers. Accordingly, for the fourth quarter of 2022, Citigroup's required regulatory CET1 Capital ratio was 11.5% under the Standardized Approach (incorporating its Stress Capital Buffer of 4.0% and GSIB (global systemically important bank) surcharge of 3.0%) and 10.0% under the Advanced Approaches (inclusive of the fixed 2.5% Capital Conservation Buffer and GSIB surcharge of 3.0%).

In addition, commencing January 1, 2023, Citi's GSIB surcharge increased from 3.0% to 3.5%, which is applicable to both the Standardized and Advanced Approaches, resulting in a required CET1 Capital ratio of 12.0% under the Standardized Approach and 10.5% under the Advanced Approaches, both as of such date (for additional information, see "*GSIB Surcharge*" below).

Similarly, Citigroup's primary subsidiary, Citibank, N.A. (Citibank), is required to maintain minimum regulatory capital ratios plus applicable regulatory buffers, as well as hold sufficient capital to be considered "well capitalized" under the Prompt Corrective Action framework. In effect, Citibank's required CET1 Capital ratio was 7.0% under both the Standardized and Advanced Approaches, which is the sum of the minimum 4.5% CET1 requirement and a fixed 2.5% Capital Conservation Buffer. For additional information, see "Regulatory Capital Buffers" and "Prompt Corrective Action Framework" below.

Further, the U.S. Basel III rules implement the "capital floor provision" of the Dodd-Frank Act (the so-called "Collins Amendment"), which requires banking organizations to calculate "generally applicable" capital requirements. As a result, Citi must calculate each of the three risk-based capital ratios (CET1 Capital, Tier 1 Capital and Total Capital) under both the Standardized Approach and the Advanced Approaches and comply with the more binding of each of the resulting risk-based capital ratios.

Tier 1 Leverage Ratio

Under the U.S. Basel III rules, Citigroup is also required to maintain a minimum Tier 1 Leverage ratio of 4.0%. Similarly, Citibank is required to maintain a minimum Tier 1 Leverage ratio of 5.0% to be considered "well capitalized" under the Prompt Corrective Action framework. The Tier 1 Leverage ratio, a non-risk-based measure of capital adequacy, is defined as Tier 1 Capital as a percentage of quarterly adjusted average total assets less amounts deducted from Tier 1 Capital.

Supplementary Leverage Ratio

Citi is also required to calculate a Supplementary Leverage ratio (SLR), which differs from the Tier 1 Leverage ratio by including certain off-balance sheet exposures within the denominator of the ratio (Total Leverage Exposure). The SLR represents end-of-period Tier 1 Capital to Total Leverage Exposure. Total Leverage Exposure is defined as the sum of (i) the daily average of on-balance sheet assets for the quarter and (ii) the average of certain off-balance sheet exposures calculated as of the last day of each month in the quarter, less applicable Tier 1 Capital deductions. Advanced Approaches banking organizations are required to maintain a stated minimum SLR of 3.0%.

Further, U.S. GSIBs, including Citigroup, are subject to a 2.0% leverage buffer in addition to the 3.0% stated minimum SLR requirement, resulting in a 5.0% SLR. If a U.S. GSIB fails to exceed this requirement, it will be subject to increasingly stringent restrictions (depending upon the extent of the shortfall) on capital distributions and discretionary executive bonus payments.

Similarly, Citibank is required to maintain a minimum SLR of 6.0% to be considered "well capitalized" under the Prompt Corrective Action framework.

Regulatory Capital Treatment—Modified Transition of the Current Expected Credit Losses Methodology

In 2020, the U.S. banking agencies issued a final rule that modified the regulatory capital transition provision related to the current expected credit losses (CECL) methodology. The rule does not have any impact on U.S. GAAP accounting.

The rule permitted banks to delay for two years the "Day One" adverse regulatory capital effects resulting from adoption of the CECL methodology on January 1, 2020 until January 1, 2022, followed by a three-year transition to phase out the regulatory capital benefit provided by the delay.

In addition, for the ongoing impact of CECL, the agencies utilized a 25% scaling factor as an approximation of the increased reserve build under CECL compared to the previous incurred loss model and, therefore, allowed banks to add back to CET1 Capital an amount equal to 25% of the change in CECL-based allowances in each quarter between January 1, 2020 and December 31, 2021. Beginning January 1, 2022, the cumulative 25% change in CECL-based allowances between January 1, 2020 and December 31, 2021 started to be phased in to regulatory capital (i) at 25% per year on January 1 of each year over the three-year transition period and (ii) along with the delayed Day One impact.

Citigroup and Citibank elected the modified CECL transition provision provided by the rule. Accordingly, the Day One regulatory capital effects resulting from adoption of the CECL methodology, as well as the ongoing adjustments for 25% of the change in CECL-based allowances in each quarter between January 1, 2020 and December 31, 2021, started to be phased in on January 1, 2022 and will be fully reflected in Citi's regulatory capital as of January 1, 2025.

As of December 31, 2022, Citigroup's reported CET1 Capital ratio of 13.0% benefited from the deferrals of the CECL transition provision by 24 basis points. For additional information on Citigroup's and Citibank's regulatory capital ratios excluding the impact of the CECL transition provision, see "Capital Resources (Full Adoption of CECL)" below.

Regulatory Capital Buffers

Citigroup and Citibank are required to maintain several regulatory capital buffers above the stated minimum capital requirements. These capital buffers would be available to absorb losses in advance of any potential impairment of regulatory capital below the stated minimum regulatory capital ratio requirements.

Banking organizations that fall below their regulatory capital buffers are subject to limitations on capital distributions and discretionary bonus payments to executive officers based on a percentage of "Eligible Retained Income" (ERI), with increasing restrictions based upon the severity of the breach. ERI is equal to the greater of (i) the bank's net income for the four calendar quarters preceding the current calendar quarter, net of any distributions and tax effects not already reflected in net income, and (ii) the average of the bank's net income for the four calendar quarters preceding the current calendar quarter.

As of December 31, 2022, Citi's regulatory capital ratios exceeded the regulatory capital requirements. Accordingly, Citi is not subject to payout limitations as a result of the U.S. Basel III requirements.

Stress Capital Buffer

Citigroup is subject to the FRB's Stress Capital Buffer (SCB) rule, which integrates the annual stress testing requirements with ongoing regulatory capital requirements. The SCB equals the peak-to-trough CET1 Capital ratio decline under the Supervisory Severely Adverse scenario over a nine-quarter period used in the Comprehensive Capital Analysis and Review (CCAR) and Dodd-Frank Act Stress Testing (DFAST), plus four quarters of planned common stock dividends, subject to a floor of 2.5%. SCB-based capital requirements are reviewed and updated annually by the FRB as part of the CCAR process. For additional information regarding CCAR and DFAST, see "Stress Testing Component of Capital Planning" below. The fixed 2.5% Capital Conservation Buffer will continue to apply under the Advanced Approaches (for additional information, see below).

In August 2022, the FRB finalized and announced Citi's SCB requirement of 4.0% for the four-quarter window starting from October 1, 2022 to September 30, 2023.

Accordingly, as of October 1, 2022, Citi is required to maintain an 11.5% required regulatory CET1 Capital ratio under the Standardized Approach, incorporating this SCB and its GSIB surcharge of 3.0%. Previously, from October 1, 2021 through September 30, 2022, Citi had been subject to a 3.0% SCB, and a 10.5% required regulatory CET1 Capital ratio

under the Standardized Approach. Citi's required regulatory CET1 Capital ratio under the Advanced Approaches (using the fixed 2.5% Capital Conservation Buffer) remains unchanged at 10.0%. The SCB applies to Citigroup only; the regulatory capital framework applicable to Citibank, including the Capital Conservation Buffer, is unaffected by Citigroup's SCB.

Capital Conservation Buffer and Countercyclical Capital Buffer

Citigroup is subject to a fixed 2.5% Capital Conservation Buffer under the Advanced Approaches. Citibank is subject to the fixed 2.5% Capital Conservation Buffer under both the Advanced Approaches and the Standardized Approach.

In addition, Advanced Approaches banking organizations, such as Citigroup and Citibank, are subject to a discretionary Countercyclical Capital Buffer. The Countercyclical Capital Buffer is currently set at 0% by the U.S. banking agencies.

GSIB Surcharge

The FRB imposes a risk-based capital surcharge upon U.S. bank holding companies that are identified as GSIBs, including Citi. The GSIB surcharge augments the SCB, Capital Conservation Buffer and, if invoked, any Countercyclical Capital Buffer.

A U.S. bank holding company that is designated a GSIB is required, on an annual basis, to calculate a surcharge using two methods and is subject to the higher of the resulting two surcharges. The first method ("method 1") is based on the Basel Committee's GSIB methodology. Under the second method ("method 2"), the substitutability category under the Basel Committee's GSIB methodology is replaced with a quantitative measure intended to assess a GSIB's reliance on short-term wholesale funding. In addition, method 1 incorporates relative measures of systemic importance across certain global banking organizations and a year-end spot foreign exchange rate, whereas method 2 uses fixed measures of systemic importance and application of an average foreign exchange rate over a three-year period. The GSIB surcharges calculated under both method 1 and method 2 are based on measures of systemic importance from the year immediately preceding that in which the GSIB surcharge calculations are being performed (e.g., the method 1 and method 2 GSIB surcharges calculated during 2022 will be based on 2021 systemic indicator data). Generally, Citi's surcharge determined under method 2 will result in a higher surcharge than its surcharge determined under method 1.

Should a GSIB's systemic importance change year-over-year, such that it becomes subject to a higher GSIB surcharge, the higher surcharge would become effective on January 1 of the year that is one full calendar year after the increased GSIB surcharge was calculated (e.g., a higher surcharge calculated in 2024 using data as of December 31, 2023 would not become effective until January 1, 2026). However, if a GSIB's systemic importance changes such that the GSIB would be subject to a lower surcharge, the GSIB would be subject to the lower surcharge on January 1 of the year immediately following the calendar year in which the decreased GSIB surcharge was calculated (e.g., a lower surcharge calculated in 2024 using data as of December 31, 2023 would become effective January 1, 2025).

The following table presents Citi's effective GSIB surcharge as determined under method 1 and method 2 during 2022 and 2021:

	2022	2021
Method 1	**2.0 %**	2.0 %
Method 2	**3.0**	3.0

Citi's GSIB surcharge effective during both 2022 and 2021 was 3.0%, as derived under the higher method 2 result. Citi's GSIB surcharge effective for 2023 has increased from 3.0% to 3.5%, as derived under the higher method 2 result.

Citi expects that its method 2 GSIB surcharge will continue to remain higher than its method 1 GSIB surcharge. Accordingly, based on Citi's method 2 result as of December 31, 2021 and its estimated method 2 result as of December 31, 2022, Citi's GSIB surcharge is expected to remain at 3.5% effective January 1, 2024. Citi's GSIB surcharge effective for 2025 will likely be based on the lower of its method 2 scores for year-end 2022 and 2023 and, therefore, is not expected to exceed 3.5%.

Prompt Corrective Action Framework

In general, the Prompt Corrective Action (PCA) regulations direct the U.S. banking agencies to enforce increasingly strict limitations on the activities of insured depository institutions that fail to meet certain regulatory capital thresholds. The PCA framework contains five categories of capital adequacy as measured by risk-based capital and leverage ratios: (i) "well capitalized," (ii) "adequately capitalized," (iii) "undercapitalized," (iv) "significantly undercapitalized" and (v) "critically undercapitalized."

Accordingly, an insured depository institution, such as Citibank, must maintain minimum CET1 Capital, Tier 1 Capital, Total Capital and Tier 1 Leverage ratios of 6.5%, 8.0%, 10.0% and 5.0%, respectively, to be considered "well capitalized." In addition, insured depository institution subsidiaries of U.S. GSIBs, including Citibank, must maintain a minimum Supplementary Leverage ratio of 6.0% to be considered "well capitalized." Citibank was "well capitalized" as of December 31, 2022.

Furthermore, to be "well capitalized" under current federal bank regulatory agency definitions, a bank holding company must have a Tier 1 Capital ratio of at least 6.0%, a Total Capital ratio of at least 10.0% and not be subject to a FRB directive to maintain higher capital levels.

Stress Testing Component of Capital Planning

Citi is subject to an annual assessment by the FRB as to whether Citigroup has effective capital planning processes as well as sufficient regulatory capital to absorb losses during stressful economic and financial conditions, while also meeting obligations to creditors and counterparties and continuing to serve as a credit intermediary. This annual assessment includes two related programs: the Comprehensive Capital Analysis and Review (CCAR) and Dodd-Frank Act Stress Testing (DFAST).

For the largest and most complex firms, such as Citi, CCAR includes a qualitative evaluation of a firm's abilities to determine its capital needs on a forward-looking basis. In conducting the qualitative assessment, the FRB evaluates firms' capital planning practices, focusing on six areas of capital planning: governance, risk management, internal controls, capital policies, incorporating stressful conditions and events, and estimating impact on capital positions. As part of the CCAR process, the FRB evaluates Citi's capital adequacy, capital adequacy process and its planned capital distributions, such as dividend payments and common share repurchases. The FRB assesses whether Citi has sufficient capital to continue operations throughout times of economic and financial market stress and whether Citi has robust, forward-looking capital planning processes that account for its unique risks.

All CCAR firms, including Citi, are subject to a rigorous evaluation of their capital planning process. Firms with weak practices may be subject to a deficient supervisory rating, and potentially an enforcement action, for failing to meet supervisory expectations. For additional information regarding CCAR, see "Risk Factors—Strategic Risks" below.

DFAST is a forward-looking quantitative evaluation of the impact of stressful economic and financial market conditions on Citi's regulatory capital. This program serves to inform the FRB and the general public as to how Citi's regulatory capital ratios might change using a hypothetical set of adverse economic conditions as designed by the FRB. In addition to the annual supervisory stress test conducted by the FRB, Citi is required to conduct annual company-run stress tests under the same adverse economic conditions designed by the FRB.

Both CCAR and DFAST include an estimate of projected revenues, losses, reserves, pro forma regulatory capital ratios and any other additional capital measures deemed relevant by Citi. Projections are required over a nine-quarter planning horizon under two supervisory scenarios (baseline and severely adverse conditions). All risk-based capital ratios reflect application of the Standardized Approach framework under the U.S. Basel III rules.

In addition, Citibank is required to conduct the annual Dodd-Frank Act Stress Test. The annual stress test consists of a forward-looking quantitative evaluation of the impact of stressful economic and financial market conditions under several scenarios on Citibank's regulatory capital. This program serves to inform the Office of the Comptroller of the Currency as to how Citibank's regulatory capital ratios might change during a hypothetical set of adverse economic conditions and to ultimately evaluate the reliability of Citibank's capital planning process.

Citigroup and Citibank are required to disclose the results of their company-run stress tests.

Citigroup's Capital Resources

The following table presents Citi's required risk-based capital ratios as of December 31, 2022, September 30, 2022 and December 31, 2021:

	Advanced Approaches			Standardized Approach		
	December 31, 2022	September 30, 2022	December 31, 2021	**December 31, 2022**	September 30, 2022	December 31, 2021
CET1 Capital ratio[1]	**10.0 %**	10.0 %	10.0 %	**11.5 %**	10.5 %	10.5 %
Tier 1 Capital ratio[1]	**11.5**	11.5	11.5	**13.0**	12.0	12.0
Total Capital ratio[1]	**13.5**	13.5	13.5	**15.0**	14.0	14.0

(1) Beginning October 1, 2022, Citi's required risk-based capital ratios included the 4.0% SCB and 3.0% GSIB surcharge under the Standardized Approach, and the 2.5% Capital Conservation Buffer and 3.0% GSIB surcharge under the Advanced Approaches (all of which must be composed of CET1 Capital). For prior periods presented, Citi's required risk-based capital ratios included the 3.0% SCB and 3.0% GSIB surcharge under the Standardized Approach, and the 2.5% Capital Conservation Buffer and 3.0% GSIB surcharge under the Advanced Approaches. Commencing January 1, 2023, Citi's GSIB surcharge increased from 3.0% to 3.5%, which is applicable to both the Standardized Approach and Advanced Approaches. See "Regulatory Capital Buffers" above for more information.

The following tables present Citi's capital components and ratios as of December 31, 2022, September 30, 2022 and December 31, 2021:

	Advanced Approaches			Standardized Approach		
In millions of dollars, except ratios	**December 31, 2022**	September 30, 2022	December 31, 2021	**December 31, 2022**	September 30, 2022	December 31, 2021
CET1 Capital[1]	**$ 148,930**	$ 144,567	$ 149,305	**$ 148,930**	$ 144,567	$ 149,305
Tier 1 Capital[1]	**169,145**	164,830	169,568	**169,145**	164,830	169,568
Total Capital (Tier 1 Capital + Tier 2 Capital)[1]	**188,839**	185,046	194,006	**197,543**	193,871	203,838
Total Risk-Weighted Assets	**1,221,538**	1,226,578	1,209,374	**1,142,985**	1,176,749	1,219,175
Credit Risk[1]	**$ 851,875**	$ 849,769	$ 840,483	**$ 1,069,992**	$ 1,096,384	$ 1,135,906
Market Risk	**71,889**	78,748	78,634	**72,993**	80,365	83,269
Operational Risk	**297,774**	298,061	290,257	**—**	—	—
CET1 Capital ratio[2]	**12.19 %**	11.79 %	12.35 %	**13.03 %**	12.29 %	12.25 %
Tier 1 Capital ratio[2]	**13.85**	13.44	14.02	**14.80**	14.01	13.91
Total Capital ratio[2]	**15.46**	15.09	16.04	**17.28**	16.48	16.72

In millions of dollars, except ratios	**Required Capital Ratios**	**December 31, 2022**	September 30, 2022	December 31, 2021
Quarterly Adjusted Average Total Assets[1][3]		**$ 2,395,863**	$ 2,364,564	$ 2,351,434
Total Leverage Exposure[1][4]		**2,906,773**	2,888,535	2,957,764
Tier 1 Leverage ratio	**4.0%**	**7.06 %**	6.97 %	7.21 %
Supplementary Leverage ratio	**5.0**	**5.82**	5.71	5.73

(1) Citi's regulatory capital ratios and components reflect certain deferrals based on the modified regulatory capital transition provision related to the CECL standard. For additional information, see "Capital Resources—Regulatory Capital Treatment—Modified Transition of the Current Expected Credit Losses Methodology" above.

(2) Citi's binding CET1 Capital and Tier 1 Capital ratios were derived under the Basel III Standardized Approach, whereas Citi's binding Total Capital ratio was derived under the Basel III Advanced Approaches framework for all periods presented.

(3) Tier 1 Leverage ratio denominator. Represents quarterly average total assets less amounts deducted from Tier 1 Capital.

(4) Supplementary Leverage ratio denominator.

Common Equity Tier 1 Capital Ratio

Citi's Common Equity Tier 1 (CET1) Capital ratio under the Basel III Standardized Approach was 13.0% as of December 31, 2022, relative to a required regulatory CET1 Capital ratio of 11.5% as of such date under the Standardized Approach. This compares to a CET1 Capital ratio of 12.3% as of September 30, 2022 and 12.2% as of December 31, 2021, relative to a required regulatory CET1 Capital ratio of 10.5% as of such dates under the Standardized Approach.

Citi's CET1 Capital ratio under the Basel III Advanced Approaches was 12.2% as of December 31, 2022, compared to 11.8% as of September 30, 2022 and 12.3% as of December 31, 2021, relative to a required regulatory CET1 Capital ratio of 10.0% as of such dates under the Advanced Approaches framework.

Citi's CET1 Capital ratio increased under both the Standardized Approach and Advanced Approaches from September 30, 2022, driven primarily by net income, business actions to reduce RWA, beneficial net movements in *AOCI* and impacts from the closing of Asia consumer banking business sales, partially offset by the payment of common dividends.

Citi's CET1 Capital ratio increased under the Standardized Approach from year-end 2021, due to the net income of $14.8 billion, impacts from the closing of the Australia, Philippines and other Asia consumer banking business sales and business actions to reduce RWA, partially offset by the return of capital to common shareholders and interest rate impacts on Citigroup's investment portfolio. The increase in Citi's CET1 Capital ratio was also partially offset by the impact of adopting the Standardized Approach for Counterparty Credit Risk (SA-CCR) on January 1, 2022.

Citi's CET1 Capital ratio decreased under the Advanced Approaches from year-end 2021, due to the return of capital to common shareholders, the interest rate impacts on Citigroup's investment portfolio and the impact of adopting the SA-CCR, partially offset by the net income of $14.8 billion and the impacts from the closing of the Australia, Philippines and other Asia consumer banking business sales.

For additional information on SA-CCR, see "Standardized Approach for Counterparty Credit Risk" below.

Components of Citigroup Capital

In millions of dollars		**December 31, 2022**		December 31, 2021
CET1 Capital				
Citigroup common stockholders' equity[1]	**$**	**182,325**	$	183,108
Add: Qualifying noncontrolling interests		**128**		143
Regulatory capital adjustments and deductions:				
Add: CECL transition provision[2]		**2,271**		3,028
Less: Accumulated net unrealized gains (losses) on cash flow hedges, net of tax		**(2,522)**		101
Less: Cumulative unrealized net gain (loss) related to changes in fair value of financial liabilities attributable to own creditworthiness, net of tax		**1,441**		(896)
Less: Intangible assets:				
Goodwill, net of related DTLs[3]		**19,007**		20,619
Identifiable intangible assets other than MSRs, net of related DTLs		**3,411**		3,800
Less: Defined benefit pension plan net assets; other		**1,935**		2,080
Less: DTAs arising from net operating loss, foreign tax credit and general business credit carry-forwards[4]		**12,197**		11,270
Less: Excess over 10%/15% limitations for other DTAs, certain common stock investments, and MSRs[4][5]		**325**		—
Total CET1 Capital (Standardized Approach and Advanced Approaches)	**$**	**148,930**	$	149,305
Additional Tier 1 Capital				
Qualifying noncumulative perpetual preferred stock[1]	**$**	**18,864**	$	18,864
Qualifying trust preferred securities[6]		**1,406**		1,399
Qualifying noncontrolling interests		**30**		34
Regulatory capital deductions:				
Less: Other		**85**		34
Total Additional Tier 1 Capital (Standardized Approach and Advanced Approaches)	**$**	**20,215**	$	20,263
Total Tier 1 Capital (CET1 Capital + Additional Tier 1 Capital) (Standardized Approach and Advanced Approaches)	**$**	**169,145**	$	169,568
Tier 2 Capital				
Qualifying subordinated debt	**$**	**15,530**	$	20,064
Qualifying trust preferred securities[7]		**—**		248
Qualifying noncontrolling interests		**37**		42
Eligible allowance for credit losses[2][8]		**13,426**		14,209
Regulatory capital deduction:				
Less: Other		**595**		293
Total Tier 2 Capital (Standardized Approach)	**$**	**28,398**	$	34,270
Total Capital (Tier 1 Capital + Tier 2 Capital) (Standardized Approach)	**$**	**197,543**	$	203,838
Adjustment for excess of eligible credit reserves over expected credit losses[2][8]	**$**	**(8,704)**	$	(9,832)
Total Tier 2 Capital (Advanced Approaches)	**$**	**19,694**	$	24,438
Total Capital (Tier 1 Capital + Tier 2 Capital) (Advanced Approaches)	**$**	**188,839**	$	194,006

(1) Issuance costs of $131 million related to outstanding noncumulative perpetual preferred stock at December 31, 2022 and 2021 were excluded from common stockholders' equity and netted against such preferred stock in accordance with FRB regulatory reporting requirements, which differ from those under U.S. GAAP.

(2) Citi's regulatory capital ratios and components reflect certain deferrals based on the modified regulatory capital transition provision related to the CECL standard. For additional information, see "Capital Resources—Regulatory Capital Treatment—Modified Transition of the Current Expected Credit Losses Methodology" above.

(3) Includes goodwill "embedded" in the valuation of significant common stock investments in unconsolidated financial institutions.

Footnotes continue on the following page.

(4) Of Citi's $27.7 billion of net DTAs at December 31, 2022, $12.2 billion of net DTAs arising from net operating loss, foreign tax credit and general business credit tax carry-forwards, as well as $0.3 billion of DTAs arising from temporary differences that exceeded 10%/15% limitations, were excluded from Citi's CET1 Capital as of December 31, 2022. DTAs arising from net operating loss, foreign tax credit and general business credit tax carry-forwards are required to be entirely deducted from CET1 Capital under the U.S. Basel III rules. DTAs arising from temporary differences are required to be deducted from capital only if they exceed 10%/15% limitations under the U.S. Basel III rules.

(5) Assets subject to 10%/15% limitations include MSRs, DTAs arising from temporary differences and significant common stock investments in unconsolidated financial institutions. At December 31, 2022, this deduction related only to DTAs arising from temporary differences that exceeded the 10% limitation. At December 31, 2021, none of these assets were in excess of the 10%/15% limitations.

(6) Represents Citigroup Capital XIII trust preferred securities, which are permanently grandfathered as Tier 1 Capital under the U.S. Basel III rules.

(7) Represents the amount of non-grandfathered trust preferred securities that were previously eligible for inclusion in Tier 2 Capital under the U.S. Basel III rules. Commencing January 1, 2022, non-grandfathered trust preferred securities have been fully phased out of Tier 2 Capital.

(8) Under the Standardized Approach, the allowance for credit losses is eligible for inclusion in Tier 2 Capital up to 1.25% of credit risk-weighted assets, with any excess allowance for credit losses being deducted in arriving at credit risk-weighted assets, which differs from the Advanced Approaches framework, in which eligible credit reserves that exceed expected credit losses are eligible for inclusion in Tier 2 Capital to the extent that the excess reserves do not exceed 0.6% of credit risk-weighted assets. The total amount of eligible credit reserves in excess of expected credit losses that were eligible for inclusion in Tier 2 Capital, subject to limitation, under the Advanced Approaches framework were $4.7 billion and $4.4 billion at December 31, 2022 and December 31, 2021, respectively.

Citigroup Capital Rollforward

In millions of dollars		Three months ended December 31, 2022		Twelve months ended December 31, 2022
CET1 Capital, beginning of period	**$**	**144,567**	**$**	**149,305**
Net income		**2,513**		**14,845**
Common and preferred dividends declared		**(1,241)**		**(5,060)**
Net change in treasury stock		**10**		**(2,727)**
Net increase in common stock and additional paid-in capital		**111**		**455**
Net change in CTA net of hedges, net of tax		**1,571**		**(2,472)**
Net change in unrealized gains (losses) on debt securities AFS, net of tax		**974**		**(5,384)**
Net change in defined benefit plans liability adjustment, net of tax		**(22)**		**97**
Net change in adjustment related to change in fair value of financial liabilities attributable to own creditworthiness, net of tax		**168**		**(307)**
Net change in excluded component of fair value hedges		**(32)**		**55**
Net change in goodwill, net of related DTLs		**(211)**		**1,612**
Net decrease in identifiable intangible assets other than MSRs, net of related DTLs		**81**		**389**
Net change in defined benefit pension plan net assets		**(7)**		**61**
Net increase in DTAs arising from net operating loss, foreign tax credit and general business credit carry-forwards		**(507)**		**(927)**
Net change in excess over 10%/15% limitations for other DTAs, certain common stock investments and MSRs		**936**		**(325)**
Net decrease in CECL 25% provision deferral		**—**		**(757)**
Other		**19**		**70**
Net change in CET1 Capital	**$**	**4,363**	**$**	**(375)**
CET1 Capital, end of period (Standardized Approach and Advanced Approaches)	**$**	**148,930**	**$**	**148,930**
Additional Tier 1 Capital, beginning of period	**$**	**20,263**	**$**	**20,263**
Net increase in qualifying trust preferred securities		**2**		**7**
Other		**(50)**		**(55)**
Net decrease in Additional Tier 1 Capital	**$**	**(48)**	**$**	**(48)**
Tier 1 Capital, end of period (Standardized Approach and Advanced Approaches)	**$**	**169,145**	**$**	**169,145**
Tier 2 Capital, beginning of period (Standardized Approach)	**$**	**29,041**	**$**	**34,270**
Net decrease in qualifying subordinated debt		**(149)**		**(4,534)**
Net decrease in eligible allowance for credit losses		**(326)**		**(783)**
Other		**(168)**		**(555)**
Net decrease in Tier 2 Capital (Standardized Approach)	**$**	**(643)**	**$**	**(5,872)**
Tier 2 Capital, end of period (Standardized Approach)	**$**	**28,398**	**$**	**28,398**
Total Capital, end of period (Standardized Approach)	**$**	**197,543**	**$**	**197,543**
Tier 2 Capital, beginning of period (Advanced Approaches)	**$**	**20,216**	**$**	**24,438**
Net decrease in qualifying subordinated debt		**(149)**		**(4,534)**
Net increase in excess of eligible credit reserves over expected credit losses		**(205)**		**345**
Other		**(168)**		**(555)**
Net decrease in Tier 2 Capital (Advanced Approaches)	**$**	**(522)**	**$**	**(4,744)**
Tier 2 Capital, end of period (Advanced Approaches)	**$**	**19,694**	**$**	**19,694**
Total Capital, end of period (Advanced Approaches)	**$**	**188,839**	**$**	**188,839**

Citigroup Risk-Weighted Assets Rollforward (Basel III Standardized Approach)

In millions of dollars		Three months ended December 31, 2022		Twelve months ended December 31, 2022
Total Risk-Weighted Assets, beginning of period	**$**	**1,176,749**	**$**	**1,219,175**
Changes in Credit Risk-Weighted Assets				
General credit risk exposures[(1)]		**(4,243)**		**(26,061)**
Repo-style transactions[(2)]		**(225)**		**(15,302)**
Securitization exposures[(3)]		**2,928**		**4,886**
Equity exposures[(4)]		**3,751**		**453**
Over-the-counter (OTC) derivatives[(5)]		**(27,320)**		**(4,619)**
Other exposures[(6)]		**(1,911)**		**(10,718)**
Off-balance sheet exposures[(7)]		**628**		**(14,553)**
Net decrease in Credit Risk-Weighted Assets	**$**	**(26,392)**	**$**	**(65,914)**
Changes in Market Risk-Weighted Assets				
Risk levels	**$**	**(8,974)**	**$**	**(15,961)**
Model and methodology updates		**1,602**		**5,685**
Net decrease in Market Risk-Weighted Assets[(8)]	**$**	**(7,372)**	**$**	**(10,276)**
Total Risk-Weighted Assets, end of period	**$**	**1,142,985**	**$**	**1,142,985**

(1) General credit risk exposures include cash and balances due from depository institutions, securities, and loans and leases. General credit risk exposures decreased during the three and 12 months ended December 31, 2022 primarily due to Asia consumer divestitures and a decrease in corporate lending, partially offset by an increase in card activities.

(2) Repo-style transactions include repurchase and reverse repurchase transactions, as well as securities borrowing and securities lending transactions. Repo-style transactions decreased during the 12 months ended December 31, 2022 primarily due to reduced exposure in repurchase agreements and securities lending, as well as a decrease in margin loans.

(3) Securitization exposures increased during the three and 12 months ended December 31, 2022 primarily due to new exposures.

(4) Equity exposures increased during the three months ended December 31, 2022 primarily due to increases in market value of various investments.

(5) OTC derivatives decreased during the three months ended December 31, 2022 primarily due to decreases across FX, commodities and equities. OTC derivatives decreased during the 12 months ended December 31, 2022 primarily due to decreases in rates, FX, commodities and equities, partially offset by the impact from the adoption of SA-CCR. For additional information on SA-CCR, see "Standardized Approach for Counterparty Credit Risk" below.

(6) Other exposures include cleared transactions, unsettled transactions and other assets. Other exposures decreased during the 12 months ended December 31, 2022 primarily due to decreases in centrally cleared derivatives and default fund contributions, partially offset by an increase in fixed assets.

(7) Off-balance sheet exposures decreased during the 12 months ended December 31, 2022 primarily due to a decrease in loan commitments.

(8) Market risk-weighted assets decreased during the three and 12 months ended December 31, 2022 primarily due to exposure changes, partially offset by changes in model inputs regarding volatility and the correlation between market risk factors.

Citigroup Risk-Weighted Assets Rollforward (Basel III Advanced Approaches)

In millions of dollars	Three months ended December 31, 2022	Twelve months ended December 31, 2022
Total Risk-Weighted Assets, beginning of period	**$ 1,226,578**	**$ 1,209,374**
Changes in Credit Risk-Weighted Assets		
Retail exposures[(1)]	**4,610**	**12,633**
Wholesale exposures[(2)]	**2,094**	**(14,843)**
Repo-style transactions[(3)]	**390**	**(10,694)**
Securitization exposures[(4)]	**2,916**	**5,057**
Equity exposures[(5)]	**3,795**	**948**
Over-the-counter (OTC) derivatives[(6)]	**(11,929)**	**(2,667)**
Derivatives CVA[(7)]	**(2,067)**	**19,667**
Other exposures[(8)]	**2,026**	**1,725**
Supervisory 6% multiplier	**271**	**(434)**
Net increase in Credit Risk-Weighted Assets	**$ 2,106**	**$ 11,392**
Changes in Market Risk-Weighted Assets		
Risk levels	**$ (8,461)**	**$ (12,430)**
Model and methodology updates	**1,602**	**5,685**
Net decrease in Market Risk-Weighted Assets[(9)]	**$ (6,859)**	**$ (6,745)**
Net change in Operational Risk-Weighted Assets[(10)]	**$ (287)**	**$ 7,517**
Total Risk-Weighted Assets, end of period	**$ 1,221,538**	**$ 1,221,538**

(1) Retail exposures increased during the three months ended December 31, 2022 primarily due to an increase in card activities, partially offset by a decrease from divestitures. Retail exposures increased during the 12 months ended December 31, 2022 primarily due to increases in card activities, consumer loans and model recalibrations, partially offset by a decrease from divestitures.

(2) Wholesale exposures decreased during the 12 months ended December 31, 2022 primarily due to decreases in wholesale loans and available-for-sale securities.

(3) Repo-style transactions include repurchase and reverse repurchase transactions as well as securities borrowing and securities lending transactions. Repo-style transactions decreased during the 12 months ended December 31, 2022 primarily due to reduced exposure in repurchase agreements and securities lending, as well as a decrease in margin loans.

(4) Securitization exposures increased during the three and 12 months ended December 31, 2022 primarily driven by new exposures.

(5) Equity exposures increased during the three months ended December 31, 2022 primarily due to increases in market value of various investments.

(6) OTC derivatives decreased during the three months ended December 31, 2022 primarily due to exposure decreases across FX and commodities. OTC derivatives decreased during the 12 months ended December 31, 2022 primarily due to exposure decreases across FX and commodities, partially offset by the impact from the adoption of SA-CCR. For additional information on SA-CCR, see "Standardized Approach for Counterparty Credit Risk" below.

(7) Derivatives CVA increased during the 12 months ended December 31, 2022 primarily due to the adoption of SA-CCR. For additional information on SA-CCR, see "Standardized Approach for Counterparty Credit Risk" below.

(8) Other exposures include cleared transactions, unsettled transactions, assets other than those reportable in specific exposure categories and non-material portfolios. Other exposures increased during the three and 12 months ended December 31, 2022 primarily due to an increase in fixed assets.

(9) Market risk-weighted assets decreased during the three and 12 months ended December 31, 2022 primarily due to exposure changes, partially offset by changes in model inputs regarding volatility and the correlation between market risk factors.

(10) Operational risk-weighted assets increased during the 12 months ended December 31, 2022 primarily due to new model severity updates.

Supplementary Leverage Ratio

The following table presents Citi's Supplementary Leverage ratio and related components as of December 31, 2022, September 30, 2022 and December 31, 2021:

In millions of dollars, except ratios	**December 31, 2022**	September 30, 2022	December 31, 2021
Tier 1 Capital	**$ 169,145**	$ 164,830	$ 169,568
Total Leverage Exposure			
On-balance sheet assets[1][2]	**$ 2,432,823**	$ 2,401,767	$ 2,389,237
Certain off-balance sheet exposures[3]			
Potential future exposure on derivative contracts	**133,071**	153,842	222,241
Effective notional of sold credit derivatives, net[4]	**34,117**	32,768	23,788
Counterparty credit risk for repo-style transactions[5]	**17,169**	16,997	25,775
Other off-balance sheet exposures	**326,553**	320,364	334,526
Total of certain off-balance sheet exposures	**$ 510,910**	$ 523,971	$ 606,330
Less: Tier 1 Capital deductions	**36,960**	37,203	37,803
Total Leverage Exposure	**$ 2,906,773**	$ 2,888,535	$ 2,957,764
Supplementary Leverage ratio	**5.82 %**	5.71 %	5.73 %

(1) Represents the daily average of on-balance sheet assets for the quarter.
(2) Citi's regulatory capital ratios and components reflect certain deferrals based on the modified regulatory capital transition provision related to the CECL standard. For additional information, see "Capital Resources—Regulatory Capital Treatment—Modified Transition of the Current Expected Credit Losses Methodology" above.
(3) Represents the average of certain off-balance sheet exposures calculated as of the last day of each month in the quarter.
(4) Under the U.S. Basel III rules, banking organizations are required to include in Total Leverage Exposure the effective notional amount of sold credit derivatives, with netting of exposures permitted if certain conditions are met.
(5) Repo-style transactions include repurchase and reverse repurchase transactions as well as securities borrowing or securities lending transactions.

As presented in the table above, Citigroup's Supplementary Leverage ratio was 5.8% at December 31, 2022, compared to 5.7% at September 30, 2022 and December 31, 2021. The quarter-over-quarter increase was primarily driven by an increase in Tier 1 Capital due to net income in the fourth quarter of 2022 and beneficial net movements in *AOCI*, partially offset by an increase in Total Leverage Exposure. The year-over-year increase was primarily driven by a decrease in Total Leverage Exposure.

Capital Resources of Citigroup's Subsidiary U.S. Depository Institutions

Citigroup's subsidiary U.S. depository institutions are also subject to regulatory capital standards issued by their respective primary bank regulatory agencies, which are similar to the standards of the FRB.

The following tables present the capital components and ratios for Citibank, Citi's primary subsidiary U.S. depository institution, as of December 31, 2022, September 30, 2022 and December 31, 2021:

		Advanced Approaches			Standardized Approach		
In millions of dollars, except ratios	Required Capital Ratios[1]	**December 31, 2022**	September 30, 2022	December 31, 2021	**December 31, 2022**	September 30, 2022	December 31, 2021
CET1 Capital[2]		**$ 149,593**	$ 147,938	$ 148,548	**$ 149,593**	$ 147,938	$ 148,548
Tier 1 Capital[2]		**151,720**	150,062	150,679	**151,720**	150,062	150,679
Total Capital (Tier 1 Capital + Tier 2 Capital)[2][3]		**165,131**	165,171	166,921	**172,647**	172,916	175,427
Total Risk-Weighted Assets		**1,003,747**	1,046,884	1,017,774	**982,914**	1,024,923	1,066,015
Credit Risk[2]		**$ 728,082**	$ 762,660	$ 737,802	**$ 948,150**	$ 983,949	$ 1,016,293
Market Risk		**34,403**	40,676	48,089	**34,764**	40,974	49,722
Operational Risk		**241,262**	243,548	231,883	**—**	—	—
CET1 Capital ratio[4][5]	**7.0 %**	**14.90 %**	14.13 %	14.60 %	**15.22 %**	14.43 %	13.93 %
Tier 1 Capital ratio[4][5]	**8.5**	**15.12**	14.33	14.80	**15.44**	14.64	14.13
Total Capital ratio[4][5]	**10.5**	**16.45**	15.78	16.40	**17.56**	16.87	16.46

In millions of dollars, except ratios	Required Capital Ratios	**December 31, 2022**	September 30, 2022	December 31, 2021
Quarterly Adjusted Average Total Assets[2][6]		**$ 1,738,744**	$ 1,694,381	$ 1,716,596
Total Leverage Exposure[2][7]		**2,189,541**	2,147,923	2,236,839
Tier 1 Leverage ratio[5]	**5.0 %**	**8.73 %**	8.86 %	8.78 %
Supplementary Leverage ratio[5]	**6.0**	**6.93**	6.99	6.74

(1) Citibank's required risk-based capital ratios are inclusive of the 2.5% Capital Conservation Buffer (all of which must be composed of CET1 Capital).

(2) Citibank's regulatory capital ratios and components reflect certain deferrals based on the modified regulatory capital transition provision related to the CECL standard. For additional information, see "Capital Resources—Regulatory Capital Treatment—Modified Transition of the Current Expected Credit Losses Methodology" above.

(3) Under the Advanced Approaches framework, eligible credit reserves that exceed expected credit losses are eligible for inclusion in Tier 2 Capital to the extent that the excess reserves do not exceed 0.6% of credit risk-weighted assets, which differs from the Standardized Approach in which the ACL is eligible for inclusion in Tier 2 Capital up to 1.25% of credit risk-weighted assets, with any excess ACL being deducted in arriving at credit risk-weighted assets.

(4) Citibank's binding CET1 Capital and Tier 1 Capital ratios were derived under the Basel III Advanced Approaches framework as of December 31, 2022 and September 30, 2022, and under the Basel III Standardized Approach as of December 31, 2021, whereas Citibank's binding Total Capital ratio was derived under the Basel III Advanced Approaches framework for all periods presented.

(5) Citibank must maintain required CET1 Capital, Tier 1 Capital, Total Capital and Tier 1 Leverage ratios of 6.5%, 8.0%, 10.0% and 5.0%, respectively, to be considered "well capitalized" under the revised Prompt Corrective Action (PCA) regulations applicable to insured depository institutions as established by the U.S. Basel III rules. Citibank must also maintain a required Supplementary Leverage ratio of 6.0% to be considered "well capitalized."

(6) Tier 1 Leverage ratio denominator. Represents quarterly average total assets less amounts deducted from Tier 1 Capital.

(7) Supplementary Leverage ratio denominator.

As indicated in the table above, Citibank's capital ratios at December 31, 2022 were in excess of the regulatory capital requirements under the U.S. Basel III rules. In addition, Citibank was "well capitalized" as of December 31, 2022.

As presented in the table above, Citibank's Supplementary Leverage ratio was 6.9% at December 31, 2022, compared to 7.0% at September 30, 2022 and 6.7% at December 31, 2021. The quarter-over-quarter decrease was primarily driven by an increase in Total Leverage Exposure, partially offset by an increase in Tier 1 Capital due to net income in the fourth quarter of 2022 and beneficial net movements in *AOCI*. The year-over-year increase was primarily driven by a decrease in Total Leverage Exposure.

Impact of Changes on Citigroup and Citibank Capital Ratios

The following tables present the estimated sensitivity of Citigroup's and Citibank's capital ratios to changes of $100 million in CET1 Capital, Tier 1 Capital and Total Capital (numerator), and changes of $1 billion in Advanced Approaches and Standardized Approach risk-weighted assets and quarterly adjusted average total assets, as well as Total Leverage Exposure (denominator), as of December 31, 2022. This information is provided for the purpose of analyzing the impact that a change in Citigroup's or Citibank's financial position or results of operations could have on these ratios. These sensitivities only consider a single change to either a component of capital, risk-weighted assets, quarterly adjusted average total assets or Total Leverage Exposure. Accordingly, an event that affects more than one factor may have a larger basis point impact than is reflected in these tables.

	Common Equity Tier 1 Capital ratio		Tier 1 Capital ratio		Total Capital ratio	
In basis points	Impact of $100 million change in Common Equity Tier 1 Capital	Impact of $1 billion change in risk-weighted assets	Impact of $100 million change in Tier 1 Capital	Impact of $1 billion change in risk-weighted assets	Impact of $100 million change in Total Capital	Impact of $1 billion change in risk-weighted assets
Citigroup						
Advanced Approaches	**0.8**	**1.0**	**0.8**	**1.1**	**0.8**	**1.3**
Standardized Approach	**0.9**	**1.1**	**0.9**	**1.3**	**0.9**	**1.5**
Citibank						
Advanced Approaches	**1.0**	**1.5**	**1.0**	**1.5**	**1.0**	**1.6**
Standardized Approach	**1.0**	**1.5**	**1.0**	**1.6**	**1.0**	**1.8**

	Tier 1 Leverage ratio		Supplementary Leverage ratio	
In basis points	Impact of $100 million change in Tier 1 Capital	Impact of $1 billion change in quarterly adjusted average total assets	Impact of $100 million change in Tier 1 Capital	Impact of $1 billion change in Total Leverage Exposure
Citigroup	**0.4**	**0.3**	**0.3**	**0.2**
Citibank	**0.6**	**0.5**	**0.5**	**0.3**

Citigroup Broker-Dealer Subsidiaries

At December 31, 2022, Citigroup Global Markets Inc., a U.S. broker-dealer registered with the SEC that is an indirect wholly owned subsidiary of Citigroup, had net capital, computed in accordance with the SEC's net capital rule, of $13 billion, which exceeded the minimum requirement by $8 billion.

Moreover, Citigroup Global Markets Limited, a broker-dealer registered with the United Kingdom's Prudential Regulation Authority (PRA) that is also an indirect wholly owned subsidiary of Citigroup, had total regulatory capital of $27 billion at December 31, 2022, which exceeded the PRA's minimum regulatory capital requirements.

In addition, certain of Citi's other broker-dealer subsidiaries are subject to regulation in the countries in which they do business, including requirements to maintain specified levels of net capital or its equivalent. Citigroup's other principal broker-dealer subsidiaries were in compliance with their regulatory capital requirements at December 31, 2022.

Total Loss-Absorbing Capacity (TLAC)

U.S. GSIBs, including Citi, are required to maintain minimum levels of TLAC and eligible long-term debt (LTD), each set by reference to the GSIB's consolidated risk-weighted assets (RWA) and total leverage exposure.

Minimum External TLAC Requirement

The minimum external TLAC requirement is the greater of (i) 18% of the GSIB's RWA plus the then-applicable RWA-based TLAC buffer (see below) and (ii) 7.5% of the GSIB's total leverage exposure plus a leverage-based TLAC buffer of 2% (i.e., 9.5%).

The RWA-based TLAC buffer equals the 2.5% Capital Conservation Buffer, plus any applicable Countercyclical Capital Buffer (currently 0%), plus the GSIB's capital surcharge as determined under method 1 of the GSIB surcharge rule (2.0% for Citi for 2022). Accordingly, Citi's total current minimum TLAC requirement was 22.5% of RWA for 2022.

Minimum Long-Term Debt (LTD) Requirement

The minimum LTD requirement is the greater of (i) 6% of the GSIB's RWA plus its capital surcharge as determined under method 2 of the GSIB surcharge rule (3.0% for Citi for 2022), for a total current requirement of 9% of RWA for Citi, and (ii) 4.5% of the GSIB's total leverage exposure.

The table below details Citi's eligible external TLAC and LTD amounts and ratios, and each TLAC and LTD regulatory requirement, as well as the surplus amount in dollars in excess of each requirement.

	December 31, 2022	
In billions of dollars, except ratios	External TLAC	LTD
Total eligible amount	$ 334	$ 160
% of Advanced Approaches risk-weighted assets	27.3 %	13.1 %
Regulatory requirement[1][2]	22.5	9.0
Surplus amount	$ 59	$ 50
% of Total Leverage Exposure	11.5 %	5.5 %
Regulatory requirement	9.5	4.5
Surplus amount	$ 58	$ 29

(1) External TLAC includes method 1 GSIB surcharge of 2.0%.
(2) LTD includes method 2 GSIB surcharge of 3.0%.

As of December 31, 2022, Citi exceeded each of the TLAC and LTD regulatory requirements, resulting in a $29 billion surplus above its binding TLAC requirement of LTD as a percentage of Total Leverage Exposure.

For additional information on Citi's TLAC-related requirements, see "Liquidity Risk—Total Loss-Absorbing Capacity (TLAC)" below.

Capital Resources (Full Adoption of CECL)[1]

The following tables present Citigroup's and Citibank's capital components and ratios under a hypothetical scenario where the full impact of CECL is reflected as of December 31, 2022:

	Citigroup				Citibank		
	Required Capital Ratios, Advanced Approaches	Required Capital Ratios, Standardized Approach	Advanced Approaches	Standardized Approach	Required Capital Ratios[2]	Advanced Approaches	Standardized Approach
CET1 Capital ratio	10.0 %	11.5 %	11.96 %	12.79 %	7.0 %	14.70 %	15.01 %
Tier 1 Capital ratio	11.5	13.0	13.62	14.56	8.5	14.91	15.23
Total Capital ratio	13.5	15.0	15.24	17.06	10.5	16.25	17.36

	Required Capital Ratios	Citigroup	Required Capital Ratios	Citibank
Tier 1 Leverage ratio	4.0 %	6.94 %	5.0 %	8.61 %
Supplementary Leverage ratio	5.0	5.71	6.0	6.84

(1) See footnote 2 on the "Components of Citigroup Capital" table above.
(2) Citibank's required capital ratios were the same under the Standardized Approach and the Advanced Approaches framework.

Standardized Approach for Counterparty Credit Risk

In 2020, the U.S. banking agencies adopted the Standardized Approach for Counterparty Credit Risk (SA-CCR) to calculate exposure for all derivative contracts at the netting set level. In addition, SA-CCR is used in numerous other instances throughout the regulatory framework, including but not limited to the Supplementary Leverage ratio, certain components of the GSIB score, single counterparty credit limits and legal lending limits.

As previously disclosed, Citi adopted SA-CCR as of the mandatory compliance date of January 1, 2022. Adoption of SA-CCR increased Citigroup's Standardized RWA by approximately $51 billion, which resulted in a 49 basis points decrease to Citigroup's CET1 Capital ratio under the Standardized Approach on January 1, 2022.

Adoption of SA-CCR also increased Citigroup's Advanced RWA by approximately $29 billion, which resulted in a 29 basis points decrease to Citigroup's CET1 Capital ratio under the Advanced Approaches on January 1, 2022.

Regulatory Capital Standards Developments

Basel III Revisions

As described above, the U.S. banking agencies implemented a number of international capital standards adopted by the Basel Committee on Banking Supervision (Basel Committee), following the Global Financial Crisis regulatory reforms (see the U.S. Basel III rules discussion above). The Basel Committee finalized the Basel III reforms in December 2017, which included revisions to the methodologies in deriving credit, market and operational risk-weighted assets, the imposition of a new aggregate output floor for risk-weighted assets and revisions to the leverage ratio framework.

The U.S. banking agencies may revise the U.S. Basel III rules in the future, in response to the Basel Committee's final Basel III reforms. For information about risks related to changes in regulatory capital requirements, see "Risk Factors —Strategic Risks" below.

Tangible Common Equity, Book Value Per Share, Tangible Book Value Per Share and Return on Equity

Tangible common equity (TCE), as defined by Citi, represents common stockholders' equity less goodwill and identifiable intangible assets (other than mortgage servicing rights (MSRs)). RoTCE represents annualized net income available to common shareholders as a percentage of average TCE. Tangible book value per share represents average TCE divided by average common shares outstanding. Other companies may calculate these measures differently. TCE, RoTCE and tangible book value per share are non-GAAP financial measures. Citi believes TCE, TBV and RoTCE provide alternative measures of capital strength and performance for investors, industry analysts and others.

	At December 31,				
In millions of dollars or shares, except per share amounts	**2022**	2021	2020	2019	2018
Total Citigroup stockholders' equity	**$ 201,189**	$ 201,972	$ 199,442	$ 193,242	$ 196,220
Less: Preferred stock	**18,995**	18,995	19,480	17,980	18,460
Common stockholders' equity	**$ 182,194**	$ 182,977	$ 179,962	$ 175,262	$ 177,760
Less:					
Goodwill	**19,691**	21,299	22,162	22,126	22,046
Identifiable intangible assets (other than MSRs)	**3,763**	4,091	4,411	4,327	4,636
Goodwill and identifiable intangible assets (other than MSRs) related to assets held-for-sale (HFS)	**589**	510	—	—	—
Tangible common equity (TCE)	**$ 158,151**	$ 157,077	$ 153,389	$ 148,809	$ 151,078
Common shares outstanding (CSO)	**1,937.0**	1,984.4	2,082.1	2,114.1	2,368.5
Book value per share (common stockholders' equity/ CSO)	**$ 94.06**	$ 92.21	$ 86.43	$ 82.90	$ 75.05
Tangible book value per share (TCE/CSO)	**81.65**	79.16	73.67	70.39	63.79

	For the year ended December 31,				
In millions of dollars	**2022**	2021	2020	2019	2018
Net income available to common shareholders	**$ 13,813**	$ 20,912	$ 9,952	$ 18,292	$ 16,871
Average common stockholders' equity	**180,093**	182,421	175,508	177,363	179,497
Average TCE	**155,943**	156,253	149,892	150,994	153,343
Return on average common stockholders' equity	**7.7 %**	11.5 %	5.7 %	10.3 %	9.4 %
RoTCE	**8.9**	13.4	6.6	12.1	11.0

RISK FACTORS

The following discussion presents what management currently believes could be the material risks and uncertainties that could impact Citi's businesses, results of operations and financial condition. Other risks and uncertainties, including those not currently known to Citi or its management, could also negatively impact Citi's businesses, results of operations and financial condition. Thus, the following should not be considered a complete discussion of all of the risks and uncertainties that Citi may face. For additional information about risks and uncertainties that could impact Citi, see "Executive Summary" and each respective business' results of operations above and "Managing Global Risk" below. The following risk factors are categorized to improve the readability and usefulness of the risk factor disclosure, and, while the headings and risk factors generally align with Citi's risk categorization, in certain instances the risk factors may not directly correspond with how Citi categorizes or manages its risks.

MARKET-RELATED RISKS

Macroeconomic, Geopolitical and Other Challenges and Uncertainties Could Continue to Have a Negative Impact on Citi.

Citi has experienced, and could experience in the future, negative impacts to its businesses, results of operations and financial condition as a result of various macroeconomic, geopolitical and other challenges, uncertainties and volatility. These include, among other things, significantly elevated levels of inflation, higher interest rates, global supply shocks and lower economic growth rates, as well as an increasing risk of recession in Europe, the U.S. and other countries.

For example, in 2022, the U.S., the U.K., the EU and other economies experienced significantly higher levels of widespread inflation. As a result, the Federal Reserve Board (FRB) and other central banks have substantially raised interest rates, reduced the size of their balance sheets and taken other actions in an aggressive effort to curb inflation. These actions are expected to slow economic growth, increase the risk of recession and increase the unemployment rate in the U.S. and other countries, all of which would likely adversely affect Citi's consumer and institutional clients, businesses and results of operations. Elevated levels of inflation are also expected to continue to result in higher labor and other costs, thus putting further pressure on Citi's expenses.

Interest rates on loans Citi makes are typically based off or set at a spread over a benchmark interest rate and would likely decline or rise as benchmark rates decline or rise, respectively. While Citi expects its overall net interest income would generally increase due to higher interest rates, higher rates could adversely affect its funding costs, levels of deposits in its consumer and institutional businesses and certain business or product revenues. Citi's net interest income could be adversely affected due to a flattening (a lower spread between shorter-term versus longer-term interest rates) or longer lasting or more severe inversion (shorter-term interest rates exceeding longer-term interest rates) of the interest rate yield curve, as Citi, similar to other banks, typically pays interest on deposits based on shorter-term interest rates and earns money on loans based on longer-term interest rates. For additional information on Citi's interest rate risk, see "Managing Global Risk—Market Risk—Banking Book Interest Rate Risk" below. Additionally, Citi's balance sheet includes interest-rate sensitive fixed-rate assets such as U.S. Treasuries, U.S. agency securities and residential mortgages, among others, whose valuation would be adversely impacted in a rising-rate environment and/or whose hedging costs may increase.

Russia's war in Ukraine has caused supply shocks in energy, food and other commodities markets, worsened inflation, increased cybersecurity risks, increased the risk of recession in Europe and heightened geopolitical tensions. Actions by Russia, and any further measures taken by the U.S. or its allies, could continue to have negative impacts on regional and global energy and other commodities and financial markets and macroeconomic conditions, adversely impacting jurisdictions where Citi operates and Citi's customers, clients and employees. Citi's ability to continue to reduce its operations and exposure in Russia, including completion of the wind-down of its consumer and local commercial banking operations and nearly all of its institutional banking services in the country, may be negatively impacted by macroeconomic challenges and uncertainties, local market conditions, and sanctions and other governmental regulations or actions.

Moreover, Citi's remaining operations in Russia subject Citi to various other risks, among which are foreign currency volatility, including appreciations or devaluations; restrictions arising from retaliatory Russian laws and regulations on the conduct of its business, including, without limitation, its provision to its customers of certain securities services; sanctions or asset freezes; and other deconsolidation events. Examples of triggers that may result in deconsolidation of Citi's subsidiary bank in Russia, AO Citibank, include voluntary or forced sale of ownership or loss of control due to actions of relevant governmental authorities, including expropriation (i.e., the entity becomes subject to the complete control of a government, court, administrator, trustee or regulator); revocation of banking license; and loss of ability to elect a board of directors or appoint members of senior management. In the event of a loss of control of AO Citibank, Citi would be required to write off its net investment in the entity, recognize a CTA loss through earnings and recognize a loss on intercompany liabilities owed by AO Citibank to other Citi entities outside of Russia. In the sole event of a substantial liquidation, as opposed to a loss of control, Citi would be required to recognize the CTA loss through earnings and would evaluate its remaining net investment as circumstances evolve. Additionally, Citi may incur reputational harm if its actions are perceived to be misaligned with Citi's announced reductions of its operations and exposure in Russia. For additional information about these risks, see the operational processes and systems, cybersecurity and emerging markets risk factors and "Managing Global Risk—Other Risks—Country Risk—Russia" below.

COVID-19 is expected to continue to adversely affect global health and could negatively impact macroeconomic conditions in 2023. The extent of the impact remains uncertain

and will largely depend on future developments in China, the U.S. and other countries, such as the severity and duration of the public health consequences, including the course of variants; the public response; and government actions. COVID-19 could again disrupt supply chains, worsen inflation and reduce economic activity. These factors could adversely impact Citi's businesses and results of operations and financial condition.

Additional areas of uncertainty include, among others, economic and geopolitical challenges related to China, including related policy actions, distress in Chinese real estate finance and other credit markets, tensions or conflicts between China and Taiwan and/or between China and the U.S.; significant disruptions and volatility in financial markets, including foreign currency volatility and devaluations and continued strength in the U.S. dollar; other geopolitical tensions and conflicts; protracted or widespread trade tensions; financial market, other economic and political disruption driven by populist movements and governments; natural disasters; other pandemics; and election outcomes, including the effects of divided government in the U.S., such as with respect to raising of the federal debt limit. For example, Citi's market-making businesses can suffer losses resulting from the widening of credit spreads due to unanticipated changes in financial markets. Moreover, adverse developments or downturns in one or more of the world's larger economies would likely have a significant impact on the global economy or the economies of other countries because of global financial and economic linkages.

STRATEGIC RISKS

Citi's Ability to Return Capital to Common Shareholders Substantially Depends on Regulatory Capital Requirements, Including the Results of the CCAR Process and Dodd-Frank Act Regulatory Stress Tests.

Citi's ability to return capital to its common shareholders consistent with its capital planning efforts and targets, whether through its common stock dividend or through a share repurchase program, substantially depends, among other things, on regulatory capital requirements, including the annual recalibration of the Stress Capital Buffer (SCB), which is based upon the results of the CCAR process required by the FRB, and recalibration of the GSIB surcharge.

Citi's ability to return capital also depends on its results of operations and financial condition, including the capital impact related to its remaining divestitures, such as, among other things, any temporary capital impact from CTA losses (net of hedges) between transaction signings and closings and achievement of the expected capital benefits from the divestitures (for additional information, see "Executive Summary" above and the continued investments risk factor below); Citi's effectiveness in planning, managing and calculating its level of risk-weighted assets under both the Advanced Approaches and the Standardized Approach, Supplementary Leverage ratio (SLR) and GSIB surcharge; its implementation and maintenance of an effective capital planning process and management framework; forecasts of macroeconomic conditions; and deferred tax asset (DTA) utilization (see the ability to utilize DTA risk factor below).

Changes in regulatory capital rules, requirements or interpretations could continue to have a material impact on Citi's regulatory capital. For example, on October 1, 2022, Citi's required regulatory CET1 Capital ratio increased to 11.5% from 10.5% due to an increase in the SCB requirement (see below for information on calculation of the SCB). In addition, on January 1, 2023, Citi's required regulatory CET1 Capital ratio further increased to 12% from 11.5% under the Standardized Approach, as the current GSIB surcharge increased to 3.5% from 3.0%. Due to these increases as well as macroeconomic uncertainty, Citi paused common share repurchases beginning as of the third quarter of 2022. In addition, the U.S. banking agencies are considering a number of changes to the U.S. regulatory capital framework in the future, including, but not limited to, revisions to the U.S. Basel III rules, and potential changes to the GSIB surcharge, SLR and discretionary Countercyclical Capital Buffer. All of these potential changes could negatively impact Citi's regulatory capital position or increase Citi's regulatory capital requirements.

All firms subject to CCAR requirements, including Citi, will continue to be subject to a rigorous regulatory evaluation of capital planning practices, including, but not limited to, governance, risk management, data quality and internal controls. Citi's ability to return capital may be adversely impacted if such an evaluation of Citi results in negative findings. The FRB has stated that it expects capital adequacy practices to continue to evolve and to likely be determined by its yearly cross-firm review of capital plan submissions. Similarly, the FRB has indicated that, as part of its stated goal to continually evolve its annual stress testing requirements, several parameters of the annual stress testing process may continue to be altered, including the severity of the stress test scenario, the FRB modeling of Citi's balance sheet, pre-provision net revenue and stress losses, and the addition of components deemed important by the FRB. For information on limitations on Citi's ability to return capital to common shareholders, as well as the CCAR process, supervisory stress test requirements and GSIB surcharge, see "Capital Resources—Overview" and "Capital Resources—Stress Testing Component of Capital Planning" above and the risk management risk factor below.

Beginning January 1, 2022, Citi was required to phase into regulatory capital, at 25% per year, the changes in retained earnings, DTAs and ACL determined upon the January 1, 2020 CECL adoption date, as well as subsequent changes in the ACL through December 31, 2021. The FRB has stated that it plans to maintain its current framework for calculating allowances on loans in the supervisory stress test through the 2023 supervisory stress test cycle, while continuing to evaluate appropriate future enhancements to this framework. The impacts on Citi's capital adequacy of the FRB's incorporation of CECL into its supervisory stress tests on an ongoing basis, and of other potential regulatory changes in the FRB's stress testing methodologies, remain unclear. For additional information regarding the CECL methodology, including the transition provisions related to the adverse regulatory capital effects resulting from adoption of the CECL methodology, see "Capital Resources—Current Regulatory Capital Standards—Regulatory Capital Treatment—Modified

Transition of the Current Expected Credit Losses Methodology" above and Note 1.

In addition, the annual stress testing requirements are integrated into ongoing regulatory capital requirements. Citi's SCB equals the maximum decline in its CET1 Capital ratio under the supervisory severely adverse scenario over a nine-quarter CCAR measurement period, plus four quarters of planned common stock dividends, subject to a minimum requirement of 2.5%. The SCB is calculated by the FRB using its proprietary data and modeling of each firm's results. Accordingly, Citi's SCB may change annually, based on the supervisory stress test results, thus potentially resulting in additional volatility in the calculation of Citi's required regulatory CET1 Capital ratio under the Standardized Approach. Similar to the other regulatory capital buffers, a breach of the SCB may result in graduated limitations on capital distributions. For additional information on the SCB, see "Capital Resources—Regulatory Capital Buffers" above.

Although various uncertainties exist regarding the extent of, and the ultimate impact to Citi from, these changes to the FRB's regulatory capital, stress testing and CCAR regimes, these changes could increase the level of capital Citi is required or elects to hold, including as part of Citi's management buffer, thus potentially impacting the extent to which Citi is able to return capital to shareholders.

Citi Must Continually Review, Analyze and Successfully Adapt to Ongoing Regulatory and Legislative Uncertainties and Changes in the U.S. and Globally.

Citi, its management and its businesses continue to face ongoing regulatory and legislative uncertainties and changes, both in the U.S. and globally. While the areas of ongoing regulatory and legislative uncertainties and changes facing Citi are too numerous to list completely, examples include, but are not limited to (i) potential fiscal, monetary, tax, sanctions and other changes promulgated by the U.S. federal government and other governments, including as a result of priority shifts depending on individuals, political parties and other groups in governmental positions; (ii) potential changes to various aspects of the regulatory capital framework and requirements applicable to Citi, including the Basel III rules (see the capital return risk factor and "Capital Resources—Regulatory Capital Standards Developments" above); and (iii) rapidly evolving legislative and regulatory requirements and other government initiatives in the U.S. and globally related to climate change and other ESG areas that vary, and may conflict, across jurisdictions, including any new disclosure requirements (see the climate change risk factor below). References to "regulatory" refer to both formal regulation and the views and expectations of Citi's regulators in their supervisory roles.

For example, in February 2023, the Consumer Financial Protection Bureau proposed significant changes to the maximum amounts on credit card late fees, which, if adopted as proposed, would reduce credit card fee revenues in Branded cards and Retail services in *PBWM*. In addition, U.S. and international regulatory and legislative initiatives have not always been undertaken or implemented on a coordinated basis, and areas of divergence have developed and continue to develop with respect to their scope, interpretation, timing, structure or approach, leading to inconsistent or even conflicting requirements, including within a single jurisdiction. For example, in 2019, the European Commission adopted, as part of Capital Requirements Directive V (CRD V), a new requirement for major banking groups headquartered outside the EU (which would include Citi) to establish an intermediate EU holding company where the foreign bank has two or more institutions (broadly meaning banks, broker-dealers and similar financial firms) established in the EU. While in some respects the requirement mirrors an existing U.S. requirement for non-U.S. banking organizations to form U.S. intermediate holding companies, the implementation of the EU holding company requirement could lead to additional complexity with respect to Citi's resolution planning, capital and liquidity allocation and efficiency in various jurisdictions.

Further, ongoing regulatory and legislative uncertainties and changes make Citi's and its management's long-term business, balance sheet and strategic budget planning difficult, subject to change and potentially more costly and may impact its results of operations. U.S. and other regulators globally have implemented and continue to discuss various changes to certain regulatory requirements, which would require ongoing assessment by management as to the impact to Citi, its businesses and business planning. For example, while the Basel III regulatory reforms and revised market risk framework have been finalized at the international level, there remain significant uncertainties with respect to the integration of these revisions into the U.S. regulatory capital framework. Business planning is required to be based on possible or proposed rules or outcomes, which can change dramatically upon finalization, or upon implementation or interpretive guidance from numerous regulatory bodies worldwide, and such guidance can change. Regulatory and legislative changes have also significantly increased Citi's compliance risks and costs (see the implementation and interpretation of regulatory changes risk factor below) and can adversely affect Citi's businesses, results of operations and financial condition.

Citi's Continued Investment and Other Initiatives as Part of Its Transformation and Strategic Refresh May Not Be as Successful as It Projects or Expects.

As part of its transformation and other strategic initiatives, Citi continues to make significant investments to improve its risk and control environment, modernize its data and technology infrastructure and further enhance safety and soundness (for additional information on these investments, see "Executive Summary" above and the legal and regulatory proceedings risk factor below). Citi also continues to make business-led investments, as part of the execution of its strategic refresh. For example, Citi has been making investments across the Company, including, for example, hiring front office colleagues and enhancing product capabilities and platforms to improve client digital experiences and add scalability and implementing new capabilities and partnerships. Citi has also been pursuing productivity improvements through various technology and digital initiatives, organizational simplification and location strategies.

Citi's multiyear transformation initiatives involve significant execution complexity, and there is inherent risk that these will not be as productive or effective as Citi expects,

or at all. Conversely, failure to properly invest in and upgrade Citi's technology and processes could result in Citi's inability to meet regulatory expectations, be sufficiently competitive, serve clients effectively and avoid operational errors (for additional information, see the operational processes and systems and legal and regulatory proceedings risk factors below). Moreover, Citi's ability to achieve expected returns on its investments and productivity improvements depends, in part, on factors that it cannot control, including, among others, macroeconomic challenges and uncertainties; customer, client and competitor actions; and ongoing regulatory requirements or changes.

Citi's strategic refresh also includes the divestiture of its remaining consumer banking businesses in *Legacy Franchises*, including Mexico Consumer/SBMM, in order to simplify the Company and enhance its allocation of resources. These divestitures involve significant uncertainty and execution complexity, and may result in additional CTA or other losses, charges or other negative financial or strategic impacts, which could be material (for information about risks related to Citi's operations in Russia, see the macroeconomic challenges and uncertainties risk factor above and "Managing Global Risk—Other Risks—Country Risk—Russia" below). For additional information about CTA losses, see "Executive Summary" and the capital return risk factor above and the incorrect assumptions or estimates risk factor below.

Citi's investment and other initiatives may continue to evolve as its business strategies, the market environment and regulatory expectations change, which could make the initiatives more costly and more challenging to implement, and limit their effectiveness.

Climate Change Presents Various Financial and Non-Financial Risks to Citi and its Customers and Clients.

Climate change presents both immediate and long-term risks to Citi and its customers and clients, with the risks expected to increase over time. Climate risks can arise from both physical risks (those risks related to the physical effects of climate change) and transition risks (risks related to regulatory, market, technological, stakeholder and legal changes from a transition to a low-carbon economy). Physical and transition risks can manifest themselves differently across Citi's risk categories in the short, medium and long terms. Physical risks from climate change include acute risks, such as hurricanes and floods, as well as consequences of chronic changes in climate, such as rising sea levels, prolonged droughts and systemic changes to geographies and any resulting population migration. Such physical risks could have adverse financial, operational and other impacts on Citi, both directly on its business and operations, and indirectly as a result of impacts to Citi's clients, customers, vendors and other counterparties. These impacts can include destruction, damage or impairment of properties and other assets, disruptions to business operations and supply chains and reduced availability or increase in the cost of insurance. Physical risks can also impact Citi's credit risk exposures, for example, in its mortgage and commercial real estate lending businesses.

Transition risks may arise from changes in regulations or market preferences toward low-carbon industries or sectors, which in turn could have negative impacts on asset values, results of operations or the reputations of Citi and its customers and clients. For example, Citi's corporate credit exposures include oil and gas, power and other industries that may experience reduced demand for carbon-intensive products due to the transition to a low-carbon economy. Failure to adequately consider transition risk in developing and executing on its business strategy could lead to a loss of market share, lower revenues and higher credit costs.

Additionally, if Citi's response to climate change is perceived to be ineffective or insufficient or Citi is unable to achieve its objectives or commitments relating to climate change, its businesses, reputation, attractiveness to certain investors and efforts to recruit and retain employees may suffer. For example, the need to decarbonize in a gradual and orderly way, while promoting energy security, may lead to continued exposure to carbon-intensive activity that in turn may raise such reputational risks.

Even as some regulators seek to mandate additional disclosure of climate-related information, Citi's ability to comply with such requirements and conduct more robust climate-related risk analyses may be hampered by lack of information and reliable data. Data on climate-related risks is limited in availability, often based on estimated or unverified figures, collected and reported on a lag, and variable in quality. Modeling capabilities to analyze climate-related risks and interconnections are improving, but remain incomplete. Moreover, U.S. and non-U.S. banking regulators and others are increasingly focusing on the issue of climate risk at financial institutions, both directly and with respect to their clients. For example, in December 2022, the FRB requested comment on draft principles that would provide a high-level framework for the safe and sound management of exposures to climate-related financial risks for FRB-supervised financial institutions with more than $100 billion in assets.

Legislative and regulatory changes and uncertainties regarding climate-related risk management and disclosures are likely to result in higher regulatory, compliance, credit, reputational and other risks and costs for Citi (for additional information, see the ongoing regulatory and legislative uncertainties and changes risk factor above). In addition, Citi could face increased regulatory, reputational and legal scrutiny as a result of its climate risk, sustainability and other ESG-related commitments and disclosures. Citi also faces potentially conflicting anti-ESG initiatives from certain U.S. state governments that may impact its ability to conduct certain business within those jurisdictions, as well as from Congress.

For information on Citi's climate and other sustainability initiatives, see "Sustainability and Other ESG Matters" below. For additional information on Citi's management of climate risk, see "Managing Global Risk—Strategic Risks—Climate Risk" below.

Citi's Ability to Utilize Its DTAs, and Thus Reduce the Negative Impact of the DTAs on Citi's Regulatory Capital, Will Be Driven by Its Ability to Generate U.S. Taxable Income.

At December 31, 2022, Citi's net DTAs were $27.7 billion, net of a valuation allowance of $2.4 billion, of which $10.9 billion was deducted from Citi's CET1 Capital under the U.S.

Basel III rules, primarily relating to net operating losses, foreign tax credit and general business credit carry-forwards. Of the net DTAs at December 31, 2022, $1.9 billion related to foreign tax credit (FTC) carry-forwards, net of a valuation allowance. The carry-forward utilization period for FTCs is 10 years and represents the most time-sensitive component of Citi's DTAs. The FTC carry-forwards at December 31, 2022 expire over the period of 2025–2029. Citi must utilize any FTCs generated in the then-current-year tax return prior to utilizing any carry-forward FTCs.

The accounting treatment for realization of DTAs, including FTCs, is complex and requires significant judgment and estimates regarding future taxable earnings in the jurisdictions in which the DTAs arise and available tax planning strategies. Forecasts of future taxable earnings will depend upon various factors, including, among others, macroeconomic conditions. In addition, any future increase in U.S. corporate tax rates could result in an increase in Citi's DTA, which may subject more of Citi's existing DTA to exclusion from regulatory capital while improving Citi's ability to utilize its FTC carry-forwards.

Citi's overall ability to realize its DTAs will primarily be dependent upon its ability to generate U.S. taxable income in the relevant tax carry-forward periods. Although utilization of FTCs in any year is generally limited to 21% of foreign source taxable income in that year, overall domestic losses (ODL) that Citi has incurred in the past allow it to reclassify domestic source income as foreign source. Failure to realize any portion of the net DTAs would have a corresponding negative impact on Citi's net income and financial returns. Citi has not been and does not expect to be subject to the Base Erosion Anti-Abuse Tax (BEAT), which, if applicable to Citi in any given year, would have a significantly adverse effect on both Citi's net income and regulatory capital. For additional information on Citi's DTAs, including FTCs, see "Significant Accounting Policies and Significant Estimates—Income Taxes" below and Notes 1 and 9.

Citi's Interpretation or Application of the Complex Tax Laws to Which It Is Subject Could Differ from Those of Governmental Authorities, Which Could Result in Litigation or Examinations and the Payment of Additional Taxes, Penalties or Interest.

Citi is subject to various income-based tax laws of the U.S. and its states and municipalities, as well as the numerous non-U.S. jurisdictions in which it operates. These tax laws are inherently complex, and Citi must make judgments and interpretations about the application of these laws to its entities, operations and businesses.

For example, the Organization for Economic Cooperation and Development (OECD) Pillar 2 initiative contemplates a 15% global minimum tax with respect to earnings in each separate country. EU member states are required to adopt the OECD Pillar 2 rules in 2023, and other non-U.S. countries are expected to follow suit. Under these rules, Citi will be required to pay a "top-up" tax to the extent that Citi's effective tax rate in any given country is below 15%. The U.S. is not expected to pass Pillar 2 legislation in the near term, but the top-up tax can be collected by other countries. While many aspects of the application of the rules remain uncertain, Citi does not expect a material effect to its earnings.

In addition, Citi is subject to litigation or examinations with U.S. and non-U.S. tax authorities regarding non-income-based tax matters. While Citi has appropriately reserved for such matters where there is a probable loss, and has disclosed, as reasonably possible, matters that are more-likely-than-not, the outcome from the matters may be different than Citi's expectations. Citi's interpretations or application of the tax laws, including with respect to withholding, stamp, service and other non-income taxes, could differ from that of the relevant governmental taxing authority, which could result in the requirement to pay additional taxes, penalties or interest, which could be material. See Note 29 for additional information on litigation and examinations involving non-U.S. tax authorities.

A Deterioration in or Failure to Maintain Citi's Co-Branding or Private Label Credit Card Relationships Could Have a Negative Impact on Citi.

Citi has co-branding and private label relationships through its Branded cards and Retail services credit card businesses with various retailers and merchants, whereby in the ordinary course of business Citi issues credit cards to customers of the retailers or merchants. The five largest relationships across both businesses in U.S. Personal Banking constituted an aggregate of approximately 10% of Citi's revenues in 2022 (for additional information, see "*Personal Banking and Wealth Management*" above). Citi's co-branding and private label agreements often provide for shared economics between the parties and generally have a fixed term.

Competition among card issuers, including Citi, for these relationships is significant, and Citi may not be able to maintain such relationships on existing terms or at all. Citi's co-branding and private label relationships could also be negatively impacted by, among other things, the general economic environment, including the impacts of significantly elevated levels of inflation, higher interest rates, global supply shocks and lower economic growth rates, as well as an increasing risk of recession; changes in consumer sentiment, spending patterns and credit card usage behaviors; a decline in sales and revenues, partner store closures, any reduction in air and business travel, or other operational difficulties of the retailer or merchant; early termination due to a contractual breach or exercise of other early termination right; or other factors, including bankruptcies, liquidations, restructurings, consolidations or other similar events, whether due to the challenging macroeconomic environment or otherwise.

These events, particularly early termination and bankruptcies or liquidations, could negatively impact the results of operations or financial condition of Branded cards, Retail services or Citi as a whole, including as a result of loss of revenues, increased expenses, higher cost of credit, impairment of purchased credit card relationships and contract-related intangibles or other losses (see Note 16 for information on Citi's credit card related intangibles generally).

Citi's Inability in Its Resolution Plan Submissions to Address Any Shortcomings or Deficiencies or Guidance Provided Could Subject Citi to More Stringent Capital, Leverage or Liquidity Requirements, or Restrictions on Its Growth, Activities or Operations, and Could Eventually Require Citi to Divest Assets or Operations.

Title I of the Dodd-Frank Act requires Citi to prepare and submit a plan to the FRB and the FDIC for the orderly resolution of Citigroup (the bank holding company) and its significant legal entities under the U.S. Bankruptcy Code in the event of future material financial distress or failure. On November 22, 2022, the FRB and FDIC issued feedback on the resolution plans filed on July 1, 2021 by the eight U.S. GSIBs, including Citi. The FRB and FDIC identified one shortcoming, but no deficiencies, in Citi's 2021 resolution plan. The shortcoming related to data integrity and data quality management issues, specifically, weaknesses in Citi's processes and practices for producing certain data that could materially impact its resolution capabilities. If a shortcoming is not satisfactorily explained or addressed before, or in, the submission of the next resolution plan, the shortcoming may be found to be a deficiency in the next resolution plan. For additional information on Citi's resolution plan submissions, see "Managing Global Risk—Liquidity Risk" below.

Under Title I, if the FRB and the FDIC jointly determine that Citi's resolution plan is not "credible" (which, although not defined, is generally believed to mean the regulators do not believe the plan is feasible or would otherwise allow Citi to be resolved in a way that protects systemically important functions without severe systemic disruption), or would not facilitate an orderly resolution of Citi under the U.S. Bankruptcy Code, and Citi fails to resubmit a resolution plan that remedies any identified deficiencies, Citi could be subjected to more stringent capital, leverage or liquidity requirements, or restrictions on its growth, activities or operations. If within two years from the imposition of any such requirements or restrictions Citi has still not remediated any identified deficiencies, then Citi could eventually be required to divest certain assets or operations. Any such restrictions or actions would negatively impact Citi's reputation, market and investor perception, operations and strategy.

Citi's Performance and Its Ability to Effectively Execute Its Transformation and Other Strategic Initiatives Could Be Negatively Impacted if It Is Not Able to Compete for, Retain and Motivate Highly Qualified Colleagues.

Recent employment conditions and inflationary pressures have made the competition to hire and retain qualified employees significantly more challenging and costly. Citi's performance and the performance of its individual businesses largely depend on the talents and efforts of its diverse and highly qualified colleagues. Specifically, Citi's continued ability to compete in each of its lines of business, to manage its businesses effectively and to execute its transformation and other strategic initiatives, including, for example, hiring front office colleagues to grow businesses or hiring colleagues to support transformation of its risk, controls, data and finance infrastructure and compliance, depends on its ability to attract new colleagues and to retain and motivate its existing colleagues. If Citi is unable to continue to attract, retain and motivate the most highly qualified colleagues, Citi's performance, including its competitive position, the execution of its transformation and other strategic initiatives and its results of operations could be negatively impacted.

Citi's ability to attract, retain and motivate colleagues depends on numerous factors, some of which are outside of its control. For example, the competition for talent recently has been particularly intense, and attrition rates have risen due to factors such as low unemployment, a strong job market with a large number of open positions, and changes in worker's expectations, concerns and preferences, in part due to the pandemic, including an increased demand for remote work options and other job flexibility. Also, the banking industry generally is subject to more comprehensive regulation of employee compensation than other industries, including deferral and clawback requirements for incentive compensation, which can make it unusually challenging for Citi to compete in labor markets against businesses, including for example technology companies, that are not subject to such regulation. Other factors that could impact its ability to attract, retain and motivate colleagues include, among other things, Citi's presence in a particular market or region, the professional and development opportunities and employee benefits it offers, its reputation and its diversity. For information on Citi's colleagues and workforce management, see "Human Capital Resources and Management" below.

Citi Faces Increased Competitive Challenges, Including from Financial Services and Other Companies and Emerging Technologies.

Citi operates in an increasingly evolving and competitive business environment, which includes both financial and non-financial services firms, such as traditional banks, online banks, financial technology companies and others. These companies compete on the basis of, among other factors, size, reach, quality and type of products and services offered, price, technology and reputation. Certain competitors may be subject to different and, in some cases, less stringent legal and regulatory requirements, whether due to size, jurisdiction, entity type or other factors, placing Citi at a competitive disadvantage.

For example, Citi competes with other financial services companies in the U.S. and globally that continue to develop and introduce new products and services. In recent years, non-traditional financial services firms, such as financial technology companies, have begun to offer services traditionally provided by financial institutions, such as Citi, and have sought bank charters to provide these services. These firms attempt to use technology and mobile platforms to enhance the ability of companies and individuals to borrow, save and invest money. Emerging technologies have the potential to intensify competition and accelerate disruption in the financial services industry. For example, despite recent turmoil in the digital asset market, there is sustained interest from clients and investors in digital assets. Financial services firms and other market participants have begun to offer services related to those assets. However, Citi may not be able to provide the same or similar services for legal or regulatory reasons and due to increased compliance and other risks. In

addition, changes in the payments space (e.g., instant and 24x7 payments) are accelerating, and, as a result, certain of Citi's products and services could become less competitive.

Increased competition and emerging technologies have required and could require Citi to change or adapt its products and services to attract and retain customers or clients or to compete more effectively with competitors, including new market entrants. Simultaneously, as Citi develops new products and services leveraging emerging technologies, new risks may emerge that, if not designed and governed adequately, may result in control gaps and in Citi operating outside of its risk appetite. For example, instant and 24x7 payments products could be accompanied by challenges to forecasting and managing liquidity, as well as increased operational and compliance risks.

Moreover, Citi relies on third parties to support certain of its product and service offerings, which may put Citi at a disadvantage to competitors who may directly offer a broader array of products and services. Also, Citi's businesses, results of operations and reputation may suffer if any third party is unable to provide adequate support for such product and service offerings, whether due to operational incidents or otherwise (for additional information, see the operational processes and systems, cybersecurity and emerging markets risk factors below).

To the extent that Citi is not able to compete effectively with financial technology companies and other firms, Citi could be placed at a competitive disadvantage, which could result in loss of customers and market share, and its businesses, results of operations and financial condition could suffer. For additional information on Citi's competitors, see the co-brand and private label cards and qualified colleagues risk factors above and "Supervision, Regulation and Other—Competition" below.

OPERATIONAL RISKS

A Failure or Disruption of Citi's Operational Processes or Systems Could Negatively Impact Its Reputation, Customers, Clients, Businesses or Results of Operations and Financial Condition.

Citi's global operations rely heavily on its technology, including the accurate, timely and secure processing, management, storage and transmission of confidential transactions, data and other information as well as the monitoring of a substantial amount of data and complex transactions in real time. Citi obtains and stores an extensive amount of personal and client-specific information for its consumer and institutional customers and clients, and must accurately record and reflect their extensive account transactions. Citi's operations must also comply with complex and evolving laws and regulations in the countries in which it operates. With the evolving proliferation of new technologies and the increasing use of the internet, mobile devices and cloud technologies to conduct financial transactions and customers' and clients' increasing use of online banking and trading systems and other platforms, large global financial institutions such as Citi have been, and will continue to be, subject to an ever-increasing risk of operational loss, failure or disruption, including as a result of cyber or information security incidents (for additional information, see the cybersecurity risk factor below).

Although Citi has continued to upgrade its technology, including systems to automate processes and enhance efficiencies, operational incidents are unpredictable and can arise from numerous sources, not all of which are fully within Citi's control. These include, among others, human error, such as manual transaction processing errors, which can be exacerbated by staffing challenges and processing backlogs; fraud or malice on the part of employees or third parties; operational or execution failures or deficiencies by third parties; insufficient (or limited) straight-through processing between legacy systems and any failure to design and effectively operate controls that mitigate operational risks associated with those legacy systems leading to potential risk of errors and operating losses; accidental system or technological failure; electrical or telecommunication outages; failures of or cyber incidents involving computer servers or infrastructure; or other similar losses or damage to Citi's property or assets (see also the climate change risk factor above).

For example, Citi has experienced and could experience further losses associated with manual transaction processing errors, including erroneous payments to lenders or manual errors by Citi traders that cause system and market disruptions and losses for Citi and its clients. Irrespective of the sophistication of the technology utilized by Citi, there will always be some room for human error. In view of the large transactions in which Citi engages, such errors could result in significant losses. While Citi has change management processes in place to appropriately upgrade its operational processes and systems to ensure that any changes introduced do not adversely impact security and operational continuity, such change management can fail or be ineffective. Operational incidents can also arise as a result of failures by third parties with which Citi does business, such as failures by internet, mobile technology and cloud service providers or other vendors to adequately follow procedures or processes, safeguard their systems or prevent system disruptions or cyberattacks.

Incidents that impact information security and/or technology operations may cause disruptions and/or malfunctions within Citi's businesses (e.g., the temporary loss of availability of Citi's online banking system or mobile banking platform), as well as the operations of its clients, customers or other third parties. In addition, operational incidents could involve the failure or ineffectiveness of internal processes or controls. Given Citi's global footprint and the high volume of transactions processed by Citi, certain failures, errors or actions may be repeated or compounded before they are discovered and rectified, which would further increase the consequences and costs. Operational incidents could result in financial losses as well as misappropriation, corruption or loss of confidential and other information or assets, which could significantly negatively impact Citi's reputation, customers, clients, businesses or results of operations and financial condition. Cyber-related and other operational incidents can also result in legal and regulatory actions or proceedings, fines and other costs (see the legal and regulatory proceedings risk factor below).

For information on Citi's management of operational risk, see "Managing Global Risk—Operational Risk" below.

Citi's and Third Parties' Computer Systems and Networks Will Continue to Be Susceptible to an Increasing Risk of Continually Evolving, Sophisticated Cybersecurity Incidents That Could Result in the Theft, Loss, Misuse or Disclosure of Confidential Client or Customer Information, Damage to Citi's Reputation, Additional Costs to Citi, Regulatory Penalties, Legal Exposure and Financial Losses.

Citi's computer systems, software and networks are subject to ongoing cyber incidents, such as unauthorized access, loss or destruction of data (including confidential client information), account takeovers, disruptions of service, phishing, malware, ransomware, computer viruses or other malicious code, cyberattacks and other similar events. These threats can arise from external parties, including cyber criminals, cyber terrorists, hacktivists (individuals or groups using cyberattacks to promote a political or social agenda) and nation-state actors, as well as insiders who knowingly or unknowingly engage in or enable malicious cyber activities.

The increasing use of mobile and other digital banking platforms and services, cloud technologies and connectivity solutions to facilitate remote working for Citi's employees all increase Citi's exposure to cybersecurity risks. Citi's wind-down of its businesses in Russia could also increase its susceptibility to cyberattacks (for additional information about Citi's exposures related to its Russia operations, see the macroeconomic and geopolitical risk factor above and "Managing Global Risk—Other Risks—Country Risk—Russia" below).

Third parties with which Citi does business, as well as retailers and other third parties with which Citi's customers do business, may also be sources of cybersecurity risks, particularly where activities of customers are beyond Citi's security and control systems. For example, Citi outsources certain functions, such as processing customer credit card transactions, uploading content on customer-facing websites and developing software for new products and services. These relationships allow for the storage and processing of customer information by third-party hosting of, or access to, Citi websites, which could lead to compromise or the potential to introduce vulnerable or malicious code, resulting in security breaches impacting Citi customers. Furthermore, because financial institutions are becoming increasingly interconnected with central agents, exchanges and clearing houses, including as a result of derivatives reforms over the last few years, Citi has increased exposure to cyberattacks through third parties. While many of Citi's agreements with third parties include indemnification provisions, Citi may not be able to recover sufficiently, or at all, under these provisions to adequately offset any losses Citi may incur from third-party cyber incidents.

Citi and some of its third-party partners have been subject to attempted and sometimes successful cyberattacks from external sources over the last several years, including (i) denial of service attacks, which attempt to interrupt service to clients and customers; (ii) hacking and malicious software installations intended to gain unauthorized access to information systems or to disrupt those systems; (iii) data breaches due to unauthorized access to customer account data; and (iv) malicious software attacks on client systems, in attempts to gain unauthorized access to Citi systems or client data under the guise of normal client transactions. While Citi's monitoring and protection services were able to detect and respond to the incidents targeting its systems before they became significant, they still resulted in limited losses in some instances as well as increases in expenditures to monitor against the threat of similar future cyber incidents. There can be no assurance that such cyber incidents will not occur again, and they could occur more frequently, via novel tactics and on a more significant scale.

Further, although Citi devotes significant resources to implement, maintain, monitor and regularly upgrade its systems and networks with measures such as intrusion detection and prevention and firewalls to safeguard critical business applications, there is no guarantee that these measures or any other measures can provide absolute security. Because the techniques used to initiate cyberattacks change frequently or, in some cases, are not recognized until launched or even later, Citi may be unable to implement effective preventive measures or otherwise proactively address these methods. In addition, given the evolving nature of cyber threat actors and the frequency and sophistication of the cyber activities they carry out, the determination of the severity and potential impact of a cyber incident may not become apparent for a substantial period of time following discovery of the incident. Also, while Citi engages in certain actions to reduce the exposure resulting from outsourcing, such as performing security control assessments of third-party vendors and limiting third-party access to the least privileged level necessary to perform job functions, these actions cannot prevent all third-party-related cyberattacks or data breaches.

Cyber incidents can result in the disclosure of personal, confidential or proprietary customer, client or employee information, damage to Citi's reputation with its clients and the market, customer dissatisfaction and additional costs to Citi, including expenses such as repairing systems, replacing customer payment cards, credit monitoring or adding new personnel or protection technologies. Cyber incidents can also result in regulatory penalties, loss of revenues, exposure to litigation and other financial losses, including loss of funds, to both Citi and its clients and customers and disruption to Citi's operational systems (for additional information on the potential impact of operational disruptions, see the operational processes and systems risk factor above). Moreover, the increasing risk of cyber incidents has resulted in increased legislative and regulatory scrutiny of firms' cybersecurity protection services and calls for additional laws and regulations to further enhance protection of consumers' personal data.

While Citi maintains insurance coverage that may, subject to policy terms and conditions including significant self-insured deductibles, cover certain aspects of cyber risks, such insurance coverage may be insufficient to cover all losses and may not take into account reputational harm, the costs of which are impossible to quantify.

For additional information about Citi's management of cybersecurity risk, see "Managing Global Risk—Operational Risk—Cybersecurity Risk" below.

Changes or Errors in Accounting Assumptions, Judgments or Estimates, or the Application of Certain Accounting Principles, Could Result in Significant Losses or Other Adverse Impacts.

U.S. GAAP requires Citi to use certain assumptions, judgments and estimates in preparing its financial statements, including, among other items, the estimate of the ACL; reserves related to litigation, regulatory and tax matters; valuation of DTAs; the fair values of certain assets and liabilities; and the assessment of goodwill and other assets for impairment. These assumptions, judgments and estimates are inherently limited because they involve techniques, including the use of historical data in many circumstances, that cannot anticipate every economic and financial outcome in the markets in which Citi operates, nor can they anticipate the specifics and timing of such outcomes. For example, many models used by Citi include assumptions about correlation or lack thereof among prices of various asset classes or other market indicators that may not hold in times of market stress, limited liquidity or other unforeseen circumstances. If Citi's assumptions, judgments or estimates underlying its financial statements are incorrect or differ from actual or subsequent events, Citi could experience unexpected losses or other adverse impacts, some of which could be significant. Citi could also experience declines in its stock price, be subject to legal and regulatory proceedings and incur fines and other losses. For additional information on the key areas for which assumptions and estimates are used in preparing Citi's financial statements, see "Significant Accounting Policies and Significant Estimates" below and Notes 1 and 15.

For example, the CECL methodology requires that Citi provide reserves for a current estimate of lifetime expected credit losses for its loan portfolios and other financial assets, as applicable, at the time those assets are originated or acquired. This estimate is adjusted each period for changes in expected lifetime credit losses. Citi's ACL estimate depends upon its CECL models and assumptions; forecasted macroeconomic conditions, including, among other things, the U.S. unemployment rate and U.S. inflation-adjusted gross domestic product (real GDP); and the credit indicators, composition and other characteristics of Citi's loan portfolios and other applicable financial assets. These model assumptions and forecasted macroeconomic conditions will change over time, resulting in variability in Citi's ACL, and, thus, impact its results of operations and financial condition, as well as regulatory capital due to the CECL phase-in (for additional information on the CECL phase-in, see the capital return risk factor above).

Moreover, Citi has incurred losses related to its foreign operations that are reported in the CTA components of *Accumulated other comprehensive income (loss) (AOCI)*. In accordance with U.S. GAAP, a sale, substantial liquidation or other deconsolidation event of any foreign operations, such as those related to Citi's remaining divestitures or legacy businesses, would result in reclassification of any foreign CTA component of *AOCI* related to that foreign operation, including related hedges and taxes, into Citi's earnings. For example, in the second quarter of 2022, Citi incurred a CTA loss (net of hedges) in *AOCI* released to earnings of approximately $400 million ($345 million after-tax) related to the substantial liquidation of a legacy U.K. consumer operation (for additional information, see "*Legacy Franchises*" and "*Corporate/Other*" above and Note 2). For additional information on Citi's accounting policy for foreign currency translation and its foreign CTA components of *AOCI*, see Notes 1 and 20.

Changes to Financial Accounting and Reporting Standards or Interpretations Could Have a Material Impact on How Citi Records and Reports Its Financial Condition and Results of Operations.

Periodically, the Financial Accounting Standards Board (FASB) issues financial accounting and reporting standards that govern key aspects of Citi's financial statements or interpretations thereof when those standards become effective, including those areas where Citi is required to make assumptions or estimates. Changes to financial accounting or reporting standards or interpretations, whether promulgated or required by the FASB, the SEC, banking regulators or others, could present operational challenges and could also require Citi to change certain of the assumptions or estimates it previously used in preparing its financial statements, which could negatively impact how it records and reports its financial condition and results of operations generally and/or with respect to particular businesses. See Note 1 for additional information on Citi's accounting policies and changes in accounting, including the expected impacts on Citi's results of operations and financial condition.

If Citi's Risk Management Processes, Strategies or Models Are Deficient or Ineffective, Citi May Incur Significant Losses and Its Regulatory Capital and Capital Ratios Could Be Negatively Impacted.

Citi utilizes a broad and diversified set of risk management and mitigation processes and strategies, including the use of models in enacting processes and strategies as well as in analyzing and monitoring the various risks Citi assumes in conducting its activities. For example, Citi uses models as part of its comprehensive stress testing initiatives across the Company. Citi also relies on data to aggregate, assess and manage various risk exposures. Management of these risks is made more challenging within a global financial institution such as Citi, particularly given the complex, diverse and rapidly changing financial markets and conditions in which Citi operates as well as that losses can occur unintentionally from untimely, inaccurate or incomplete processes and data. As discussed below, in October 2020, Citigroup and Citibank entered into consent orders with the FRB and OCC that require Citigroup and Citibank to make improvements in various aspects of enterprise-wide risk management, compliance, data quality management and governance and internal controls (see "Citi's Consent Order Compliance" above and the legal and regulatory proceedings risk factor below).

Citi's risk management processes, strategies and models are inherently limited because they involve techniques, including the use of historical data in many circumstances, assumptions and judgments that cannot anticipate every economic and financial outcome in the markets in which Citi operates, nor can they anticipate the specifics and timing of

such outcomes. For example, many models used by Citi include assumptions about correlation or lack thereof among prices of various asset classes or other market indicators that may not necessarily hold in times of market stress, limited liquidity or other unforeseen circumstances. Citi could incur significant losses, and its regulatory capital and capital ratios could be negatively impacted, if Citi's risk management processes, including its ability to manage and aggregate data in a timely and accurate manner, strategies or models are deficient or ineffective. Such deficiencies or ineffectiveness could also result in inaccurate financial, regulatory or risk reporting.

Moreover, Citi's Basel III regulatory capital models, including its credit, market and operational risk models, currently remain subject to ongoing regulatory review and approval, which may result in refinements, modifications or enhancements (required or otherwise) to these models. Citi is required to notify and obtain preapproval from both the OCC and FRB prior to implementing certain risk-weighted asset treatments, as well as certain model changes, resulting in a more challenging environment within which Citi must operate in managing its risk-weighted assets. Modifications or requirements resulting from these ongoing reviews, as well as any future changes or guidance provided by the U.S. banking agencies regarding the regulatory capital framework applicable to Citi, have resulted in, and could continue to result in, significant changes to Citi's risk-weighted assets. These changes can negatively impact Citi's capital ratios and its ability to achieve its regulatory capital requirements.

CREDIT RISKS

Credit Risk and Concentrations of Risk Can Increase the Potential for Citi to Incur Significant Losses.

Citi has credit exposures to consumer, corporate and public sector borrowers and other counterparties in the U.S. and various countries and jurisdictions globally, including end-of-period consumer loans of $368 billion and end-of-period corporate loans of $289 billion at December 31, 2022. For additional information on Citi's corporate and consumer loan portfolios, see "Managing Global Risk—Corporate Credit" and "—Consumer Credit" below.

A default by a borrower or other counterparty, or a decline in the credit quality or value of any underlying collateral, exposes Citi to credit risk. Despite Citi's target client strategy, various macroeconomic, geopolitical and other factors, among other things, can increase Citi's credit risk and credit costs, particularly for certain sectors, industries or countries (for additional information, see the co-branding and private label credit card and macroeconomic challenges and uncertainties risk factors above and the emerging markets risk factor below). For example, a weakening of economic conditions can adversely affect borrowers' ability to repay their obligations, as well as result in Citi being unable to liquidate the collateral it holds or forced to liquidate the collateral at prices that do not cover the full amount owed to Citi. Citi is also a member of various central clearing counterparties and could incur financial losses as a result of defaults by other clearing members due to the requirements of clearing members to share losses. Additionally, due to the interconnectedness among financial institutions, concerns about the creditworthiness of or defaults by a financial institution could spread to other financial market participants and result in market-wide losses.

While Citi provides reserves for expected losses for its credit exposures, as applicable, such reserves are subject to judgments and estimates that could be incorrect or differ from actual future events. Under the CECL accounting standard, the ACL reflects expected losses, which has resulted in and could lead to additional volatility in the allowance and the provision for credit losses as forecasts of economic conditions change. For additional information, see the incorrect assumptions or estimates and changes to financial accounting and reporting standards risk factors above. For additional information on Citi's ACL, see "Significant Accounting Policies and Significant Estimates" below and Notes 1 and 15. For additional information on Citi's credit and country risk, see each respective business's results of operations above and "Managing Global Risk—Credit Risk" and "Managing Global Risk—Other Risks—Country Risk" below and Notes 14 and 15.

Concentrations of risk to clients or counterparties engaged in the same or related industries or doing business in a particular geography, especially credit and market risks, can also increase Citi's risk of significant losses. For example, Citi routinely executes a high volume of securities, trading, derivative and foreign exchange transactions with non-U.S. sovereigns and with counterparties in the financial services industry, including banks, insurance companies, investment banks, governments, central banks and other financial institutions. Moreover, Citi has indemnification obligations in connection with various transactions that expose it to concentrations of risk, including credit risk from hedging or reinsurance arrangements related to those obligations (for additional information about these exposures, see Note 27). A rapid deterioration of a large borrower or other counterparty or within a sector or country in which Citi has large exposures or indemnifications or unexpected market dislocations could lead to concerns about the creditworthiness of other borrowers or counterparties in related or dependent industries, and such conditions could cause Citi to incur significant losses.

LIQUIDITY RISKS

Citi's Businesses, Results of Operations and Financial Condition Could Be Negatively Impacted if It Does Not Effectively Manage Its Liquidity.

As a large, global financial institution, adequate liquidity and sources of funding are essential to Citi's businesses. Citi's liquidity and sources of funding can be significantly and negatively impacted by factors it cannot control, such as general disruptions in the financial markets, governmental fiscal and monetary policies, regulatory changes or negative investor perceptions of Citi's creditworthiness, unexpected increases in cash or collateral requirements and the consequent inability to monetize available liquidity resources. Citi competes with other banks and financial institutions for both institutional and consumer deposits, which represent Citi's most stable and lowest cost source of long-term funding. The competition for deposits has continued to increase in recent

years, including as a result of online banks and digital banking and fixed income alternatives for customer funds. Furthermore, it is expected that the market for deposits will become more competitive in the current higher interest rate environment.

Citi's costs to obtain and access wholesale funding are directly related to changes in interest and currency exchange rates and its credit spreads. For example, during 2022, interest rates in the U.S. increased significantly, thus, affecting Citi's cost of funding. Changes in Citi's credit spreads are driven by both external market factors and factors specific to Citi, such as negative views by investors of the financial services industry or Citi's financial prospects, and can be highly volatile. For additional information on Citi's primary sources of funding, see "Managing Global Risk—Liquidity Risk" below.

Citi's ability to obtain funding may be impaired and its cost of funding could also increase if other market participants are seeking to access the markets at the same time or to a greater extent than expected, or if market appetite for corporate debt securities declines, as is likely to occur in a liquidity stress event or other market crisis. Citi's ability to sell assets may also be impaired if other market participants are seeking to sell similar assets at the same time or a liquid market does not exist for such assets. A sudden drop in market liquidity could also cause a temporary or protracted dislocation of underwriting and capital markets activity. In addition, clearing organizations, central banks, clients and financial institutions with which Citi interacts may exercise the right to require additional collateral during challenging market conditions, which could further impair Citi's liquidity. If Citi fails to effectively manage its liquidity, its businesses, results of operations and financial condition could be negatively impacted.

In addition, as a holding company, Citigroup Inc. relies on interest, dividends, distributions and other payments from its subsidiaries to fund dividends as well as to satisfy its debt and other obligations. Several of Citi's U.S. and non-U.S. subsidiaries are or may be subject to capital adequacy or other liquidity, regulatory or contractual restrictions on their ability to provide such payments, including any local regulatory stress test requirements and inter-affiliate arrangements entered into in connection with Citigroup Inc.'s resolution plan. Citigroup Inc.'s broker-dealer and bank subsidiaries are subject to restrictions on their ability to lend or transact with affiliates, as well as restrictions on their ability to use funds deposited with them in brokerage or bank accounts to fund their businesses. Limitations on the payments that Citigroup Inc. receives from its subsidiaries could also impact its liquidity. A bank holding company is required by law to act as a source of financial and managerial strength for its subsidiary banks. As a result, the FRB may require Citigroup Inc. to commit resources to its subsidiary banks even if doing so is not otherwise in the interests of Citigroup Inc. or its shareholders or creditors, reducing the amount of funds available to meet its obligations.

Credit Rating Agencies Continuously Review the Credit Ratings of Citi and Certain of Its Subsidiaries, and a Ratings Downgrade Could Adversely Impact Citi's Funding and Liquidity.

The credit rating agencies, such as Fitch Ratings, Moody's Investors Services and S&P Global Ratings, continuously evaluate Citi and certain of its subsidiaries. Their ratings of Citi and its rated subsidiaries' long-term debt and short-term obligations are based on several factors, including the financial strength of Citi and such subsidiaries, as well as factors that are not entirely within the control of Citi and its subsidiaries, such as the agencies' proprietary rating methodologies and assumptions, and conditions affecting the financial services industry and markets generally.

Citi and its subsidiaries may not be able to maintain their current respective ratings and outlooks. Rating downgrades could negatively impact Citi and its rated subsidiaries' ability to access the capital markets and other sources of funds as well as the costs of those funds. A ratings downgrade could also have a negative impact on Citi and its rated subsidiaries' ability to obtain funding and liquidity due to reduced funding capacity and the impact from derivative triggers, which could require Citi and its rated subsidiaries to meet cash obligations and collateral requirements. In addition, a ratings downgrade could have a negative impact on other funding sources such as secured financing and other margined transactions for which there may be no explicit triggers, and on contractual provisions and other credit requirements of Citi's counterparties and clients that may contain minimum ratings thresholds in order for Citi to hold third-party funds.

Furthermore, a credit ratings downgrade could have impacts that may not be currently known to Citi or are not possible to quantify. Some of Citi's counterparties and clients could have ratings limitations on their permissible counterparties, of which Citi may or may not be aware. Certain of Citi's corporate customers and trading counterparties, among other clients, could re-evaluate their business relationships with Citi and limit the trading of certain contracts or market instruments with Citi in response to ratings downgrades. Changes in customer and counterparty behavior could impact not only Citi's funding and liquidity but also the results of operations of certain Citi businesses. For additional information on the potential impact of a reduction in Citi's or Citibank's credit ratings, see "Managing Global Risk—Liquidity Risk" below.

COMPLIANCE RISKS

Ongoing Interpretation and Implementation of Regulatory and Legislative Requirements and Changes and Heightened Regulatory Scrutiny and Expectations in the U.S. and Globally Have Increased Citi's Compliance, Regulatory and Other Risks and Costs.

Citi is continually required to interpret and implement extensive and frequently changing regulatory and legislative requirements in the U.S. and other jurisdictions in which it does business, which may overlap or conflict across jurisdictions, resulting in substantial compliance, regulatory and other risks and costs. In addition, there are heightened regulatory scrutiny and expectations in the U.S. and globally

for large financial institutions, as well as their employees and agents, with respect to governance, infrastructure, data, climate and risk management practices and controls. These requirements and expectations also include, among other things, those related to customer and client protection, market practices, anti-money laundering and increasingly complex sanctions and disclosure regimes. A failure to comply with these requirements and expectations, even if inadvertent, or resolve any identified deficiencies, could result in increased regulatory oversight and restrictions, enforcement proceedings, penalties and fines (for additional information on such regulatory consequences, see the legal and regulatory proceedings risk factor below).

Over the past several years, Citi has been required to implement a significant number of regulatory and legislative changes, including new regulatory or legislative requirements or regimes, across its businesses and functions, and these changes continue. The changes themselves may be complex and subject to interpretation, and will require continued investments in Citi's global operations and technology solutions. In some cases, Citi's implementation of a regulatory or legislative requirement is occurring simultaneously with changing or conflicting regulatory guidance, legal challenges or legislative action to modify or repeal existing rules or enact new rules. Examples of regulatory or legislative changes that have resulted in increased compliance risks and costs include (i) various laws relating to the limitation of cross-border data movement and/or collection and use of customer information, including data localization and protection and privacy laws, which also can conflict with or increase compliance complexity with respect to other laws, including anti-money laundering laws; and (ii) the U.S. banking agencies' regulatory capital rules and requirements, which have continued to evolve (for additional information, see the capital return risk factor and "Capital Resources" above). In addition, certain U.S. regulatory agencies and non-U.S. authorities have prioritized issues of social, economic and racial justice, and are in the process of considering ways in which these issues can be mitigated, including through rulemaking, supervision and other means, even while Congress is signaling, and certain U.S. state governments are pursuing potentially conflicting anti-ESG priorities.

Citi Is Subject to Extensive Legal and Regulatory Proceedings, Examinations, Investigations, Consent Orders and Related Compliance Efforts and Other Inquiries That Could Result in Significant Monetary Penalties, Supervisory or Enforcement Orders, Business Restrictions, Limitations on Dividends, Changes to Directors and/or Officers and Collateral Consequences Arising from Such Outcomes.
At any given time, Citi is a party to a significant number of legal and regulatory proceedings and is subject to numerous governmental and regulatory examinations. Additionally, Citi remains subject to governmental and regulatory investigations, consent orders and related compliance efforts, and other inquiries. Citi could also be subject to enforcement proceedings not only because of violations of laws and regulations, but also due to failures, as determined by its regulators, to have adequate policies and procedures, or to remedy deficiencies on a timely basis.

As previously disclosed, the October 2020 FRB and OCC consent orders require Citigroup and Citibank to implement targeted action plans and submit quarterly progress reports detailing the results and status of improvements relating principally to various aspects of enterprise-wide risk management, compliance, data quality management and governance and internal controls. These improvements will result in continued significant investments by Citi during 2023 and beyond, as an essential part of Citi's broader transformation efforts to enhance its risk, controls, data and finance infrastructure and compliance.

Although there are no restrictions on Citi's ability to serve its clients, the OCC consent order requires Citibank to obtain prior approval of any significant new acquisition, including any portfolio or business acquisition, excluding ordinary course transactions. Moreover, the OCC consent order provides that the OCC has the right to assess future civil money penalties or take other supervisory and/or enforcement actions. Such actions by the OCC could include imposing business restrictions, including possible limitations on the declaration or payment of dividends and changes in directors and/or senior executive officers. More generally, the OCC and/or the FRB could take additional enforcement or other actions if the regulatory agency believes that Citi has not met regulatory expectations regarding compliance with the consent orders. For additional information regarding the consent orders, see "Citi's Consent Order Compliance" above.

The global judicial, regulatory and political environment has generally been challenging for large financial institutions, and financial institutions have been subject to continued regulatory scrutiny. The complexity of the federal and state regulatory and enforcement regimes in the U.S., coupled with the global scope of Citi's operations, also means that a single event or issue may give rise to a large number of overlapping investigations and regulatory proceedings, either by multiple federal and state agencies and authorities in the U.S. or by multiple regulators and other governmental entities in foreign jurisdictions, as well as multiple civil litigation claims in multiple jurisdictions. Violations of law by other financial institutions may also result in regulatory scrutiny of Citi. Responding to regulatory inquiries and proceedings can be time consuming and costly.

U.S. and non-U.S. regulators have been increasingly focused on the culture of financial services firms, including Citi, as well as "conduct risk," a term used to describe the risks associated with behavior by employees and agents, including third parties, that could harm clients, customers, employees or the integrity of the markets, such as improperly creating, selling, marketing or managing products and services or improper incentive compensation programs with respect thereto, failures to safeguard a party's personal information, or failures to identify and manage conflicts of interest.

In addition to the greater focus on conduct risk, the general heightened scrutiny and expectations from regulators could lead to investigations and other inquiries, as well as remediation requirements, more regulatory or other enforcement proceedings, civil litigation and higher compliance and other risks and costs. Further, while Citi takes numerous steps to prevent and detect conduct by employees and agents that could potentially harm clients, customers,

employees or the integrity of the markets, such behavior may not always be deterred or prevented. In addition to regulatory restrictions or structural changes that could result from perceived deficiencies in Citi's culture, such focus could also lead to additional regulatory proceedings. Moreover, the severity of the remedies sought in legal and regulatory proceedings to which Citi is subject has remained elevated. U.S. and certain non-U.S. governmental entities have increasingly brought criminal actions against, or have sought criminal convictions from, financial institutions and individual employees, and criminal prosecutors in the U.S. have increasingly sought and obtained criminal guilty pleas or deferred prosecution agreements against financial entities and individuals and other criminal sanctions for those institutions and individuals. These types of actions by U.S. and international governmental entities may, in the future, have significant collateral consequences for a financial institution, including loss of customers and business, and the inability to offer certain products or services and/or operate certain businesses. Citi may be required to accept or be subject to similar types of criminal remedies, consent orders, sanctions, substantial fines and penalties, remediation and other financial costs or other requirements in the future, including for matters or practices not yet known to Citi, any of which could materially and negatively affect Citi's businesses, business practices, financial condition or results of operations, require material changes in Citi's operations or cause Citi reputational harm.

Additionally, many large claims—both private civil and regulatory—asserted against Citi are highly complex, slow to develop and may involve novel or untested legal theories. The outcome of such proceedings is difficult to predict or estimate until late in the proceedings. Although Citi establishes accruals for its legal and regulatory matters according to accounting requirements, Citi's estimates of, and changes to, these accruals involve significant judgment and may be subject to significant uncertainty, and the amount of loss ultimately incurred in relation to those matters may be substantially higher than the amounts accrued (see the incorrect assumptions or estimates risk factor above). In addition, certain settlements are subject to court approval and may not be approved. For further information on Citi's legal and regulatory proceedings, see Note 29.

OTHER RISKS

Citi's Emerging Markets Presence Subjects It to Various Risks as well as Increased Compliance and Regulatory Risks and Costs.

During 2022, emerging markets revenues accounted for approximately 37% of Citi's total revenues (Citi generally defines emerging markets as countries in Latin America, Asia (other than Japan, Australia and New Zealand), and central and Eastern Europe, the Middle East and Africa in EMEA). Citi's presence in the emerging markets subjects it to various risks, such as limitations or unavailability of hedges on foreign investments; foreign currency volatility, including devaluations and continued strength in the U.S. dollar; sustained increases in interest rates; sovereign debt volatility; election outcomes, regulatory changes and political events; foreign exchange controls, including inability to access indirect foreign exchange mechanisms; macroeconomic and geopolitical challenges and uncertainties and volatility, including with respect to Russia and China (see the macroeconomic and geopolitical risk factor above and "Managing Global Risk—Other Risks—Country Risk—Russia" and "—Ukraine" below); limitations on foreign investment; sociopolitical instability (including from hyperinflation); fraud; nationalization or loss of licenses; restrictions arising from retaliatory Russian laws and regulations on the conduct of its business; sanctions or asset freezes; potential criminal charges; closure of branches or subsidiaries; and confiscation of assets, and these risks can be exacerbated in the event of a deterioration in relationships between the U.S. and an emerging market country.

For example, Citi operates in several countries that have, or have had in the past, strict capital controls, currency controls and/or sanctions, such as Argentina and Russia, that limit its ability to convert local currency into U.S. dollars and/or transfer funds outside of those countries. For instance, due to currency controls in Argentina, Citi faces a risk of devaluation on its unhedged Argentine peso-denominated assets, which continue to increase (for additional information on Argentina-related risks, see "Managing Global Risk—Other Risks—Country Risk—Argentina" below). Moreover, if the economic situation in a country in which Citi operates were to deteriorate below a certain level, U.S. regulators through the Interagency Country Exposure Review Committee (ICERC) may impose mandatory loan loss or other reserve requirements on Citi, which would increase its credit costs and decrease its earnings.

In addition, political turmoil and instability and geopolitical tensions and conflicts (such as the Russia–Ukraine war) have occurred in various regions and emerging market countries across the globe which have required, and may continue to require, management time and attention and other resources, such as monitoring the impact of sanctions on certain emerging market economies as well as impacting Citi's businesses, results of operations and financial conditions in affected countries.

The Transition Away from and Discontinuance of LIBOR or Any Other Interest Rate Benchmark Could Have Adverse Consequences for Citi.

LIBOR and other rates or indices deemed to be benchmarks have been the subject of ongoing U.S. and non-U.S. regulatory scrutiny and reform. The LIBOR administrator ceased publication of non-USD LIBOR and one-week and two-month USD LIBOR on a permanent or representative basis on December 31, 2021, with plans for all other USD LIBOR tenors to permanently cease or become non-representative after June 30, 2023. As a result, Citi ceased entering into new contracts referencing USD LIBOR as of January 1, 2022, other than for limited circumstances where regulators recognized that it may be appropriate for banks to enter into new USD LIBOR contracts, including with respect to market-making, hedging or novations of USD transactions executed before January 1, 2022.

Through a global effort by the financial services industry and regulators, alternative reference rates have been identified

and/or developed and are being used to replace LIBOR and other benchmark rates. Alternative reference rates, such as the Secured Overnight Financing Rate (SOFR), are calculated using components different from those used in the calculation of LIBOR and may fluctuate differently than, and not be representative of, LIBOR. In order to compensate for these differences, certain of Citi's financial instruments and commercial agreements allow for a benchmark replacement adjustment. However, there can be no assurance that any benchmark replacement adjustment will be sufficient to produce the economic equivalent of LIBOR, either at the benchmark replacement date or over the life of such instruments and agreements.

Moreover, the transition presents challenges related to contractual mechanics of existing contracts that reference USD LIBOR and are governed by non-U.S. law or reference the USD LIBOR Ice Swap Rate. Certain of these legacy instruments and contracts are not covered by any legislative solution and do not provide for fallbacks to alternative reference rates, which makes it unclear what the applicable future replacement benchmark rates and associated payments might be after the current benchmark's cessation. Citi may be unable to amend certain instruments and contracts due to an inability to obtain sufficient levels of consent from counterparties or security holders. Although this will depend on the precise contractual terms of the instrument, such consent requirements are often conditions of securities, such as floating rate notes. The Financial Conduct Authority (FCA), a U.K. regulator, has proposed that one-, three- and six-month USD LIBOR be published on a synthetic basis, which would only be available through September 2024.

In addition, the transition away from and discontinuance of LIBOR and other benchmark rates have subjected financial institutions, including Citi, to heightened scrutiny from regulators. Failure to successfully transition away from LIBOR and other benchmark rates could result in adverse regulatory actions, disputes, including potential litigation involving holders of outstanding products and contracts that reference LIBOR and other benchmark rates, and reputational harm to Citi. See "Managing Global Risk—Other Risks—LIBOR Transition Risk" for Citi's ongoing actions to prepare for the transition away from LIBOR.

SUSTAINABILITY AND OTHER ESG MATTERS

Introduction

Citi has worked on Environmental, Social and Governance (ESG) issues for more than 20 years and has a demonstrated record of ESG progress, including participating in the creation and adoption of ESG-related principles and standards. This section summarizes some of Citi's key ESG initiatives, including its Sustainable Progress Strategy, Net Zero, and Financial Inclusion and Racial Equity commitments.

Citi's ESG Report provides information on a broad set of ESG-related efforts. Citi's Task Force on Climate-Related Financial Disclosures (TCFD) Report provides its stakeholders with information on Citi's continued progress to manage climate risk and its Net Zero plan, including information on financed emissions and 2030 emissions targets.

For information regarding Citi's management of climate risk, see "Managing Global Risk—Strategic Risks—Climate Risk" below.

ESG and Climate-Related Governance

Citi's Board of Directors (Board) provides oversight of Citi's management activities (for additional information, see "Managing Global Risk—Risk Governance" below). For example, the Nomination, Governance and Public Affairs Committee of the Board oversees many of Citi's ESG activities, including reviewing Citi's policies and programs for environmental and social sustainability, climate change, human rights, diversity and other ESG issues, as well as overseeing engagement with external stakeholders.

The Risk Management Committee of the Board provides oversight of Citi's Independent Risk Management function and reviews Citi's risk policies and frameworks, including receiving climate risk-related updates.

The Audit Committee of the Board has recently been chartered to provide oversight of controls and procedures pertaining to the ESG-related metrics and related disclosures in Citi's SEC filed reports and voluntary ESG reporting, as well as management's evaluation of Citi's disclosure controls and procedures for ESG reporting.

Citi's Global ESG Council consists of senior members of its management team and certain subject matter experts who provide oversight of Citi's ESG goals and activities. In addition, a number of teams and senior managers contribute to the oversight and management of areas such as environmental sustainability; community investing; talent and diversity; ethics and business practices; and remuneration.

Citi's climate governance structure continues to evolve as Citi advances its understanding of its climate risk and its progress under the Net Zero plan. In addition to the expansion of the Board's oversight of climate matters (see Risk Management Committee and Audit Committee descriptions above), Citi has:

- Expanded and realigned its climate risk team to be part of the Enterprise Risk Management function within Risk;
- Further built out its Clean Energy Transition (CET) team (formed in 2021 and expanded in 2022 to include Corporate Banking), which focuses on providing advisory and capital-raising services to companies involved in energy transition; and
- Launched two climate training pilots for its BCMA (Banking, Capital Markets and Advisory), Risk Management and Global Functions teams involving in-person workshops focused on providing foundational knowledge of climate risks and client engagement.

Key ESG Initiatives

Sustainable Progress Strategy

Citi's Sustainable Progress Strategy is summarized in its Environmental and Social Policy Framework. The three pillars of the strategy each have climate-related elements and serve as the foundation for Citi's climate commitments:

- The first pillar, “Low-Carbon Transition,” focuses on financing and facilitating environmental and social finance, including low-carbon solutions, and supporting Citi’s clients in their decarbonization and transition strategies.
- The second pillar, “Climate Risk,” focuses on Citi’s efforts to measure, manage and reduce the climate risk and impact of its client portfolio. Areas of activity include portfolio analysis and stakeholder engagement as well as enhancing TCFD implementation and disclosure.
- The third pillar, “Sustainable Operations,” focuses on Citi’s efforts to reduce the environmental footprint of its facilities and strengthen its sustainability culture. This includes minimizing the impact of its global operations through operational footprint goals and further integrates sustainable practices across the countries in which Citi operates.

Net Zero Emissions by 2050

Citi is a member of several initiatives that enhance its understanding of climate-related issues, improve its access to data and promote a common understanding and terminology across various climate efforts. These initiatives include the Partnership for Carbon Accounting Financials, the Glasgow Financial Alliance for Net Zero and the Net Zero Banking Alliance.

As previously disclosed, Citi has committed to achieving net zero greenhouse gas (GHG) emissions associated with its financing by 2050, and net zero GHG emissions for its own operations by 2030; both are significant targets given the size and breadth of Citi’s lending portfolios, businesses and operational footprint. Citi made this commitment as part of its ongoing work to reduce its climate risk and impact, grow its business in the clean energy transition and help address the challenges that climate change poses to the global economy and broader society. Citi’s net zero commitment demonstrates how identifying, assessing and managing climate-related risks and opportunities remains a top business priority for Citi.

While many financial institutions, including Citi, face increasing public pressure to divest from carbon-intensive sectors, Citi believes it has an important role to play in advising and financing the transition to net zero, and it plans to work closely with clients in this effort. Citi recognizes that large-scale, rapid divestment could result in an abrupt and disorderly transition to a low-carbon economy, creating both economic and social upheaval. Citi believes that an orderly, responsible and equitable transition, which accounts for the immediate economic needs of communities and workers, continued access to energy, environmental justice considerations and broader economic development concerns, is essential for the retention of political and social support to move to a low-carbon economy.

The 2050 net zero commitment includes the following framework, delineating the key areas required to achieve its targets:

- Calculate Emissions: Calculate baseline financed emissions for each carbon-intensive sector
- Transition Pathway: Identify the appropriate climate scenario transition pathway
- Target Setting: Establish emissions reduction targets for 2030 and beyond
- Implementation Strategy: Engage with and assess clients to determine transition opportunities
- External Engagement: Solicit feedback from clients, investors and other stakeholders, as the work continues to evolve and the parties collectively define net zero for the banking sector

Citi’s Net Zero plan includes:

- *Net Zero Metrics and Target Setting*: Assess targets for carbon-intensive sectors and explore methodologies for calculating financed emissions beyond lending portfolios
- *Client Engagement and Assessment*: Seek to understand clients’ GHG emissions and work with them to develop their transition plans and advise on capacity building
- *Risk Management*: Assess climate risk exposure across Citi’s lending portfolios and review client carbon reduction progress, with ongoing review and refining of Citi’s risk appetite and thresholds and policies related to Climate Risk Management
- *Clean Technology and Transition Finance*: Support existing and, where possible, new technologies to accelerate commercialization and provide transition advisory and finance, via debt and equity underwriting
- *Portfolio Management*: Active portfolio management to align with net zero targets, including considerations of transition measures taken by clients
- *Public Policy and Regulatory Engagement*: Support enabling public policy and regulation in the U.S. and other countries where relevant

In 2022, Citi took the following steps to operationalize its Net Zero plan:

- In addition to the energy and power targets established last year, Citi has set 2030 emissions reduction targets for four additional loan portfolio sectors: automotive manufacturing, commercial real estate, steel and thermal coal mining.
- Citi has begun piloting a Net Zero Review Template for its energy and power clients to better understand their transition plans.
- Citi worked with RMI to help develop and launch the Sustainable STEEL Principles, a solution for measuring and disclosing the alignment of steel lending portfolios with 1.5°C climate targets.

Financial Inclusion and Racial Equity

Building on Citi’s longstanding focus on advancing financial inclusion and economic opportunity for communities of color, in September 2020, Citi and the Citi Foundation announced Action for Racial Equity (ARE), a set of strategic initiatives to help close the racial wealth gap and increase economic mobility in the U.S. As part of ARE, Citi and the Citi Foundation have invested more than $1 billion in strategic initiatives to provide greater access to banking and credit in communities of color, increase investment in Black-owned businesses, expand access to affordable housing and

homeownership among Black Americans and advance anti-racist practices within Citi and across the financial services industry.

Consistent with its commitment to transparently report on ARE, in December 2022 Citi released the results of a racial equity audit of ARE, which it had commissioned from the law firm Covington & Burling. The audit assessed ARE as an effort to help address various drivers of the racial wealth gap by evaluating ARE's design, implementation and extent of integration into Citi's business. The audit's overall assessment was that ARE was a well-designed and credible effort to help address the racial wealth gap in the U.S., given the dimensions of Citi's business. More specifically, it concluded that:

- ARE's design effectively leveraged Citi's expertise, network of business partners and resources to address some of the key factors contributing to the racial wealth gap.
- Citi has made progress toward many of the objectives committed to under ARE, although at the time of the audit (the end of the first two years of its three-year commitment) it had not yet accomplished every objective or commitment.
- There are opportunities to further institutionalize ARE efforts into Citi's core business, building upon the creation of dedicated business units in both *PBWM* and *ICG*.
- There are opportunities for Citi to further support consumers from underrepresented communities to build and maintain healthy credit scores and access credit.

In addition to Citi's ongoing work and focus on ARE and in line with its continued commitment to expand access to banking products and services that can help advance economic progress—especially for underbanked and unbanked communities—Citi eliminated overdraft fees, returned item fees and overdraft protection fees beginning in June 2022. In addition to eliminating these fees, Citi will continue to offer a robust suite of free overdraft protection services for its customers.

Additional Information

For additional information on Citi's environmental and social policies and priorities, click on "Our Impact" on Citi's website at www.citigroup.com. For information on Citi's ESG and Sustainability (including climate change) governance, see Citi's 2023 Annual Meeting Proxy Statement to be filed with the SEC in March 2023, as well as its 2022 TCFD Report to be published and available on Citi's investor relations website in March 2023.

The 2022 TCFD Report and any other ESG-related reports and information included elsewhere on Citi's investor relations website are not incorporated by reference into, and do not form any part of, this 2022 Annual Report on Form 10-K.

HUMAN CAPITAL RESOURCES AND MANAGEMENT

Attracting and retaining a highly qualified and motivated workforce is a strategic priority for Citi. Citi seeks to enhance the competitive strength of its workforce through the following efforts:

- Continuously innovating the recruitment, training, compensation, promotion and engagement of colleagues
- Actively seeking and listening to diverse perspectives at all levels of the organization
- Optimizing transparency concerning workforce goals to promote accountability, credibility and effectiveness in achieving those goals
- Providing compensation programs that are competitive in the market and aligned to strategic objectives

Workforce Size and Distribution

As of December 31, 2022, Citi employed approximately 240,000 colleagues in over 90 countries. The Company's workforce is constantly evolving and developing, benefiting from a strong mix of internal and external hiring into new and existing positions. In 2022, Citi welcomed nearly 60,000 new colleagues in addition to the roles filled by colleagues through internal mobility. The following table shows the geographic distribution of Citi's employee population by segment, region and gender:

Segment or component[1]	North America	EMEA	Latin America	Asia	Total[2]	Women[3]	Men[3]	Unspecified[3]
Institutional Clients Group	**19,162**	**19,635**	**7,569**	**27,882**	**74,248**	**44.1 %**	**55.9 %**	**0.03 %**
Personal Banking and Wealth Management	**39,952**	**2,227**	**452**	**14,084**	**56,715**	**56.8**	**43.2**	**0.02**
Legacy Franchises	**58**	**21**	**35,776**	**14,392**	**50,247**	**55.1**	**44.9**	**—**
Corporate/Other	**27,690**	**10,894**	**7,281**	**12,828**	**58,693**	**46.8**	**53.2**	**0.02**
Total	**86,862**	**32,777**	**51,078**	**69,186**	**239,903**	**50.1 %**	**49.9 %**	**0.02 %**

(1) Colleague distribution is based on assigned business and region, which may not reflect where the colleague physically resides.
(2) Part-time colleagues represented less than 1.5% of Citi's global workforce.
(3) Information regarding gender is self-identified by colleagues.

Driving a Culture of Excellence and Accountability

Citi continues to embark on a talent and culture transformation to drive a culture of excellence and accountability that is supported by strong risk and controls management.

Citi's new Leadership Principles of "taking ownership, delivering with pride and succeeding together" have been reinforced through a behavioral science-led campaign, Citi's New Way, that reinforces the key working habits that support Citi's leadership culture.

Citi's performance management approach also emphasizes the Leadership Principles through a new four-pillar system, evaluating what colleagues deliver against financial performance, risk and controls, and client and franchise goals as well as how colleagues deliver from a leadership perspective. The performance management and incentive compensation processes and associated policies and frameworks have been redesigned to enhance accountability through increased rigor and consistency, in particular for risk and controls.

The culture shift is also being supported by changes in the way Citi identifies, assesses, develops and promotes talent, particularly at the most senior levels of the organization. In 2022, the first Company-wide approach for promotions to the critical leadership role of Managing Director was launched, with common eligibility criteria across Citi, including risk and control performance. Further, all potential successors to Executive Management Team roles are evaluated by the Board and are now subject to a risk and controls assessment.

Diversity, Equity and Inclusion

Citigroup's Board is committed to ensuring that the Board and Citi's Executive Management Team are composed of individuals whose backgrounds reflect the diversity of Citi's employees, customers and other stakeholders. In addition, Citi has increased its efforts to diversify its workforce, including, among other things, taking actions with respect to pay equity, setting representation goals and the use of diverse slates in recruiting.

Pay Transparency and Pay Equity

Citi values pay transparency and has taken significant action to ensure that both managers and employees have greater clarity around Citi's compensation philosophy. Over the past two years, Citi introduced market-based salary structures and bonus opportunity guidelines in various countries worldwide. In addition, Citi recently began posting salary ranges on all

external U.S. job postings, which aligns with strategic objectives of pay equity and transparency. Citi also raised its U.S. minimum wage in 2022, the second broad-based increase in less than two years.

Citi has focused on measuring and addressing pay equity within the organization:

- In 2018, Citi was the first major U.S. financial institution to publicly release the results of a pay equity review comparing its compensation of women to that of men, as well as U.S. minorities to U.S. non-minorities. Since 2018, Citi has continued to be transparent about pay equity, including disclosing its unadjusted or "raw" pay gap for both women and U.S. minorities. The raw gap measures the difference in median compensation. The existence of Citi's raw pay gap reflects a need to increase representation of women and U.S. minorities in senior and higher-paying roles.
- Citi's 2022 pay equity review determined that on an adjusted basis, women globally are paid on average more than 99% of what men are paid at Citi, and that there was not a statistically significant difference in adjusted compensation for U.S. minorities and non-minorities.
- Citi's 2022 raw pay gap analysis showed that the median pay for women globally is 78% of the median for men, up from 74% in 2021 and 2020. The median pay for U.S. minorities is more than 97% of the median for non-minorities, which is up from just above 96% in 2021 and 94% in 2020.

Representation Goals

Citi's management believes that a diverse workforce is key to the Company's success in serving diverse clients and communities. In 2022, Citi announced that it exceeded its Company-wide, aspirational diversity representation goals for 2018–2021 to increase its percentages of women colleagues globally and Black talent in the U.S.

Recognizing that this was just a starting point, Citi has set new goals for 2025. The new goals are more global, embrace more dimensions of diversity and include all levels of the Company.

Citi's 2025 aspirational representation goals are embedded in its business strategy. Citi has goals for hiring and promoting colleagues into roles at the Assistant Vice President to Managing Director levels across the organization, as well as goals for campus hiring from colleges and universities. Having aspirational goals across all levels—from early career through senior leadership roles—will help ensure Citi not only has diverse talent in leadership roles, but will also help the Company build a diverse talent pipeline for the future.

Workforce Development

Citi's numerous programmatic offerings aim to reinforce its culture and values, foster understanding of compliance requirements and develop competencies required to deliver excellence to its clients. Citi encourages career growth and development by offering broad and diverse opportunities to colleagues, including the following:

- Citi provides a range of internal development and rotational programs to colleagues at all levels, including an extensive leadership curriculum, allowing the opportunity to build the skills needed to transition to supervisory and managerial roles. Citi's tuition assistance program further enables colleagues in North America to pursue their educational goals.
- Citi has a focus on internal talent development and aims to provide colleagues with career growth opportunities, with more than 33,000 open positions filled internally in 2022. These opportunities are particularly important as Citi focuses on providing career paths for its internal talent base as part of its efforts to increase organic growth and promotions within the organization.

Wellness and Benefits

Citi is proud to provide a wide range of benefits that support its colleagues mentally, emotionally, physically and financially and through various life stages and events. The Company is focused on providing equitable benefits that are designed to attract, engage and retain colleagues.

Citi has significantly enhanced mental well-being programs by offering free counseling sessions for colleagues and their family members and adding real-time text, video and message-based counseling in the U.S., as well as offering an online tool so that all colleagues around the globe can easily find their local Employee Assistance Programs and resources. Citi also continues to value the importance of physical well-being—providing employees in several office locations and countries access to onsite medical care clinics, fitness centers, subsidized gym memberships and virtual fitness programs.

Citi continues expanding employee benefits to support colleagues and their families. In early 2020, Citi expanded its Paid Parental Leave Policy to include Citi colleagues around the world. Citi also began to offer additional leave opportunities to eligible colleagues, including the "Refresh, Recharge, Reenergize" program, whereby employees are able to take up to 12 weeks for a sabbatical to pursue a personal interest, and the "Giving Back" program, allowing employees to take up to four weeks to work with a charitable institution.

In 2022, Citi implemented a global, flexible work approach to provide colleagues with the ability to balance the demands of their home lives with the work conditions that are necessary for success. The "How We Work" approach includes a new work model for Citi, defined by three role designations for colleagues globally: Resident, Hybrid or Remote. By embracing a flexible model of work, Citi has focused on keeping its approach consistent and aligned with its values and priorities.

For additional information about Citi's human capital management initiatives and goals, see Citi's 2021 ESG report available at www.citigroup.com. The 2021 ESG report and other information included elsewhere on Citi's investor relations website are not incorporated by reference into, and do not form any part of, this 2022 Annual Report on Form 10-K.

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(1) For additional information regarding certain credit risk, market risk and other quantitative and qualitative information, refer to Citi's Pillar 3 Basel III Advanced Approaches Disclosures, as required by the rules of the Federal Reserve Board, on Citi's Investor Relations website.

MANAGING GLOBAL RISK

Overview

For Citi, effective risk management is of primary importance to its overall operations. Accordingly, Citi has established an Enterprise Risk Management (ERM) Framework to ensure that all of Citi's risks are managed appropriately and consistently across the Company and at an aggregate, enterprise-wide level. Citi's culture drives a strong risk and control environment, and is at the heart of the ERM Framework, underpinning the way Citi conducts business. The activities that Citi engages in, and the risks those activities generate, must be consistent with Citi's Mission and Value Proposition and the key Leadership Principles that support it, as well as Citi's risk appetite. As discussed above, Citi also continues its efforts to comply with the FRB and OCC consent orders, relating principally to various aspects of risk management, compliance, data quality management and governance, and internal controls (see "Citi's Consent Order Compliance" and "Risk Factors—Compliance Risks" above).

Under Citi's Mission and Value Proposition, which was developed by its senior leadership and distributed throughout the Company, Citi strives to serve its clients as a trusted partner by responsibly providing financial services that enable growth and economic progress while earning and maintaining the public's trust by constantly adhering to the highest ethical standards. As such, Citi asks all colleagues to ensure that their decisions pass three tests: they are in Citi's clients' best interests, create economic value and are always systemically responsible.

As discussed in "Human Capital Resources and Management" above, Citi has designed Leadership Principles that represent the qualities, behaviors and expectations all employees must exhibit to deliver on Citi's mission of enabling growth and economic progress. The Leadership Principles inform Citi's ERM Framework and will contribute to creating a culture that drives client, control and operational excellence. Citi colleagues share a common responsibility to uphold these leadership principles and hold themselves to the highest standards of ethics and professional behavior in dealing with Citi's clients, business colleagues, shareholders, communities and each other.

Citi's ERM Framework details the principles used to support effective enterprise-wide risk management across the end-to-end risk management lifecycle. The ERM Framework covers the risk management roles and responsibilities of the Citigroup Board of Directors (the Board), Citi's Executive Management Team (see "Risk Governance—Executive Management Team" below) and employees across the lines of defense. The underlying pillars of the framework encompass:

- *Culture*—the core principles and behaviors that underpin a strong culture of risk awareness, in line with Citi's Mission and Value Proposition, and Leadership Principles;
- *Governance*—the committee structure and reporting arrangements that support the appropriate oversight of risk management activities at the Board and Executive Management Team levels;
- *Risk Management*—the end-to-end risk management cycle including the identification, measurement, monitoring, controlling and reporting of all risks including top, material, growing, idiosyncratic and emerging risks, and aggregated to an enterprise-wide level; and
- *Enterprise Programs*—the key risk management programs performed across the risk management lifecycle for all risk categories; these programs also outline the specific roles played by each of the lines of defense in these processes.

Each of these pillars is underpinned by supporting capabilities, which are the infrastructure, people, technology and data, and modelling and analytical capabilities that are in place to enable the execution of the ERM Framework.

Citi's approach to risk management requires that its risk-taking be consistent with its risk appetite. The risk appetite is the aggregate level and types of risk Citi is willing to take or tolerate in order to meet its strategic objectives and business plan. Citi's risk appetite framework is the overall firm-wide approach, including policies, processes, controls and systems through which the risk appetite is established, communicated and monitored. In addition, underlying risk limits and thresholds are designed to control concentrations and operationalize risk appetite.

Citi's risks are generally categorized and summarized as follows:

- *Credit risk* is the risk of loss resulting from the decline in credit quality (or downgrade risk) or failure of a borrower, counterparty, third party or issuer to honor its financial or contractual obligations.
- *Liquidity risk* is the risk that Citi will not be able to efficiently meet both expected and unexpected current and future cash flow and collateral needs without adversely affecting either daily operations or financial conditions of Citi.
- *Market risk* (*Trading and Non-Trading*): Market risk of trading portfolios is the risk of loss arising from changes in the value of Citi's assets and liabilities resulting from changes in market variables, such as interest rates, exchange rates, equity and commodity prices or credit spreads. Market risk of non-trading portfolios is the risk to current or projected financial condition and resilience arising from movements in interest rates resulting from repricing risk, basis risk, yield curve risk and options risk.
- *Operational risk* is the risk of loss resulting from inadequate or failed internal processes, people and systems, or from external events. It includes legal risk, which is the risk of loss (including litigation costs, settlements and regulatory fines) resulting from Citi's failure to comply with laws, regulations, prudent ethical standards or contractual obligations in any aspect of Citi's business, but excludes strategic and reputation risks (see below).
- *Compliance risk* is the risk to current or projected financial condition and resilience arising from violations of laws, rules or regulations, or from non-conformance

with prescribed practices, internal policies and procedures or ethical standards.
- *Reputation risk* is the risk to current or projected financial conditions and resilience from negative opinion held by stakeholders.
- *Strategic risk* is the risk of a sustained impact (not episodic impact) to Citi's core strategic objectives as measured by impacts on anticipated earnings, market capitalization or capital, arising from the external factors affecting the Company's operating environment; as well as the risks associated with defining the strategy and executing the strategy, which are identified, measured and managed as part of the Strategic Risk Framework at the Enterprise Level.

Citi uses a lines of defense model as a key component of its ERM Framework to manage its risks. As discussed below, the lines of defense model brings together risk-taking, risk oversight and risk assurance under one umbrella and provides an avenue for risk accountability of first line of defense, a construct for effective challenge by the second line of defense (Independent Risk Management and Independent Compliance Risk Management), and empowers independent risk assurance by the third line of defense (Internal Audit). In addition, the lines of defense model includes organizational units tasked with supporting a strong control environment ("enterprise support functions"). The first, second and third lines of defense, along with enterprise support functions, have distinct roles and responsibilities and are empowered to perform relevant risk management processes and responsibilities in order to manage Citi's risks in a consistent and effective manner.

First Line of Defense: Front Line Units and Front Line Unit Activities

Citi's first line of defense owns the risks and associated controls inherent in, or arising from, the execution of its business activities and is responsible for identifying, measuring, monitoring, controlling and reporting those risks consistent with Citi's strategy, Mission and Value Proposition, Leadership Principles and risk appetite.

Front line units are responsible and held accountable for managing the risks associated with their activities within the boundaries set by independent risk management. They are also responsible for designing and implementing effective internal controls and maintaining processes for managing their risk profile, including through risk mitigation, so that it remains consistent with Citi's established risk appetite.

Front line unit activities are considered part of the first line of defense and are subject to the oversight and challenge of independent risk management.

The first line of defense is composed of Citi's Business Management, Regional Management, certain Corporate Functions (Enterprise Operations and Technology, Chief Administrative Office, Global Public Affairs, Office of the Citibank Chief Executive Officer (CEO) and Finance), as well as other front line unit activities. Front line units may also include enterprise support units and/or conduct enterprise support activities—see "Enterprise Support Functions" below.

Second Line of Defense: Independent Risk Management

Independent risk management units are independent of the first line of defense. They are responsible for overseeing the risk-taking activities of the first line of defense and challenging the first line of defense in the execution of its risk management responsibilities. They are also responsible for independently identifying, measuring, monitoring, controlling and reporting aggregate risks and for setting standards for the management and oversight of risk. Independent risk management is composed of Independent Risk Management (IRM) and Independent Compliance Risk Management (ICRM), which are led by the Group Chief Risk Officer (CRO) and Group Chief Compliance Officer (CCO) who have unrestricted access to the Board and its Risk Management Committee to facilitate the ability to execute their specific responsibilities pertaining to escalation to the Board.

Independent Risk Management

The IRM organization sets risk and control standards for the first line of defense and actively manages and oversees aggregate credit, market (trading and non-trading), liquidity, strategic, operational and reputation risks across Citi, including risks that span categories, such as concentration risk, country risk and climate risk.

IRM is organized to align to risk categories, legal entities/regions and Company-wide, cross-risk functions or processes. Each of these units reports to a member of the Risk Management Executive Council, who are all direct reports to the Citigroup CRO.

Independent Compliance Risk Management

The ICRM organization actively oversees compliance risk across Citi, sets compliance risk and control standards for the first line of defense to manage compliance risk and promotes business conduct and activity that is consistent with Citi's Mission and Value Proposition and the compliance risk appetite. Citi's objective is to embed an enterprise-wide compliance risk management framework and culture that identifies, measures, monitors, controls and escalates compliance risk across Citi.

ICRM is aligned by product line, function and geography to provide compliance risk management advice and credible challenge on day-to-day matters and strategic decision-making for key initiatives. ICRM also has program-level Enterprise Compliance units responsible for setting standards and establishing priorities for program-related compliance efforts. These Compliance Risk Management heads report directly to the CCO. The CCO reports to Citi's General Counsel and ICRM is organizationally part of the Global Legal Affairs & Compliance group. In addition, the CCO has matrix reporting into the CRO and is part of the Risk Management Executive Council.

Third Line of Defense: Internal Audit

Internal Audit is independent of the first line, second line and enterprise support functions. The role of Internal Audit is to provide independent, objective, reliable, valued and timely assurance to the Board, its Audit Committee, Citi senior management and regulators over the effectiveness of governance, risk management and controls that mitigate

current and evolving risks and enhance the control culture within Citi. The Citi Chief Auditor manages Internal Audit and reports functionally to the Chairman of the Citi Audit Committee and administratively to the Citi Chief Executive Officer. The Citi Chief Auditor has unrestricted access to the Board and the Board Audit Committee to address risks and issues identified through Internal Audit's activities.

Enterprise Support Functions

Enterprise support functions engage in activities that support safety and soundness across Citi. These functions provide advisory services and/or design, implement, maintain and oversee Company-wide programs that support Citi in maintaining an effective control environment.

Enterprise support functions are composed of Human Resources and Legal (including Citi Security and Investigative Services). Front line units may also include enterprise support units and/or conduct enterprise support activities (e.g., the Controllers Group within Finance).

Enterprise support functions, units and activities are subject to the relevant Company-wide independent oversight processes specific to the risks for which they are accountable (e.g., operational risk, compliance risk, reputation risk).

Risk Governance

Citi's ERM Framework encompasses risk management processes to address risks undertaken by Citi through identification, measurement, monitoring, controlling and reporting of all risks. The ERM Framework integrates these processes with appropriate governance to complement Citi's commitment to maintaining strong and consistent risk management practices.

Board Oversight

The Board is responsible for oversight of Citi and holds the Executive Management Team accountable for implementing the ERM Framework, meeting strategic objectives within Citi's risk appetite.

Executive Management Team

The Board delegates authority to an Executive Management Team for directing and overseeing day-to-day management of Citi. The Executive Management Team is led by the Citigroup CEO and provides oversight of group activities, both directly and through authority delegated to committees it has established to oversee the management of risk, to ensure continued alignment with Citi's risk strategy.

Board and Executive Management Committees

The Board executes its responsibilities either directly or through its committees. The Board has delegated authority to the following Board standing committees to help fulfill its oversight and risk management responsibilities:

- *Risk Management Committee (RMC)*: assists the Board in fulfilling its responsibility with respect to (i) oversight of Citi's risk management framework, including the significant policies and practices used in managing credit, market, liquidity, strategic, operational, compliance, reputation and certain other risks, including those pertaining to capital management, and (ii) performance oversight of the Global Risk Review—credit, capital and collateral review functions.
- *Audit Committee*: provides oversight of Citi's financial reporting and internal control risk, as well as Internal Audit and Citi's external independent accountants.
- *Compensation, Performance Management and Culture Committee*: provides oversight of compensation of Citi's employees and Citi management's sustained focus on fostering a principled culture of sound ethics, responsible conduct and accountability within the organization.
- *Nomination, Governance and Public Affairs Committee*: provides oversight of reputational issues, Environmental, Social and Governance (ESG) and sustainability matters, and legal and regulatory compliance risks as they relate to corporate governance matters.
- *Technology Committee*: assists the Board in fulfilling its responsibility with respect to oversight of (i) Citigroup's technology strategy and operating plan and the development of Citi's target operating model and architecture, (ii) technology-based risk management, including Cyber Security, (iii) technology-related resource and talent planning and (iv) third-party management policies, practices and standards.

In addition to the above, the Board has established the following ad hoc committee:

- *Transformation Oversight Committee*: provides oversight of the actions of Citi's management to develop and execute a transformation of Citi's risk and control environment pursuant to the recent regulatory consent orders (for additional information see "Citi's Consent Order Compliance" above).

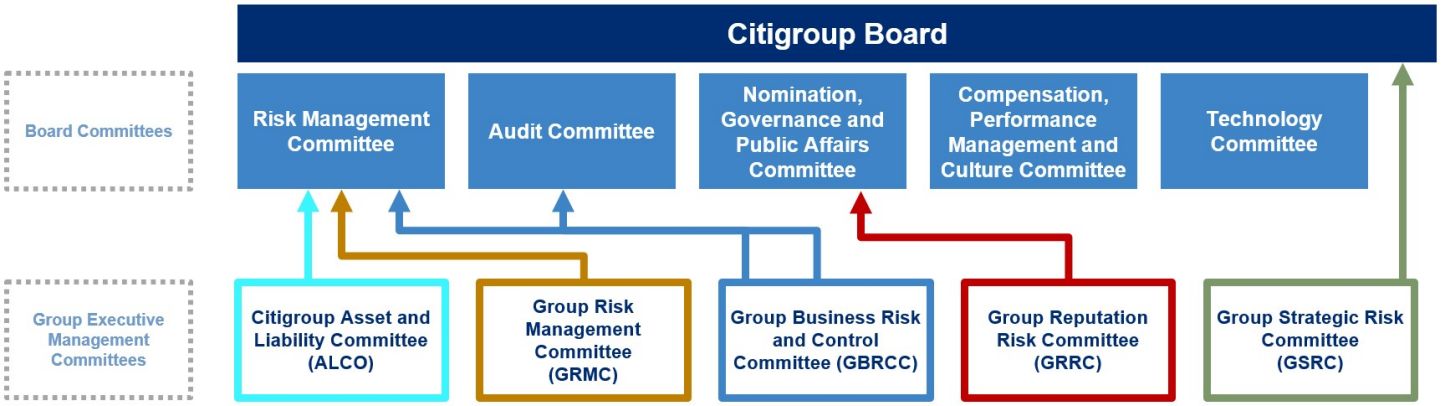
The Executive Management Team has established five standing committees that cover the primary risks to which Citi (i.e., Group) is exposed. These consist of:

- *Group Strategic Risk Committee (GSRC)*: provides governance oversight of Citi's management actions to adequately identify, monitor, report, manage and escalate all material strategic risks facing Citi.
- *Citigroup Asset and Liability Committee (ALCO)*: responsible for governance over management's Liquidity Risk and Market Risk (non-trading) management and for monitoring and influencing the balance sheet, investment securities and capital management activities of Citigroup.
- *Group Risk Management Committee (GRMC)*: the primary senior executive level committee responsible for (i) overseeing the execution of Citigroup's ERM Framework, (ii) monitoring Citi's risk profile at an aggregate level inclusive of individual risk categories, (iii) ensuring that Citi's risk profile remains consistent with its approved risk appetite and (iv) discussing material and emerging risk issues facing the Company. The Committee also provides comprehensive Group-wide coverage of all risk categories, including Credit Risk and Market Risk (trading).
- *Group Business Risk and Control Committee (GBRCC)*: provides governance oversight of Citi's Compliance and Operational Risks.

- *Group Reputation Risk Committee (GRRC)*: provides governance oversight for Reputation Risk management across Citi.

In addition to the Executive Management committees listed above, management may establish ad-hoc committees in response to regulatory feedback or to manage additional activities when deemed necessary.

The figure below illustrates the reporting lines between the Board and Executive Management committees:



CREDIT RISK

Overview

Credit risk is the risk of loss resulting from the decline in credit quality of a client, customer or counterparty (or downgrade risk) or the failure of a borrower, counterparty, third party or issuer to honor its financial or contractual obligations. Credit risk is one of the most significant risks Citi faces as an institution. For additional information, see "Risk Factors—Credit Risk" above. Credit risk arises in many of Citigroup's business activities, including:

- consumer, commercial and corporate lending;
- capital markets derivative transactions;
- structured finance; and
- securities financing transactions (repurchase and reverse repurchase agreements, and securities loaned and borrowed).

Credit risk also arises from clearing and settlement activities, when Citi transfers an asset in advance of receiving its counter-value or advances funds to settle a transaction on behalf of a client. Concentration risk, within credit risk, is the risk associated with having credit exposure concentrated within a specific client, industry, region or other category.

Citi has an established framework in place for managing credit risk across all businesses that includes a defined risk appetite, credit limits and credit policies. Citi's credit risk management framework also includes policies and procedures to manage problem exposures.

To manage concentration risk, Citi has in place a framework consisting of industry limits, single-name concentrations for each business and across Citigroup and a specialized product limit framework.

Credit exposures are generally reported in notional terms for accrual loans, reflecting the value at which the loans as well as other off-balance sheet commitments are carried on the Consolidated Balance Sheet. Credit exposure arising from capital markets activities is generally expressed as the current mark-to-market, net of margin, reflecting the net value owed to Citi by a given counterparty.

The credit risk associated with Citi's credit exposures is a function of the idiosyncratic creditworthiness of the obligor, as well as the terms and conditions of the specific obligation. Citi assesses the credit risk associated with its credit exposures on a regular basis through its allowance for credit losses (ACL) process (see "Significant Accounting Policies and Significant Estimates—Allowance for Credit Losses" below and Notes 1 and 15), as well as through regular stress testing at the company, business, geography and product levels. These stress-testing processes typically estimate potential incremental credit costs that would occur as a result of either downgrades in the credit quality or defaults of the obligors or counterparties. See Note 14 for additional information on Citi's credit risk management.

CORPORATE CREDIT

Consistent with its overall strategy, Citi's corporate clients are typically corporations that value the depth and breadth of Citi's global network. Citi aims to establish relationships with these clients whose needs encompass multiple products, including cash management and trade services, foreign exchange, lending, capital markets and M&A advisory.

Corporate Credit Portfolio

The following table details Citi's corporate credit portfolio within *ICG* and the Mexico SBMM component of *Legacy Franchises* (excluding certain loans managed on a delinquency basis, loans carried at fair value and loans held-for-sale), and before consideration of collateral or hedges, by remaining tenor for the periods indicated:

	December 31, 2022				September 30, 2022				December 31, 2021			
In billions of dollars	**Due within 1 year**	**Greater than 1 year but within 5 years**	**Greater than 5 years**	**Total exposure**	Due within 1 year	Greater than 1 year but within 5 years	Greater than 5 years	Total exposure	Due within 1 year	Greater than 1 year but within 5 years	Greater than 5 years	Total exposure
Direct outstandings (on-balance sheet)[1]	**$ 134**	**$ 122**	**$ 27**	**$ 283**	$ 143	$ 114	$ 27	$ 284	$ 145	$ 119	$ 20	$ 284
Unfunded lending commitments (off-balance sheet)[2]	**140**	**256**	**10**	**406**	133	248	10	391	147	269	13	429
Total exposure	**$ 274**	**$ 378**	**$ 37**	**$ 689**	$ 276	$ 362	$ 37	$ 675	$ 292	$ 388	$ 33	$ 713

(1) Includes drawn loans, overdrafts, bankers' acceptances and leases.
(2) Includes unused commitments to lend, letters of credit and financial guarantees.

Portfolio Mix—Geography and Counterparty

Citi's corporate credit portfolio is diverse across geography and counterparty. The following table shows the percentage of this portfolio by region based on Citi's internal management geography:

	December 31, 2022	September 30, 2022	December 31, 2021
North America	**56 %**	56 %	56 %
EMEA	**25**	25	25
Asia	**12**	12	13
Latin America	**7**	7	6
Total	**100 %**	100 %	100 %

The maintenance of accurate and consistent risk ratings across the corporate credit portfolio facilitates the comparison of credit exposure across all lines of business, geographic regions and products. Counterparty risk ratings reflect an estimated probability of default for a counterparty, and internal risk ratings are derived by leveraging validated statistical models and scorecards in combination with consideration of factors specific to the obligor or market, such as management experience, competitive position, regulatory environment and commodity prices. Facility risk ratings are assigned that reflect the probability of default of the obligor and factors that affect the loss given default of the facility, such as support or collateral. Internal obligor ratings that generally correspond to BBB and above are considered investment grade, while those below are considered non-investment grade.

The following table presents the corporate credit portfolio by facility risk rating as a percentage of the total corporate credit portfolio:

	Total exposure		
	December 31, 2022	September 30, 2022	December 31, 2021
AAA/AA/A	**50 %**	50 %	48 %
BBB	**34**	33	34
BB/B	**14**	15	16
CCC or below	**2**	2	2
Total	**100 %**	100 %	100 %

Note: Total exposure includes direct outstandings and unfunded lending commitments.

In addition to the obligor and facility risk ratings assigned to all exposures, Citi may classify exposures in the corporate credit portfolio. These classifications are consistent with Citi's interpretation of the U.S. banking regulators' definition of criticized exposures, which may categorize exposures as special mention, substandard, doubtful or loss.

Risk ratings and classifications are reviewed regularly and adjusted as appropriate. The credit review process incorporates quantitative and qualitative factors, including financial and non-financial disclosures or metrics, idiosyncratic events or changes to the competitive, regulatory or macroeconomic environment. This includes but is not limited to exposures in those sectors significantly impacted by the COVID-19

pandemic (including consumer retail, commercial real estate and transportation).

Citi believes the corporate credit portfolio to be appropriately rated and classified as of December 31, 2022. Citigroup has taken action to adjust internal ratings and classifications of exposures as both the macroeconomic environment and obligor-specific factors have changed, particularly where additional stress has been seen.

As obligor risk ratings are downgraded, the probability of default increases. Downgrades of obligor risk ratings tend to result in a higher provision for credit losses. In addition, downgrades may result in the purchase of additional credit derivatives or other risk mitigants to hedge the incremental credit risk, or may result in Citi's seeking to reduce exposure to an obligor or an industry sector. Citi will continue to review exposures to ensure that the appropriate probability of default is incorporated into all risk assessments.

See Note 14 for additional information on Citi's corporate credit portfolio.

Portfolio Mix—Industry

Citi's corporate credit portfolio is diversified by industry. The following table details the allocation of Citi's total corporate credit portfolio by industry:

	Total exposure		
	December 31, 2022	September 30, 2022	December 31, 2021
Transportation and industrials	**20 %**	20 %	20 %
Technology, media and telecom	**12**	12	12
Consumer retail	**11**	11	11
Real estate	**10**	10	10
Power, chemicals, metals and mining	**9**	9	9
Banks and finance companies[(1)]	**10**	9	8
Energy and commodities	**7**	7	7
Asset managers and funds	**5**	7	8
Health	**6**	5	5
Insurance	**4**	4	4
Public sector	**3**	3	3
Financial markets infrastructure	**2**	2	2
Other industries	**1**	1	1
Total	**100 %**	100 %	100 %

(1) As of the periods in the table, Citi had less than 1% exposure to securities firms. See corporate credit portfolio by industry, below.

The following table details Citi's corporate credit portfolio by industry as of December 31, 2022:

				Non-investment grade			Selected metrics		
In millions of dollars	Total credit exposure	Funded[1]	Unfunded[1]	Investment grade	Non-criticized	Criticized performing	Criticized non-performing[2]	30 days or more past due and accruing	Net credit losses (recoveries)	Credit derivative hedges[3]
Transportation and industrials	**$ 139,225**	**$ 57,271**	**$ 81,954**	**$ 109,197**	**$ 19,697**	**$ 9,850**	**$ 481**	**$ 403**	**$ —**	**$ (8,459)**
Autos[4]	47,482	21,995	25,487	40,795	5,171	1,391	125	52	—	(3,084)
Transportation	24,843	10,374	14,469	18,078	3,156	3,444	165	57	(30)	(1,270)
Industrials	66,900	24,902	41,998	50,324	11,370	5,015	191	294	30	(4,105)
Technology, media and telecom	**81,211**	**28,931**	**52,280**	**65,386**	**12,308**	**3,308**	**209**	**169**	**11**	**(6,050)**
Consumer retail	**78,255**	**32,687**	**45,568**	**60,215**	**14,830**	**2,910**	**300**	**195**	**28**	**(5,395)**
Real estate	**70,676**	**48,539**	**22,137**	**63,023**	**4,722**	**2,881**	**50**	**138**	**2**	**(739)**
Power, chemicals, metals and mining	**59,404**	**18,326**	**41,078**	**47,395**	**10,466**	**1,437**	**106**	**226**	**34**	**(5,063)**
Power	22,718	4,827	17,891	18,822	3,325	512	59	129	(3)	(2,306)
Chemicals	23,147	7,765	15,382	19,033	3,534	564	16	55	30	(2,098)
Metals and mining	13,539	5,734	7,805	9,540	3,607	361	31	42	7	(659)
Banks and finance companies	**65,623**	**42,276**	**23,347**	**57,368**	**5,718**	**2,387**	**150**	**266**	**65**	**(1,113)**
Energy and commodities[5]	**46,309**	**13,069**	**33,240**	**38,918**	**6,076**	**1,200**	**115**	**180**	**11**	**(3,852)**
Asset managers and funds	**35,983**	**13,162**	**22,821**	**34,431**	**1,492**	**60**	**—**	**95**	**—**	**(759)**
Health	**41,836**	**8,771**	**33,065**	**36,954**	**3,737**	**978**	**167**	**84**	**7**	**(2,855)**
Insurance	**29,932**	**4,417**	**25,515**	**29,090**	**801**	**41**	**—**	**44**	**—**	**(3,884)**
Public sector	**23,705**	**11,736**	**11,969**	**20,663**	**2,084**	**956**	**2**	**77**	**4**	**(1,633)**
Financial markets infrastructure	**8,742**	**60**	**8,682**	**8,672**	**70**	**—**	**—**	**—**	**—**	**(18)**
Securities firms	**1,462**	**569**	**893**	**625**	**678**	**157**	**2**	**2**	**—**	**(2)**
Other industries	**6,697**	**3,651**	**3,046**	**4,842**	**1,568**	**238**	**49**	**19**	**16**	**(8)**
Total	**$ 689,060**	**$ 283,465**	**$ 405,595**	**$ 576,779**	**$ 84,247**	**$ 26,403**	**$ 1,631**	**$ 1,898**	**$ 178**	**$ (39,830)**

(1) Excludes $0.6 billion and $0.1 billion of funded and unfunded exposure at December 31, 2022, respectively, primarily related to the delinquency-managed loans and unearned income. Funded balances also exclude loans carried at fair value of $5.1 billion at December 31, 2022.

(2) Includes non-accrual loan exposures and criticized unfunded exposures.

(3) Represents the amount of purchased credit protection in the form of derivatives to economically hedge funded and unfunded exposures. Of the $39.8 billion of purchased credit protection, $36.6 billion represents the total notional amount of purchased credit derivatives on individual reference entities. The remaining $3.2 billion represents the first loss tranche of portfolios of purchased credit derivatives with a total notional of $27.6 billion, where the protection seller absorbs the first loss on the referenced loan portfolios.

(4) Autos total credit exposure includes securitization financing facilities secured by auto loans and leases, extended mainly to the finance company subsidiaries of global auto manufacturers, bank subsidiaries and independent auto finance companies, of approximately $17.4 billion ($10.3 billion in funded, with more than 99% rated investment grade) as of December 31, 2022.

(5) In addition to this exposure, Citi has energy-related exposure within the public sector (e.g., energy-related state-owned entities) and the transportation and industrials sector (e.g., off-shore drilling entities) included in the table above. As of December 31, 2022, Citi's total exposure to these energy-related entities was approximately $4.7 billion, of which approximately $2.4 billion consisted of direct outstanding funded loans.

The following table details Citi's corporate credit portfolio by industry as of December 31, 2021:

					Non-investment grade			Selected metrics		
In millions of dollars	Total credit exposure	Funded[1]	Unfunded[1]	Investment grade	Non-criticized	Criticized performing	Criticized non-performing[2]	30 days or more past due and accruing	Net credit losses (recoveries)	Credit derivative hedges[3]
Transportation and industrials	$ 143,445	$ 51,502	$ 91,943	$ 110,047	$ 19,051	$ 13,196	$ 1,151	$ 384	$ 127	$ (8,791)
Autos[4]	48,210	18,662	29,548	39,824	5,365	2,906	115	49	2	(3,228)
Transportation	26,897	12,085	14,812	19,233	2,344	4,447	873	105	104	(1,334)
Industrials	68,338	20,755	47,583	50,990	11,342	5,843	163	230	21	(4,229)
Technology, media and telecom	84,333	28,542	55,791	64,676	15,873	3,587	197	156	11	(6,875)
Consumer retail	78,994	32,894	46,100	60,686	13,590	4,311	407	224	100	(5,115)
Real estate	69,808	46,220	23,588	58,089	6,761	4,923	35	116	50	(798)
Power, chemicals, metals and mining	65,641	20,224	45,417	53,575	10,708	1,241	117	292	22	(5,808)
Power	26,199	5,610	20,589	22,860	2,832	420	87	100	17	(3,032)
Chemicals	25,550	8,525	17,025	20,788	4,224	528	10	88	6	(2,141)
Metals and mining	13,892	6,089	7,803	9,927	3,652	293	20	104	(1)	(635)
Banks and finance companies	58,252	36,804	21,448	49,465	4,892	3,890	5	150	(5)	(680)
Energy and commodities[5]	48,973	13,485	35,488	38,972	7,517	2,220	264	224	78	(3,679)
Asset managers and funds	55,517	26,879	28,638	54,119	1,019	377	2	211	—	(869)
Health	33,393	8,826	24,567	27,600	4,702	942	149	95	—	(2,465)
Insurance	28,495	3,162	25,333	27,447	987	61	—	2	1	(2,711)
Public sector	23,842	12,464	11,378	21,035	1,527	1,275	5	37	(3)	(1,282)
Financial markets infrastructure	14,341	109	14,232	14,323	18	—	—	—	—	(22)
Securities firms	1,472	613	859	605	816	51	—	4	—	(5)
Other industries	6,591	2,803	3,788	4,151	1,890	489	61	—	5	(169)
Total	$ 713,097	$ 284,527	$ 428,570	$ 584,790	$ 89,351	$ 36,563	$ 2,393	$ 1,895	$ 386	$ (39,269)

(1) Excludes $0.6 billion and $0.1 billion of funded and unfunded exposure at December 31, 2021, respectively, primarily related to the delinquency-managed loans and unearned income. Funded balances also excludes loans carried at fair value of $6.1 billion at December 31, 2021.

(2) Includes non-accrual loan exposures and criticized unfunded exposures.

(3) Represents the amount of purchased credit protection in the form of derivatives to economically hedge funded and unfunded exposures. Of the $39.3 billion of purchased credit protection, $36.0 billion represents the total notional amount of purchased credit derivatives on individual reference entities. The remaining $3.3 billion represents the first loss tranche of portfolios of purchased credit derivatives with a total notional of $28.4 billion, where the protection seller absorbs the first loss on the referenced loan portfolios.

(4) Autos total credit exposure includes securitization financing facilities secured by auto loans and leases, extended mainly to the finance company subsidiaries of global auto manufacturers, bank subsidiaries and independent auto finance companies, of approximately $17.9 billion ($6.5 billion in funded, with more than 99% rated investment grade) at December 31, 2021.

(5) In addition to this exposure, Citi has energy-related exposure within the public sector (e.g., energy-related state-owned entities) and the transportation and industrials sector (e.g., off-shore drilling entities) included in the table above. As of December 31, 2021, Citi's total exposure to these energy-related entities was approximately $5.1 billion, of which approximately $2.6 billion consisted of direct outstanding funded loans.

Credit Risk Mitigation

As part of its overall risk management activities, Citigroup uses credit derivatives and other risk mitigants to hedge portions of the credit risk in its corporate credit portfolio, in addition to outright asset sales. Citi may enter into partial-term hedges as well as full-term hedges. In advance of the expiration of partial-term hedges, Citi will determine, among other factors, the economic feasibility of hedging the remaining life of the instrument. The results of the mark-to-market and any realized gains or losses on credit derivatives are reflected primarily in *Principal transactions* in the Consolidated Statement of Income.

At December 31, 2022, September 30, 2022 and December 31, 2021, *ICG* had economic hedges on the corporate credit portfolio of $39.8 billion, $36.5 billion and $39.3 billion, respectively. Citi's expected credit loss model used in the calculation of its ACL does not include the favorable impact of credit derivatives and other mitigants that are marked-to-market. In addition, the reported amounts of direct outstandings and unfunded lending commitments in the tables above do not reflect the impact of these hedging transactions. The credit protection was economically hedging underlying *ICG* corporate credit portfolio exposures with the following risk rating distribution:

Rating of Hedged Exposure

	December 31, 2022	September 30, 2022	December 31, 2021
AAA/AA/A	**39 %**	38 %	35 %
BBB	**45**	45	49
BB/B	**12**	13	13
CCC or below	**4**	4	3
Total	**100 %**	100 %	100 %

Loan Maturities and Fixed/Variable Pricing of Corporate Loans

In millions of dollars at December 31, 2022	Due within 1 year	Over 1 year but within 5 years	Over 5 years but within 15 years	Over 15 years	Total
Corporate loans					
In North America offices[1]					
Commercial and industrial loans	$ 23,636	$ 31,116	$ 1,328	$ 96	$ 56,176
Financial institutions	21,619	21,600	168	12	43,399
Mortgage and real estate[2]	7,028	5,074	4,348	1,379	17,829
Installment and other	9,605	12,747	1,287	128	23,767
Lease financing	86	188	34	—	308
Total	$ 61,974	$ 70,725	$ 7,165	$ 1,615	$ 141,479
In offices outside North America[1]					
Commercial and industrial loans	$ 70,210	$ 19,376	$ 4,300	$ 81	$ 93,967
Financial institutions	15,888	5,201	607	235	21,931
Mortgage and real estate[2]	1,946	1,592	566	75	4,179
Installment and other	12,386	7,109	1,256	2,596	23,347
Lease financing	6	40	—	—	46
Governments and official institutions	2,535	428	798	444	4,205
Total	$ 102,971	$ 33,746	$ 7,527	$ 3,431	$ 147,675
Corporate loans, net of unearned income[3]	$ 164,945	$ 104,471	$ 14,692	$ 5,046	$ 289,154
Loans at fixed interest rates[4]					
Commercial and industrial loans		$ 3,885	$ 1,045	$ 48	
Financial institutions		3,924	61	12	
Mortgage and real estate[2]		1,238	3,643	977	
Other[5]		4,148	261	6	
Lease financing		165	—	—	
Total		$ 13,360	$ 5,010	$ 1,043	
Loans at floating or adjustable interest rates[4]					
Commercial and industrial loans		$ 46,607	$ 4,583	$ 129	
Financial institutions		22,877	714	235	
Mortgage and real estate[2]		5,428	1,271	477	
Other[5]		16,136	3,080	3,162	
Lease financing		63	34	—	
Total		$ 91,111	$ 9,682	$ 4,003	
Total fixed/variable pricing of corporate loans with maturities due after one year, net of unearned income[3]		$ 104,471	$ 14,692	$ 5,046	

(1) North America includes the U.S., Canada and Puerto Rico. Mexico is included in offices outside North America. The classification between offices in North America and outside North America is based on the domicile of the booking unit. The differences between the domicile of the booking unit and the domicile of the managing unit are not material.

(2) Loans secured primarily by real estate.

(3) Corporate loans are net of unearned income of ($797) million. Unearned income on corporate loans primarily represents interest received in advance, but not yet earned, on loans originated on a discounted basis.

(4) Based on contractual terms. Repricing characteristics may effectively be modified from time to time using derivative contracts. See Note 23.

(5) Other includes installment and other and loans to government and official institutions.

CONSUMER CREDIT

PBWM fulfills a broad spectrum of customer financial needs, with U.S. Personal Banking providing retail banking, credit card, personal loan, mortgage and small business banking, and Global Wealth offering wealth management lending and other products globally to affluent to ultra-high-net-worth customer segments through the Private bank, Wealth at Work and Citigold. *PBWM*'s retail banking products include a generally prime portfolio built through well-defined lending parameters within Citi's risk appetite framework.

Legacy Franchises also provides such activities in its remaining markets through Asia Consumer and Mexico Consumer. The *Legacy Franchises* consumer credit information discussed below reflects only those exit market portfolios that remained held-for-investment (versus held-for-sale) as of each period. The Philippines was reclassified to held-for-sale as of 4Q21, followed by Malaysia, Thailand, Indonesia, Vietnam, Taiwan, India and Bahrain in 1Q22. As a result, China, Korea, Russia and Poland were the only portfolios that remained held-for-investment and are reflected in the discussion below as of 4Q22.

Consumer Credit Portfolio

The following table shows Citi's quarterly end-of-period consumer loans:[1]

In billions of dollars	4Q'21[2]	1Q'22[2]	2Q'22[2]	3Q'22[2]	**4Q'22[2]**
Personal Banking and Wealth Management					
U.S. Personal Banking					
Cards					
Branded cards	$ 87.9	$ 85.9	$ 91.6	$ 93.7	**$ 100.2**
Retail services	46.0	44.1	45.8	46.7	**50.5**
Retail banking					
Mortgages[5]	30.2	30.5	32.3	32.3	**33.4**
Personal, small business and other	2.8	2.8	3.1	3.5	**3.7**
Global Wealth[3][4]					
Cards	4.0	3.8	4.0	4.0	**4.6**
Mortgages[5]	74.6	75.4	77.8	82.0	**84.0**
Personal, small business and other[6]	72.7	71.0	67.0	65.1	**60.6**
Total	**$ 318.2**	**$ 313.5**	**$ 321.6**	**$ 327.3**	**$ 337.0**
Legacy Franchises					
Asia Consumer[7]	$ 41.1	$ 19.5	$ 17.3	$ 13.4	**$ 13.3**
Mexico Consumer (excludes Mexico SBMM)	13.3	13.6	13.5	13.7	**14.8**
Legacy Holdings Assets[8]	3.9	3.7	3.2	3.2	**3.0**
Total	**$ 58.3**	**$ 36.8**	**$ 34.0**	**$ 30.3**	**$ 31.1**
Total consumer loans	**$ 376.5**	**$ 350.3**	**$ 355.6**	**$ 357.6**	**$ 368.1**

(1) End-of-period loans include interest and fees on credit cards.

(2) *Legacy Franchises*—4Q22 Asia Consumer loan balances exclude approximately $12 billion of loans ($9 billion of retail banking loans and $3 billion of credit card loan balances) reclassified to held-for-sale (HFS) (in *Other assets* on the Consolidated Balance Sheet) as a result of Citi's signed agreements to sell its consumer banking businesses in four countries: Indonesia, Vietnam, Taiwan and India, which were reclassified to HFS starting 1Q22. (See *Legacy Franchises* above and Note 2 for additional information.) The Malaysia, Thailand and Bahrain sales closed during the fourth quarter of 2022 and were also reclassified to HFS starting 1Q22. The Philippines consumer banking business was reclassified to HFS from 4Q21 until the closing of its sale on August 1, 2022. Accordingly, loans from these sold businesses are excluded from the Asia Consumer loan balances as of the end of such periods.

(3) Consists of $98.2 billion, $99.3 billion, $94.6 billion, $94.1 billion and $92.7 billion of loans in North America as of December 31, 2022, September 30, 2022, June 30, 2022, March 31, 2022 and December 31, 2021, respectively. For additional information on the credit quality of the Global Wealth portfolio, see Note 14.

(4) Consists of $51.0 billion, $51.8 billion, $54.2 billion, $56.1 billion and $58.6 billion of loans outside North America as of December 31, 2022, September 30, 2022, June 30, 2022, March 31, 2022 and December 31, 2021, respectively.

(5) See Note 14 for details on loan-to-value ratios for the portfolios and FICO scores for the U.S. portfolio.

(6) At December 31, 2022, includes approximately $49 billion of classifiably managed loans. Over 90% of these loans are fully collateralized (consisting primarily of marketable investment securities, commercial real estate and limited partner capital commitments in private equity) and have experienced very low historical NCLs. As discussed below, approximately 95% of the classifiably managed portion of these loans are investment grade. See "Consumer Loan Delinquencies Amounts and Ratios" below for details on the delinquency-managed portfolio.

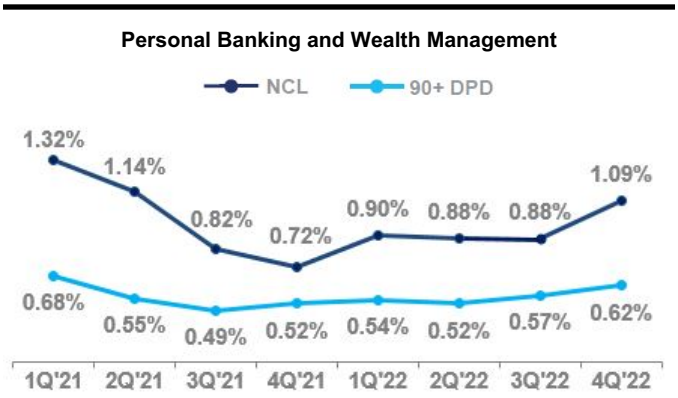
(7) Asia Consumer also includes loans and leases in certain EMEA countries for all periods presented.

(8) Primarily consists of certain North America consumer mortgages.

For information on changes to Citi's consumer loans, see "Liquidity Risk—Loans" below.

Consumer Credit Trends

Personal Banking and Wealth Management (PBWM)

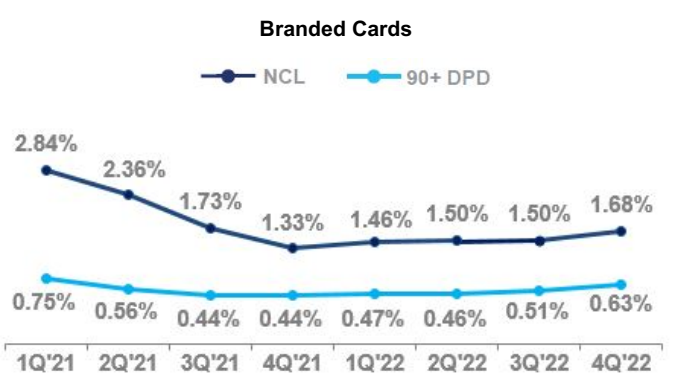


As indicated above, *PBWM* consists of U.S. Personal Banking and Global Wealth Management (Global Wealth). U.S. Personal Banking provides card products through Branded cards and Retail services, and also includes mortgages and home equity, small business and personal consumer loans through Citi's Retail banking network. The Retail bank is concentrated in six major U.S. metropolitan areas. Global Wealth provides investment services, cards, mortgages and personal, small business and other consumer loans through the Private bank, Wealth at Work and Citigold.

As of December 31, 2022, approximately 45% of *PBWM* consumer loans consisted of Branded cards and Retail services card loans, which generally drives the overall credit performance of *PBWM*, as U.S. Cards net credit losses represent approximately 90% of total *PBWM* losses.

As shown in the chart above, the fourth quarter of 2022 net credit loss rate in *PBWM* increased quarter-over-quarter and year-over-year, driven by an increase in net flow rates, primarily reflecting ongoing normalization from historically low levels in U.S. Cards.

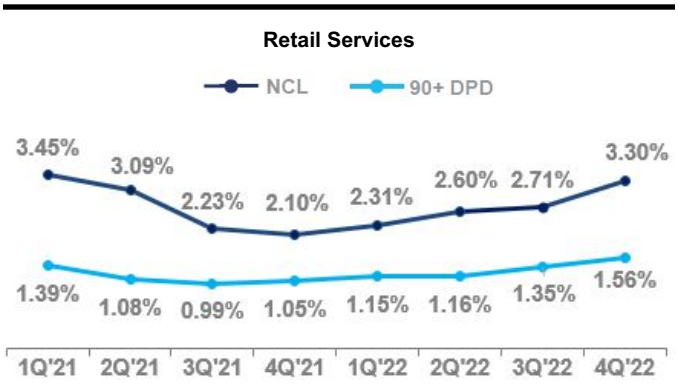
PBWM's 90+ days past due delinquency rate increased quarter-over-quarter and year-over-year, also driven by an increase in net flow rates, primarily reflecting the ongoing normalization in U.S. Cards.



U.S. Personal Banking's Branded cards portfolio includes proprietary and co-branded cards.

As shown in the chart above, the fourth quarter of 2022 net credit loss rate in Branded cards increased quarter-over-quarter and year-over-year, driven by an increase in net flow rates, primarily reflecting ongoing normalization from historically low levels.

The 90+ days past due delinquency rate increased quarter-over-quarter and year-over year, also driven by an increase in net flow rates, primarily reflecting the ongoing normalization.

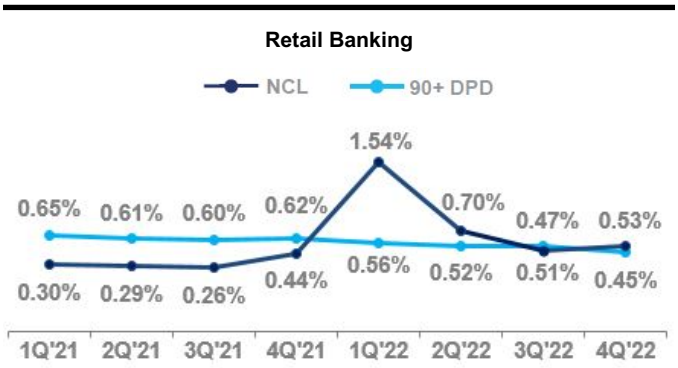


U.S. Personal Banking's Retail services partners directly with more than 20 retailers and dealers to offer private label and co-branded cards. Retail services' target market focuses on select industry segments such as home improvement, specialty retail, consumer electronics and fuel. Retail services continually evaluates opportunities to add partners within target industries that have strong loyalty, lending or payment programs and growth potential.

As shown in the chart above, the fourth quarter of 2022 net credit loss rate in Retail services increased quarter-over-quarter and year-over-year, driven by an increase in net flow rates, primarily reflecting the ongoing normalization from historically low levels.

The 90+ days past due delinquency rate increased quarter-over-quarter and year-over-year, also driven by an increase in net flow rates, primarily reflecting the ongoing normalization.

For additional information on cost of credit, loan delinquency and other information for Citi's cards portfolios, see each respective business's results of operations above and Note 14.

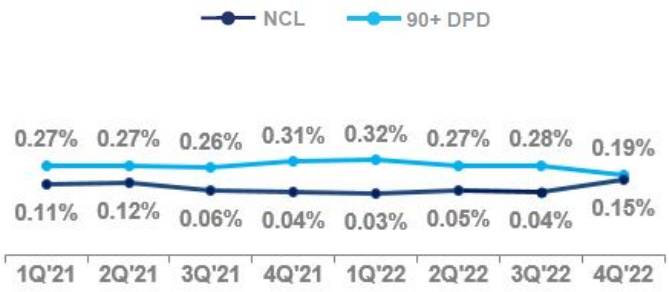


U.S. Personal Banking's Retail banking portfolio consists primarily of consumer mortgages (including home equity) and unsecured lending products, such as small business loans and personal loans. The portfolio is generally delinquency managed, where Citi evaluates credit risk based on FICO scores, delinquencies and the value of underlying collateral. The consumer mortgages in this portfolio have historically been extended to high credit quality customers, generally with loan-to-value ratios that are less than or equal to 80% on first and second mortgages. For additional information, see "Loan-to-Value (LTV) Ratios" in Note 14.

As shown in the chart above, the net credit loss rate in Retail banking for the fourth quarter of 2022 increased slightly quarter-over-quarter and year-over-year, primarily driven by the continued impact of industry-wide episodic overdraft losses.

The 90+ days past due delinquency rate decreased quarter-over-quarter and year-over-year, primarily driven by U.S. mortgages, which reflected the lasting effects of government stimulus, unemployment benefits and consumer relief programs.

Global Wealth



As discussed above, the Global Wealth credit portfolio primarily consists of consumer mortgages, cards and other lending products extended to customer segments that range from the affluent to ultra-high-net-worth through the Private bank, Wealth at Work and Citigold. These customer segments represent a target market that is characterized by historically low default rates and delinquencies.

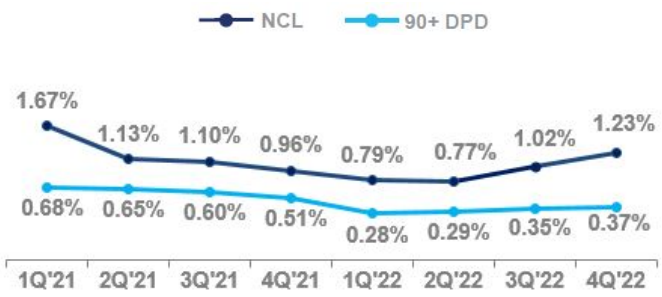
As of December 31, 2022, approximately $49 billion, or 33%, of the portfolio was classifiably managed and primarily consisted of margin lending, commercial real estate, subscription credit finance and other lending programs. These classifiably managed loans are primarily evaluated for credit risk based on their internal risk rating, of which 95% is rated investment grade. While the delinquency rate in the chart above is calculated only for the delinquency-managed portfolio, the net credit loss rate is calculated using net credit losses for both the delinquency and classifiably managed portfolios.

As shown in the chart above, the net credit loss rate and 90+ days past due delinquency rate were broadly stable quarter-over-quarter and year-over-year, reflecting the strong credit profiles of the portfolios. The net credit loss rate increased slightly quarter-over-quarter, due to a classifiably managed loan charge-off. The low levels of net credit losses and the 90+ days past due delinquency rate continued to reflect the strong credit profiles of the portfolios.

Legacy Franchises

Legacy Franchises provides traditional retail banking and branded card products to retail and small business customers in Asia Consumer and Mexico Consumer.

Asia[(1)] Consumer



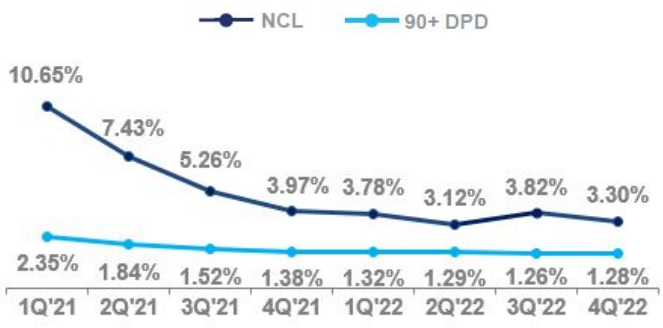
(1) Asia Consumer includes *Legacy Franchises* activities in certain EMEA countries for all periods presented.

As shown in the chart above, the fourth quarter of 2022 net credit loss rate in Asia Consumer for the remaining portfolios held-for-investment (China, Korea, Russia and Poland) increased quarter-over-quarter, primarily driven by lower average loans due to the ongoing wind-down of the businesses, particularly in Korea (decline of $1.5 billion) and the sale of the personal loan portfolio in Russia in the fourth quarter of 2022. The net credit loss rate increased year-over-year, primarily driven by lower average loans due to the ongoing wind-down of the businesses, particularly in Korea (decline of $7.8 billion) and the sale of the personal loan portfolio in Russia, partially offset by the reclassification of loans to held-for-sale during 2022.

The 90+ days past due delinquency rate was largely unchanged quarter-over-quarter and decreased year-over-year, mainly driven by the impact of the Asia Consumer held-for-sale reclassifications, partially offset by the effect of declining loans due to the ongoing wind-down of the businesses, including the sale of the personal loan portfolio in Russia.

The performance of Asia Consumer's portfolios continues to reflect the strong credit profiles in the region's target customer segments.

Mexico Consumer



Mexico Consumer operates in Mexico through Citibanamex and provides credit cards, consumer mortgages and small business and personal loans. Mexico Consumer serves a more mass-market segment in Mexico and focuses on developing multiproduct relationships with customers.

As shown in the chart above, the fourth quarter of 2022 net credit loss rate in Mexico Consumer decreased quarter-over-quarter and year-over-year, primarily driven by the impact of the charge-off of peak delinquencies in early 2021, which resulted in lower delinquencies, leading to lower net credit losses in the current quarter.

The 90+ days past due delinquency rate was largely unchanged quarter-over-quarter and decreased year-over-year, primarily driven by the impact of the charge-off of peak delinquencies and higher payment rates.

For additional information on cost of credit, loan delinquency and other information for Citi's consumer loan portfolios, see each respective business's results of operations above and Note 14.

U.S. Cards FICO Distribution

The following tables show the current FICO score distributions for Citi's Branded cards and Retail services portfolios based on end-of-period receivables. FICO scores are updated monthly for substantially all of the portfolio and on a quarterly basis for the remaining portfolio.

Branded Cards

FICO distribution[(1)]	**Dec. 31, 2022**	Sept. 30, 2022	Dec. 31, 2021
> 760	**48 %**	48 %	49 %
680–760	**38**	38	38
< 680	**14**	14	13
Total	**100 %**	100 %	100 %

Retail Services

FICO distribution[(1)]	**Dec. 31, 2022**	Sept. 30, 2022	Dec. 31, 2021
> 760	**27 %**	27 %	28 %
680–760	**42**	43	44
< 680	**31**	30	28
Total	**100 %**	100 %	100 %

(1) The FICO bands in the tables are consistent with general industry peer presentations.

The FICO distribution of both cards portfolios shifted slightly lower across the credit bands from the prior quarter and the prior year consistent with the ongoing normalization in net credit loss and delinquency rates in the portfolios. The FICO distribution continues to reflect strong underlying credit quality and a benefit from the continued impacts of government stimulus, unemployment benefits and customer relief programs. See Note 14 for additional information on FICO scores.

Additional Consumer Credit Details

Consumer Loan Delinquencies Amounts and Ratios

In millions of dollars, except EOP loan amounts in billions	EOP loans[1] December 31, 2022	90+ days past due[2] December 31, 2022	90+ days past due[2] December 31, 2021	90+ days past due[2] December 31, 2020	30–89 days past due[2] December 31, 2022	30–89 days past due[2] December 31, 2021	30–89 days past due[2] December 31, 2020
Personal Banking and Wealth Management[3][4][5]							
Total	**$ 337.0**	**$ 1,764**	$ 1,350	$ 1,879	**$ 2,037**	$ 1,453	$ 1,794
Ratio		**0.61 %**	0.52 %	0.74 %	**0.71 %**	0.56 %	0.71 %
U.S. Personal Banking							
Total	**$ 187.8**	**$ 1,578**	$ 1,069	$ 1,588	**$ 1,720**	$ 1,130	$ 1,513
Ratio		**0.84 %**	0.64 %	0.95 %	**0.92 %**	0.68 %	0.90 %
Cards[4]							
Total	**$ 150.7**	**$ 1,415**	$ 871	$ 1,330	**$ 1,511**	$ 947	$ 1,228
Ratio		**0.94 %**	0.65 %	1.02 %	**1.00 %**	0.71 %	0.94 %
Branded cards	**100.2**	**629**	389	686	**693**	408	589
Ratio		**0.63 %**	0.44 %	0.82 %	**0.69 %**	0.46 %	0.70 %
Retail services	**50.5**	**786**	482	644	**818**	539	639
Ratio		**1.56 %**	1.05 %	1.39 %	**1.62 %**	1.17 %	1.38 %
Retail banking[3]	**37.1**	**163**	198	258	**209**	183	285
Ratio		**0.45 %**	0.62 %	0.70 %	**0.57 %**	0.57 %	0.77 %
Global Wealth delinquency-managed loans[5]	**$ 100.0**	**$ 186**	$ 281	$ 291	**$ 317**	$ 323	$ 281
Ratio		**0.19 %**	0.31 %	0.34 %	**0.32 %**	0.35 %	0.33 %
Global Wealth classifiably managed loans[6]	**$ 49.2**	**N/A**	N/A	N/A	**N/A**	N/A	N/A
Legacy Franchises							
Total	**$ 31.1**	**$ 389**	$ 613	$ 1,131	**$ 335**	$ 546	$ 1,083
Ratio		**1.26 %**	1.06 %	1.47 %	**1.09 %**	0.94 %	1.41 %
Asia Consumer[7][8]	**13.3**	**49**	209	456	**70**	285	514
Ratio		**0.37 %**	0.51 %	0.81 %	**0.53 %**	0.69 %	0.92 %
Mexico Consumer	**14.8**	**190**	183	363	**186**	173	390
Ratio		**1.28 %**	1.38 %	2.49 %	**1.26 %**	1.30 %	2.67 %
Legacy Holdings Assets (consumer)[9]	**3.0**	**150**	221	312	**79**	88	179
Ratio		**5.56 %**	6.31 %	5.03 %	**2.93 %**	2.51 %	2.89 %
Total Citigroup consumer	**$ 368.1**	**$ 2,153**	$ 1,963	$ 3,010	**$ 2,372**	$ 1,999	$ 2,877
Ratio		**0.68 %**	0.62 %	0.91 %	**0.75 %**	0.63 %	0.87 %

(1) End-of-period (EOP) loans include interest and fees on credit cards.
(2) The ratios of 90+ days past due and 30–89 days past due are calculated based on EOP loans, net of unearned income.
(3) The 90+ days past due and 30–89 days past due and related ratios for Retail banking exclude loans guaranteed by U.S. government-sponsored agencies since the potential risk of loss predominantly resides with the U.S. government-sponsored agencies. The amounts excluded for loans 90+ days past due and (EOP loans) were $89 million ($0.6 billion), $185 million ($1.1 billion) and $171 million ($0.7 billion) at December 31, 2022, 2021 and 2020, respectively. The amounts excluded for loans 30–89 days past due (the 30–89 days past due EOP loans have the same adjustments as the 90+ days past due EOP loans) were $70 million, $74 million and $98 million at December 31, 2022, 2021 and 2020, respectively. The EOP loans in the table include the guaranteed loans.
(4) The 90+ days past due balances for Branded cards and Retail services are generally still accruing interest. Citi's policy is generally to accrue interest on credit card loans until 180 days past due, unless notification of bankruptcy filing has been received earlier.
(5) Excludes EOP classifiably managed Private bank loans. These loans are not included in the delinquency numerator, denominator and ratios.
(6) These loans are evaluated for non-accrual status and write-off primarily based on their internal risk classification and not solely on their delinquency status, and therefore delinquency metrics are excluded from this table. As of December 31, 2022, 2021 and 2020, 96%, 94% and 92% of Global Wealth classifiably managed loans were rated investment grade. For additional information on the credit quality of the Global Wealth portfolio, including classifiably managed portfolios, see "Consumer Credit Trends" above.
(7) Asia Consumer includes delinquencies and loans in certain EMEA countries for all periods presented.

(8) Citi recently entered into agreements to sell certain Asia consumer banking businesses. Accordingly, the loans of these businesses have been reclassified as HFS in *Other assets* on the Consolidated Balance Sheet, and hence the loans and related delinquencies and ratios are not included in this table. The reclassifications commenced as follows: Australia (3Q21, and closed on June 1, 2022), the Philippines (4Q21, and closed on August 1, 2022) and Bahrain, India, Indonesia, Malaysia, Taiwan, Thailand and Vietnam (1Q22) (Bahrain, Malaysia and Thailand closed in 4Q22). See Note 2 for additional information.

(9) The 90+ days past due and 30–89 days past due and related ratios exclude U.S. mortgage loans that are primarily related to U.S. mortgages guaranteed by U.S. government-sponsored agencies since the potential risk of loss predominantly resides with the U.S. agencies. The amounts excluded for 90+ days past due and (EOP loans) were $90 million ($0.3 billion), $138 million ($0.4 billion) and $183 million ($0.5 billion) at December 31, 2022, 2021 and 2020, respectively. The amounts excluded for loans 30–89 days past due (the 30–89 days past due EOP loans have the same adjustments as the 90+ days past due EOP loans) were $37 million, $35 million and $73 million at December 31, 2022, 2021 and 2020, respectively. The EOP loans in the table include the guaranteed loans.

N/A Not applicable

Consumer Loan Net Credit Losses and Ratios

	Average loans[1]	Net credit losses[2]		
In millions of dollars, except average loan amounts in billions	**2022**	**2022**	2021	2020
***Personal Banking and Wealth Management*[2]**				
Total	**$ 321.0**	**$ 3,021**	$ 3,061	$ 5,229
Ratio		**0.94 %**	1.00 %	1.72 %
U.S. Personal Banking				
Total	**$ 170.7**	**$ 2,918**	$ 2,939	$ 4,990
Ratio		**1.71 %**	1.85 %	2.95 %
Cards				
Total	**135.6**	**2,640**	2,828	4,858
Ratio		**1.95 %**	2.28 %	3.71 %
Branded cards	**89.8**	**1,384**	1,659	2,708
Ratio		**1.54 %**	2.05 %	3.20 %
Retail services	**45.8**	**1,256**	1,169	2,150
Ratio		**2.74 %**	2.71 %	4.62 %
Retail banking	**35.1**	**278**	111	132
Ratio		**0.79 %**	0.32 %	0.35 %
Global Wealth	**$ 150.3**	**$ 103**	$ 122	$ 239
Ratio		**0.07 %**	0.08 %	0.18 %
Legacy Franchises				
Total	**$ 34.4**	**$ 590**	$ 1,448	$ 1,482
Ratio		**1.72 %**	2.12 %	1.96 %
Asia Consumer[3][4]	**17.4**	**160**	610	640
Ratio		**0.92 %**	1.23 %	1.22 %
Mexico Consumer	**13.6**	**476**	920	866
Ratio		**3.50 %**	6.87 %	5.97 %
Legacy Holdings Assets (consumer)	**3.4**	**(46)**	(82)	(24)
Ratio		**(1.35)%**	(1.53)%	(0.27)%
Total Citigroup	**$ 355.4**	**$ 3,611**	$ 4,509	$ 6,711
Ratio		**1.02 %**	1.20 %	1.77 %

(1) Average loans include interest and fees on credit cards.

(2) The ratios of net credit losses are calculated based on average loans, net of unearned income.

(3) Asia Consumer includes NCLs and average loans in certain EMEA countries (Russia, Poland and Bahrain) for all periods presented.

(4) Citi recently entered into agreements to sell certain Asia consumer banking businesses, which have been reclassified as HFS in *Other assets* and *Other liabilities* on the Consolidated Balance Sheet. As a result, approximately $155 million and $6 million in related net credit losses (NCLs) were recorded as a reduction in revenue (*Other revenue*) in 2022 and 2021, respectively. Accordingly, these NCLs are not included in this table. The reclassifications commenced as follows: Australia (3Q21, and closed on June 1, 2022), the Philippines (4Q21, and closed on August 1, 2022) and Bahrain, India, Indonesia, Malaysia, Taiwan, Thailand and Vietnam (1Q22) (Bahrain, Malaysia and Thailand closed in 4Q22). See Note 2 for additional information.

Loan Maturities and Fixed/Variable Pricing of Consumer Loans

Loan Maturities

In millions of dollars at December 31, 2022	Due within 1 year	Greater than 1 year but within 5 years	Greater than 5 years but within 15 years	Greater than 15 years	Total
In North America offices					
Residential first mortgages	$ 4	$ 181	$ 3,513	$ 92,341	$ 96,039
Home equity loans	551	42	1,669	2,318	4,580
Credit cards[(1)]	149,822	821	—	—	150,643
Personal, small business and other	33,271	3,945	340	196	37,752
Total	$ 183,648	$ 4,989	$ 5,522	$ 94,855	$ 289,014
In offices outside North America					
Residential mortgages	$ 2,994	$ 372	$ 4,374	$ 20,374	$ 28,114
Credit cards[(1)]	12,885	70	—	—	12,955
Personal, small business and other	29,637	7,179	588	580	37,984
Total	$ 45,516	$ 7,621	$ 4,962	$ 20,954	$ 79,053

(1) Credit card loans with maturities greater than one year represent TDRs and are at fixed interest rates.

Fixed/Variable Pricing

In millions of dollars at December 31, 2022	Due within 1 year	Greater than 1 year but within 5 years	Greater than 5 years but within 15 years	Greater than 15 years	Total
Loans at fixed interest rates					
Residential first mortgages	$ 2,050	$ 263	$ 2,691	$ 59,918	$ 64,922
Home equity loans	5	39	298	147	489
Credit cards[(1)]	41,913	891	—	—	42,804
Personal, small business and other	9,748	5,380	343	192	15,663
Total	$ 53,716	$ 6,573	$ 3,332	$ 60,257	$ 123,878
Loans at floating or adjustable interest rates					
Residential first mortgages	$ 948	$ 290	$ 5,196	$ 52,797	$ 59,231
Home equity loans	546	3	1,371	2,171	4,091
Credit cards[(1)]	120,794	—	—	—	120,794
Personal, small business and other	53,160	5,744	585	584	60,073
Total	$ 175,448	$ 6,037	$ 7,152	$ 55,552	$ 244,189

(1) Credit card loans with maturities greater than one year represent TDRs and are at fixed interest rates.

ADDITIONAL CONSUMER AND CORPORATE CREDIT DETAILS

Loans Outstanding

	December 31,				
In millions of dollars	**2022**	2021	2020	2019	2018
Consumer loans					
In North America offices[1]					
Residential first mortgages[2]	**$ 96,039**	$ 83,361	$ 83,956	$ 78,664	$ 75,074
Home equity loans[2]	**4,580**	5,745	7,890	10,174	12,675
Credit cards	**150,643**	133,868	130,385	149,163	144,542
Personal, small business and other	**37,752**	40,713	39,259	36,548	35,733
Total	**$ 289,014**	$ 263,687	$ 261,490	$ 274,549	$ 268,024
In offices outside North America[1]					
Residential mortgages[2]	**$ 28,114**	$ 37,889	$ 42,817	$ 40,467	$ 39,314
Credit cards	**12,955**	17,808	22,692	25,909	24,951
Personal, small business and other	**37,984**	57,150	59,475	60,013	52,052
Total	**$ 79,053**	$ 112,847	$ 124,984	$ 126,389	$ 116,317
Consumer loans, net of unearned income[3]	**$ 368,067**	$ 376,534	$ 386,474	$ 400,938	$ 384,341
Corporate loans					
In North America offices[1]					
Commercial and industrial	**$ 56,176**	$ 48,364	$ 53,930	$ 52,229	$ 56,957
Financial institutions	**43,399**	49,804	39,390	38,782	34,906
Mortgage and real estate[2]	**17,829**	15,965	16,522	13,696	14,490
Installment and other	**23,767**	20,143	17,362	22,219	23,759
Lease financing	**308**	415	673	1,290	1,429
Total	**$ 141,479**	$ 134,691	$ 127,877	$ 128,216	$ 131,541
In offices outside North America[1]					
Commercial and industrial	**$ 93,967**	$ 102,735	$ 103,234	$ 112,332	$ 113,662
Financial institutions	**21,931**	22,158	25,111	28,176	26,602
Mortgage and real estate[2]	**4,179**	4,374	5,277	4,325	2,920
Installment and other	**23,347**	22,812	24,034	21,273	20,458
Lease financing	**46**	40	65	95	152
Governments and official institutions	**4,205**	4,423	3,811	4,128	4,520
Total	**$ 147,675**	$ 156,542	$ 161,532	$ 170,329	$ 168,314
Corporate loans, net of unearned income[4]	**$ 289,154**	$ 291,233	$ 289,409	$ 298,545	$ 299,855
Total loans—net of unearned income	**$ 657,221**	$ 667,767	$ 675,883	$ 699,483	$ 684,196
Allowance for credit losses on loans (ACLL)	**(16,974)**	(16,455)	(24,956)	(12,783)	(12,315)
Total loans—net of unearned income and ACLL	**$ 640,247**	$ 651,312	$ 650,927	$ 686,700	$ 671,881
ACLL as a percentage of total loans—net of unearned income[5]	**2.60 %**	2.49 %	3.73 %	1.84 %	1.81 %
ACLL for consumer loan losses as a percentage of total consumer loans—net of unearned income[5]	**3.84 %**	3.73 %	5.22 %	2.51 %	2.52 %
ACLL for corporate loan losses as a percentage of total corporate loans—net of unearned income[5]	**1.01 %**	0.85 %	1.69 %	0.93 %	0.89 %

(1) North America includes the U.S., Canada and Puerto Rico. Mexico is included in offices outside North America. The classification of corporate loans between offices in North America and outside North America is based on the domicile of the booking unit. The difference between the domicile of the booking unit and the domicile of the managing unit is not material.

(2) Loans secured primarily by real estate.

(3) Consumer loans are net of unearned income of $712 million, $629 million, $692 million, $732 million and $703 million at December 31, 2022, 2021, 2020, 2019 and 2018, respectively. Unearned income on consumer loans primarily represents unamortized origination fees and costs, premiums and discounts.

(4) Corporate loans include Mexico SBMM loans and are net of unearned income of $(797) million, $(770) million, $(787) million, $(763) million and $(817) million at December 31, 2022, 2021, 2020, 2019 and 2018, respectively. Unearned income on corporate loans primarily represents interest received in advance, but not yet earned, on loans originated on a discounted basis.

(5) Because loans carried at fair value do not have an ACLL, they are excluded from the ACLL ratio calculation.

Details of Credit Loss Experience

In millions of dollars	**2022**	2021	2020	2019	2018
Allowance for credit losses on loans (ACLL) at beginning of year	**$ 16,455**	$ 24,956	$ 12,783	$ 12,315	$ 12,355
Adjustments to opening balance:					
Financial instruments—credit losses (CECL)[1]	**—**	—	4,201	—	—
Variable post-charge-off third-party collection costs[2]	**—**	—	(443)	—	—
Adjusted ACLL at beginning of year	**$ 16,455**	$ 24,956	$ 16,541	$ 12,315	$ 12,355
Provision for credit losses on loans (PCLL)					
Consumer[2]	**4,128**	(1,159)	12,222	7,788	7,261
Corporate	**617**	(1,944)	3,700	430	93
Total	**$ 4,745**	$ (3,103)	$ 15,922	$ 8,218	$ 7,354
Gross credit losses on loans					
Consumer					
In U.S. offices	**$ 3,944**	$ 4,076	$ 6,141	$ 6,590	$ 5,974
In offices outside the U.S.	**934**	2,144	2,146	2,316	2,352
Corporate					
Commercial and industrial, and other					
In U.S. offices	**110**	228	466	213	119
In offices outside the U.S.	**81**	259	409	196	206
Loans to financial institutions					
In U.S. offices	**—**	1	14	—	3
In offices outside the U.S.	**80**	1	12	3	7
Mortgage and real estate					
In U.S. offices	**—**	10	71	23	2
In offices outside the U.S.	**7**	1	4	—	2
Total	**$ 5,156**	$ 6,720	$ 9,263	$ 9,341	$ 8,665
Gross recoveries on loans[2]					
Consumer					
In U.S. offices	**$ 1,045**	$ 1,215	$ 1,094	$ 988	$ 918
In offices outside the U.S.	**222**	496	482	504	502
Corporate					
Commercial and industrial, and other					
In U.S. offices	**44**	57	34	15	39
In offices outside the U.S.	**46**	54	27	58	79
Loans to financial institutions					
In U.S. offices	**6**	2	—	—	—
In offices outside the U.S.	**3**	1	14	—	6
Mortgage and real estate					
In U.S. offices	**—**	—	—	8	7
In offices outside the U.S.	**1**	—	1	—	1
Total	**$ 1,367**	$ 1,825	$ 1,652	$ 1,573	$ 1,552
Net credit losses on loans (NCLs)					
In U.S. offices	**$ 2,959**	$ 3,041	$ 5,564	$ 5,815	$ 5,134
In offices outside the U.S.	**830**	1,854	2,047	1,953	1,979
Total	**$ 3,789**	$ 4,895	$ 7,611	$ 7,768	$ 7,113
Other—net[3][4][5][6][7][8]	**$ (437)**	$ (503)	$ 104	$ 18	$ (281)
Allowance for credit losses on loans (ACLL) at end of year	**$ 16,974**	$ 16,455	$ 24,956	$ 12,783	$ 12,315
ACLL as a percentage of EOP loans[9]	**2.60 %**	2.49 %	3.73 %	1.84 %	1.81 %
Allowance for credit losses on unfunded lending commitments (ACLUC)[10][11]	**$ 2,151**	$ 1,871	$ 2,655	$ 1,456	$ 1,367

Total ACLL and ACLUC	**$**	**19,125**	$	18,326	$	27,611	$	14,239	$	13,682
Net consumer credit losses on loans	**$**	**3,611**	$	4,509	$	6,711	$	7,414	$	6,906
As a percentage of average consumer loans		**1.02 %**		1.20 %		1.77 %		1.94 %		1.84 %
Net corporate credit losses on loans	**$**	**178**	$	386	$	900	$	354	$	207
As a percentage of average corporate loans		**0.06 %**		0.13 %		0.29 %		0.12 %		0.07 %
ACLL by type at end of year[12]										
Consumer	**$**	**14,119**	$	14,040	$	20,180	$	10,056	$	9,670
Corporate		**2,855**		2,415		4,776		2,727		2,645
Total	**$**	**16,974**	$	16,455	$	24,956	$	12,783	$	12,315

(1) On January 1, 2020, Citi adopted Accounting Standards Codification (ASC) 326, *Financial Instruments—Credit Losses (CECL)*. The ASC introduces a new credit loss methodology requiring earlier recognition of credit losses while also providing additional disclosure about credit risk. On January 1, 2020, Citi recorded a $4.1 billion, or an approximate 29%, pretax increase in the *Allowance for credit losses*, along with a $3.1 billion after-tax decrease in *Retained earnings* and a deferred tax asset increase of $1.0 billion. This transition impact reflects (i) a $4.9 billion build to the consumer ACL due to longer estimated tenors than under the incurred loss methodology under prior U.S. GAAP, net of recoveries, and (ii) a $0.8 billion decrease to the corporate ACL due to shorter remaining tenors, incorporation of recoveries and use of more specific historical loss data based on an increase in portfolio segmentation across industries and geographies. See Note 1 for further discussion on the impact of Citi's adoption of CECL.

(2) Citi had a change in accounting related to its variable post-charge-off third-party collection costs that was recorded as an adjustment to its January 1, 2020 opening allowance for credit losses on loans of $443 million. See Note 1.

(3) Includes all adjustments to the allowance for credit losses, such as changes in the allowance from acquisitions, dispositions, securitizations, FX translation, purchase accounting adjustments, etc.

(4) 2022 includes an approximate $350 million reclass related to the announced sales of Citi's consumer banking businesses in Thailand, India, Malaysia, Taiwan, Indonesia, Bahrain and Vietnam. Also includes a decrease of approximately $100 million related to FX translation.

(5) 2021 includes an approximate $280 million reclass related to Citi's agreement to sell its Australia consumer banking business and an approximate $90 million reclass related to Citi's agreement to sell its Philippines consumer banking business. Those ACLL were reclassified to *Other assets* during 2021. 2021 also includes a decrease of approximately $134 million related to FX translation.

(6) 2020 includes reductions of approximately $4 million related to the transfer to HFS of various real estate loan portfolios. In addition, 2020 includes an increase of approximately $97 million related to FX translation.

(7) 2019 includes reductions of approximately $42 million related to the sale or transfer to HFS of various loan portfolios. In addition, 2019 includes a reduction of approximately $60 million related to FX translation.

(8) 2018 includes reductions of approximately $201 million related to the sale or transfer to HFS of various loan portfolios, which include approximately $106 million related to the transfer of various real estate loan portfolios to HFS.

(9) December 31, 2022, 2021, 2020, 2019 and 2018 exclude $5.4 billion, $6.1 billion, $6.9 billion, $4.1 billion and $3.2 billion, respectively, of loans that are carried at fair value.

(10) 2020 corporate ACLUC includes a non-provision transfer of $68 million, representing reserves on performance guarantees. The reserves on these contracts were reclassified out of the ACL on unfunded lending commitments and into other liabilities.

(11) Represents additional credit reserves recorded as *Other liabilities* on the Consolidated Balance Sheet.

(12) Beginning in 2020, under CECL, the ACLL represents management's estimate of expected credit losses in the portfolio and troubled debt restructurings. See "Significant Accounting Policies and Significant Estimates" and Note 1 below. Attribution of the ACLL is made for analytical purposes only and the entire ACLL is available to absorb credit losses in the overall portfolio. Prior to 2020, the ACLL represented management's estimate of probable losses inherent in the portfolio, as well as probable losses related to large individually evaluated impaired loans and TDRs.

Allowance for Credit Losses on Loans (ACLL)

The following tables detail information on Citi's ACLL, loans and coverage ratios:

In billions of dollars	December 31, 2022 ACLL	EOP loans, net of unearned income	ACLL as a percentage of EOP loans[1]
Consumer			
North America cards[2]	**$ 11.4**	**$ 150.6**	**7.6 %**
North America mortgages[3]	**0.5**	**100.4**	**0.5**
North America other[3]	**0.6**	**37.8**	**1.6**
International cards	**0.8**	**13.0**	**6.2**
International other[3]	**0.8**	**66.0**	**1.2**
Total[1]	**$ 14.1**	**$ 367.8**	**3.8 %**
Corporate			
Commercial and industrial	**$ 1.9**	**$ 147.8**	**1.3 %**
Financial institutions	**0.4**	**64.9**	**0.6**
Mortgage and real estate	**0.4**	**21.9**	**1.8**
Installment and other	**0.2**	**49.4**	**0.4**
Total[1]	**$ 2.9**	**$ 284.0**	**1.0 %**
Loans at fair value[1]	**N/A**	**$ 5.4**	**N/A**
Total Citigroup	**$ 17.0**	**$ 657.2**	**2.6 %**

In billions of dollars	December 31, 2021 ACLL	EOP loans, net of unearned income	ACLL as a percentage of EOP loans[1]
Consumer			
North America cards[2]	$ 10.8	$ 133.9	8.1 %
North America mortgages[3]	0.5	89.1	0.6
North America other[3]	0.4	40.7	1.0
International cards	1.2	17.8	6.7
International other[3]	1.2	95.0	1.3
Total[1]	$ 14.1	$ 376.5	3.7 %
Corporate			
Commercial and industrial	$ 1.6	$ 147.0	1.1 %
Financial institutions	0.3	71.8	0.4
Mortgage and real estate	0.3	20.3	1.5
Installment and other	0.2	46.1	0.4
Total[1]	$ 2.4	$ 285.2	0.8 %
Loans at fair value[1]	N/A	$ 6.1	N/A
Total Citigroup	$ 16.5	$ 667.8	2.5 %

(1) Excludes loans carried at fair value, since they do not have an ACLL and are excluded from the ACLL ratio calculation.

(2) Includes both Branded cards and Retail services. As of December 31, 2022, the $11.4 billion of ACLL represented approximately 43 months of coincident net credit loss coverage (based on 4Q22 NCLs). As of December 31, 2022, Branded cards ACLL as a percentage of EOP loans was 6.2% and Retail services ACLL as a percentage of EOP loans was 10.3%. As of December 31, 2021, the $10.8 billion of ACLL represented approximately 63 months of coincident net credit loss coverage (based on 4Q21 NCLs). The decrease in the coincident coverage ratio at December 31, 2022 was primarily due to the relatively higher levels of NCLs in 4Q22 versus 4Q21. As of December 31, 2021, Branded cards ACLL as a percentage of EOP loans was 7.1% and Retail services ACLL as a percentage of EOP loans was 10.0%.

(3) Includes residential mortgages, retail loans and personal, small business and other loans, including those extended through the Private bank network.

N/A Not applicable

The following table details Citi's corporate credit ACLL by industry exposure:

In millions of dollars, except percentages	December 31, 2022 Funded exposure[1]	ACLL	ACLL as a % of funded exposure
Transportation and industrials	**$ 57,271**	**$ 699**	**1.2 %**
Technology, media and telecom	**28,931**	**330**	**1.1**
Consumer retail	**32,687**	**358**	**1.1**
Real estate	**48,539**	**500**	**1.0**
Power, chemicals, metals and mining	**18,326**	**288**	**1.6**
Banks and finance companies	**42,276**	**225**	**0.5**
Energy and commodities	**13,069**	**188**	**1.4**
Asset managers and funds	**13,162**	**38**	**0.3**
Health	**8,771**	**81**	**0.9**
Insurance	**4,417**	**11**	**0.2**
Public sector	**11,736**	**58**	**0.5**
Financial markets infrastructure	**60**	**—**	**—**
Securities firms	**569**	**11**	**1.9**
Other industries	**3,651**	**59**	**1.6**
Total classifiably managed loans[2]	**$ 283,465**	**$ 2,846**	**1.0 %**
Loans managed on a delinquency basis[3]	**$ 566**	**$ 9**	**1.6 %**
Total	**$ 284,031**	**$ 2,855**	**1.0 %**

(1) Funded exposure excludes loans carried at fair value of $5.1 billion that are not subject to ACLL under the CECL standard.
(2) As of December 31, 2022, the ACLL shown above reflects coverage of 0.4% of funded investment-grade exposure and 3.0% of funded non-investment-grade exposure.
(3) Primarily associated with delinquency-managed loans including commercial credit cards and other loans, and unearned income at December 31, 2022.

The following table details Citi's corporate credit ACLL by industry exposure:

In millions of dollars, except percentages	December 31, 2021 Funded exposure[1]	ACLL	ACLL as a % of funded exposure
Transportation and industrials	$ 51,502	$ 597	1.2 %
Technology, media and telecom	28,542	170	0.6
Consumer retail	32,894	288	0.9
Real estate	46,220	509	1.1
Power, chemicals, metals and mining	20,224	151	0.7
Banks and finance companies	36,804	197	0.5
Energy and commodities	13,485	268	2.0
Asset managers and funds	26,879	34	0.5
Health	8,826	73	0.8
Insurance	3,162	8	0.3
Public sector	12,464	74	0.6
Financial markets infrastructure	109	—	—
Securities firms	613	10	1.6
Other industries	2,803	28	1.0
Total classifiably managed loans[2]	$ 284,527	$ 2,407	0.8 %
Loans managed on a delinquency basis[3]	$ 636	$ 8	1.3 %
Total	$ 285,163	$ 2,415	0.8 %

(1) Funded exposure excludes loans carried at fair value of $6.1 billion that are not subject to ACLL under the CECL standard.
(2) As of December 31, 2021, the ACLL shown above reflects coverage of 0.7% of funded investment-grade exposure and 2.3% of funded non-investment-grade exposure.
(3) Primarily associated with delinquency-managed loans including commercial credit cards and other loans, and unearned income at December 31, 2021.

Non-Accrual Loans and Assets and Renegotiated Loans
There is a certain amount of overlap among non-accrual loans and assets and renegotiated loans. The following summary provides a general description of each category.

***Non-Accrual Loans and Assets*:**

- Corporate and consumer (including commercial banking) non-accrual status is based on the determination that payment of interest or principal is doubtful.
- A corporate loan may be classified as non-accrual and still be performing under the terms of the loan structure. Non-accrual loans may still be current on interest payments. Citi's corporate non-accrual loans were $1.1 billion, $1.5 billion and $1.6 billion as of December 31, 2022, September 30, 2022 and December 31, 2021, respectively. Of these, approximately 50%, 68% and 56% were performing at December 31, 2022, September 30, 2022 and December 31, 2021, respectively.
- Consumer non-accrual status is generally based on aging, i.e., the borrower has fallen behind on payments.
- Consumer mortgage loans, other than Federal Housing Administration (FHA) insured loans, are classified as non-accrual within 60 days of notification that the borrower has filed for bankruptcy. In addition, home equity loans are classified as non-accrual if the related residential first mortgage loan is 90 days or more past due.
- North America Branded cards and Retail services are not included because, under industry standards, credit card loans accrue interest until such loans are charged off, which typically occurs at 180 days of contractual delinquency.

***Renegotiated Loans*:**

- Includes both corporate and consumer loans whose terms have been modified in a troubled debt restructuring (TDR).
- Includes both accrual and non-accrual TDRs.

Non-Accrual Loans

The table below summarizes Citigroup's non-accrual loans as of the periods indicated. Non-accrual loans may still be current on interest payments. In situations where Citi reasonably expects that only a portion of the principal owed will ultimately be collected, all payments received are reflected as a reduction of principal and not as interest income. For all other non-accrual loans, cash interest receipts are generally recorded as revenue.

	December 31,				
In millions of dollars	**2022**	2021	2020	2019	2018
Corporate non-accrual loans by region[1][2]					
North America	**$ 138**	$ 510	$ 1,486	$ 1,082	$ 416
EMEA	**502**	367	629	398	344
Latin America	**429**	568	719	473	307
Asia	**53**	108	212	71	243
Total	**$ 1,122**	$ 1,553	$ 3,046	$ 2,024	$ 1,310
Corporate non-accrual loans[1][2]					
Banking	**$ 767**	$ 1,239	$ 2,767	$ 1,742	$ 1,097
Services	**153**	70	79	113	137
Markets	**3**	12	21	2	1
Mexico SBMM	**199**	232	179	167	75
Total	**$ 1,122**	$ 1,553	$ 3,046	$ 2,024	$ 1,310
Consumer non-accrual loans[1]					
U.S. Personal Banking and Global Wealth	**$ 541**	$ 680	$ 950	$ 443	$ 455
Asia Consumer[3]	**30**	209	296	267	242
Mexico Consumer	**457**	524	774	632	638
Legacy Holdings Assets—Consumer	**289**	413	602	638	892
Total	**$ 1,317**	$ 1,826	$ 2,622	$ 1,980	$ 2,227
Total non-accrual loans	**$ 2,439**	$ 3,379	$ 5,668	$ 4,004	$ 3,537

(1) Corporate loans are placed on non-accrual status based upon a review by Citigroup's risk officers. Corporate non-accrual loans may still be current on interest payments. With limited exceptions, the following practices are applied for consumer loans: consumer loans, excluding credit cards and mortgages, are placed on non-accrual status at 90 days past due and are charged off at 120 days past due; residential mortgage loans are placed on non-accrual status at 90 days past due and written down to net realizable value at 180 days past due. Consistent with industry conventions, Citigroup generally accrues interest on credit card loans until such loans are charged off, which typically occurs at 180 days contractual delinquency. As such, the non-accrual loan disclosures do not include credit card loans. The balances above represent non-accrual loans within *Corporate loans* and *Consumer loans* on the Consolidated Balance Sheet.

(2) The December 31, 2022 total corporate non-accrual loans represented 0.39% of total corporate loans.

(3) Asia Consumer includes balances in certain EMEA countries for all periods presented.

The changes in Citigroup's non-accrual loans were as follows:

	Year ended December 31, 2022			Year ended December 31, 2021		
In millions of dollars	**Corporate**	**Consumer**	**Total**	Corporate	Consumer	Total
Non-accrual loans at beginning of year	**$ 1,553**	**$ 1,826**	**$ 3,379**	$ 3,046	$ 2,622	$ 5,668
Additions	**2,123**	**1,374**	**3,497**	1,466	2,260	3,726
Sales and transfers to HFS	**(21)**	**(240)**	**(261)**	(524)	(310)	(834)
Returned to performing	**(378)**	**(408)**	**(786)**	(219)	(723)	(942)
Paydowns/settlements	**(1,814)**	**(585)**	**(2,399)**	(1,721)	(780)	(2,501)
Charge-offs	**(260)**	**(598)**	**(858)**	(472)	(1,202)	(1,674)
Other	**(81)**	**(52)**	**(133)**	(23)	(41)	(64)
Ending balance	**$ 1,122**	**$ 1,317**	**$ 2,439**	$ 1,553	$ 1,826	$ 3,379

The table below summarizes Citigroup's other real estate owned (OREO) assets. OREO is recorded on the Consolidated Balance Sheet within *Other assets.* This represents the carrying value of all real estate property acquired by foreclosure or other legal proceedings when Citi has taken possession of the collateral:

	December 31,				
In millions of dollars	**2022**	2021	2020	2019	2018
OREO					
North America	**$ 10**	$ 15	$ 19	$ 39	$ 64
EMEA	**—**	—	—	1	1
Latin America	**4**	8	7	14	12
Asia	**1**	4	17	7	22
Total OREO	**$ 15**	$ 27	$ 43	$ 61	$ 99
Non-accrual assets					
Corporate non-accrual loans	**$ 1,122**	$ 1,553	$ 3,046	$ 2,024	$ 1,310
Consumer non-accrual loans	**1,317**	1,826	2,622	1,980	2,227
Non-accrual loans (NAL)	**$ 2,439**	$ 3,379	$ 5,668	$ 4,004	$ 3,537
OREO	**$ 15**	$ 27	$ 43	$ 61	$ 99
Non-accrual assets (NAA)	**$ 2,454**	$ 3,406	$ 5,711	$ 4,065	$ 3,636
NAL as a percentage of total loans	**0.37 %**	0.51 %	0.84 %	0.57 %	0.52 %
NAA as a percentage of total assets	**0.10**	0.15	0.25	0.21	0.19
ACLL as a percentage of NAL[(1)]	**696**	487	440	319	348

(1) The ACLL includes the allowance for Citi's credit card portfolios and purchased credit-deteriorated loans, while the non-accrual loans exclude credit card balances (with the exception of certain international portfolios) and, prior to 2020, include purchased credit-deteriorated loans as these continue to accrue interest until charge-off.

Renegotiated Loans

The following table presents Citi's loans modified in TDRs:

In millions of dollars	**Dec. 31, 2022**	Dec. 31, 2021
Corporate renegotiated loans[1]		
In U.S. offices		
Commercial and industrial[2]	**$ 35**	$ 103
Mortgage and real estate	**2**	2
Financial institutions	**—**	—
Other	**11**	20
Total	**$ 48**	$ 125
In offices outside the U.S.		
Commercial and industrial[2]	**$ 50**	$ 133
Mortgage and real estate	**11**	18
Financial institutions	**—**	—
Other	**1**	8
Total	**$ 62**	$ 159
Total corporate renegotiated loans	**$ 110**	$ 284
Consumer renegotiated loans[3]		
In U.S. offices		
Mortgage and real estate	**$ 1,407**	$ 1,485
Cards	**1,180**	1,269
Personal, small business and other	**19**	26
Total	**$ 2,606**	$ 2,780
In offices outside the U.S.		
Mortgage and real estate	**$ 152**	$ 227
Cards	**75**	313
Personal, small business and other	**88**	428
Total	**$ 315**	$ 968
Total consumer renegotiated loans	**$ 2,921**	$ 3,748

(1) Includes $108 million and $284 million of non-accrual loans included in the non-accrual loans table above at December 31, 2022 and 2021, respectively. The remaining loans were accruing interest.

(2) In addition to modifications reflected as TDRs at December 31, 2022 and 2021, Citi may have modifications that were not considered TDRs because the modifications did not involve a concession or because they qualified for exemptions from TDR accounting provided by the CARES Act or the interagency guidance.

(3) Includes $566 million and $664 million of non-accrual loans included in the non-accrual loans table above at December 31, 2022 and 2021, respectively. The remaining loans were accruing interest.

Forgone Interest Revenue on Loans[1]

In millions of dollars	**In U.S. offices**	**In non-U.S. offices**	**2022 total**
Interest revenue that would have been accrued at original contractual rates[2]	**$ 331**	**$ 189**	**$ 520**
Amount recognized as interest revenue[2]	**158**	**121**	**279**
Forgone interest revenue	**$ 173**	**$ 68**	**$ 241**

(1) Relates to corporate non-accrual loans, renegotiated loans and consumer loans on which accrual of interest has been suspended.

(2) Interest revenue in offices outside the U.S. may reflect prevailing local interest rates, including the effects of inflation and monetary correction in certain countries.

LIQUIDITY RISK

Overview

Adequate and diverse sources of funding and liquidity are essential to Citi's businesses. Funding and liquidity risks arise from several factors, many of which are mostly or entirely outside Citi's control, such as disruptions in the financial markets, changes in key funding sources, credit spreads, changes in Citi's credit ratings and macroeconomic, geopolitical and other conditions. For additional information, see "Risk Factors—Liquidity Risks" above.

Citi's funding and liquidity management objectives are aimed at (i) funding its existing asset base, (ii) growing its core businesses, (iii) maintaining sufficient liquidity, structured appropriately, so that Citi can operate under a variety of adverse circumstances, including potential Company-specific and/or market liquidity events in varying durations and severity, and (iv) satisfying regulatory requirements, including, but not limited to, those related to resolution planning (for additional information, see "Resolution Plan" and "Total Loss-Absorbing Capacity (TLAC)" below). Citigroup's primary liquidity objectives are established by entity, and in aggregate, across two major categories:

- Citibank (including Citibank Europe plc, Citibank Singapore Ltd. and Citibank (Hong Kong) Ltd.); and
- Citi's non-bank and other entities, including the parent holding company (Citigroup Inc.), Citi's primary intermediate holding company (Citicorp LLC), Citi's broker-dealer subsidiaries (including Citigroup Global Markets Inc., Citigroup Global Markets Limited and Citigroup Global Markets Japan Inc.) and other bank and non-bank subsidiaries that are consolidated into Citigroup (including Citibanamex).

At an aggregate Citigroup level, Citi's goal is to maintain sufficient funding in amount and tenor to fully fund customer assets and to provide an appropriate amount of cash and high-quality liquid assets (as discussed below), even in times of stress, in order to meet its payment obligations as they come due. The liquidity risk management framework provides that in addition to the aggregate requirements, certain entities be self-sufficient or net providers of liquidity, including in conditions established under their designated stress tests.

Citi's primary funding sources include (i) corporate and consumer deposits via Citi's bank subsidiaries, including Citibank, N.A. (Citibank), (ii) long-term debt (primarily senior and subordinated debt) mainly issued by Citigroup Inc., as the parent, and Citibank, and (iii) stockholders' equity. These sources may be supplemented by short-term borrowings, primarily in the form of secured funding transactions.

Citi's funding and liquidity framework, working in concert with overall asset/liability management, ensures that there is sufficient liquidity and tenor in the overall liability structure (including funding products) of the Company relative to the liquidity requirements of Citi's assets. This reduces the risk that liabilities will become due before assets mature or are monetized. The Company holds excess liquidity, primarily in the form of high-quality liquid assets (HQLA), as presented in the table below.

Citi's liquidity is managed centrally by Corporate Treasury, in conjunction with regional and in-country treasurers with oversight provided by Independent Risk Management and various Asset & Liability Committees (ALCOs) at the individual entity, region, country and business levels. Pursuant to this approach, Citi's HQLA are managed with emphasis on asset/liability management and entity-level liquidity adequacy throughout Citi.

Citi's CRO and CFO co-chair Citigroup's ALCO, which includes Citi's Treasurer and other senior executives. The ALCO sets the strategy of the liquidity portfolio and monitors portfolio performance (for additional information about the ALCO, see "Risk Governance—Board and Executive Management Committees" above). Significant changes to portfolio asset allocations are approved by the ALCO. Citi also has other ALCOs, which are established at various organizational levels to ensure appropriate oversight for individual entities, countries, franchise businesses and regions, serving as the primary governance committees for managing Citi's balance sheet and liquidity.

As a supplement to ALCO, Citi's Funding and Liquidity Risk Committee (FLRC) is focused on funding and liquidity risk matters. The FLRC reviews and discusses the funding and liquidity risk profile of, as well as risk management practices for, Citigroup and Citibank and reports its findings and recommendations to each relevant ALCO as appropriate.

Liquidity Monitoring and Measurement

Stress Testing

Liquidity stress testing is performed for each of Citi's major entities, operating subsidiaries and countries. Stress testing and scenario analyses are intended to quantify the potential impact of an adverse liquidity event on the balance sheet and liquidity position, in order to have sufficient liquidity on hand to manage through such an event. These scenarios include assumptions about significant changes in key funding sources, market triggers (such as credit ratings), potential uses of funding and macroeconomic, geopolitical and other conditions. These conditions include expected and stressed market conditions as well as Company-specific events.

Liquidity stress tests are performed to ascertain potential mismatches between liquidity sources and uses over a variety of time horizons and over different stressed conditions. To monitor the liquidity of an entity, these stress tests and potential mismatches are calculated on a daily basis.

Given the range of potential stresses, Citi maintains contingency funding plans on a consolidated basis and for individual entities. These plans specify a wide range of readily available actions for a variety of adverse market conditions or idiosyncratic stresses.

High-Quality Liquid Assets (HQLA)

	Citibank			Citi non-bank and other entities			Total		
In billions of dollars	**Dec. 31, 2022**	Sept. 30, 2022	Dec. 31, 2021	**Dec. 31, 2022**	Sept. 30, 2022	Dec. 31, 2021	**Dec. 31, 2022**	Sept. 30, 2022	Dec. 31, 2021
Available cash	**$ 241.2**	$ 202.2	$ 253.6	**$ 4.3**	$ 2.1	$ 2.6	**$ 245.5**	$ 204.3	$ 256.2
U.S. sovereign	**130.0**	144.6	119.6	**68.7**	69.4	63.1	**198.7**	214.0	182.7
U.S. agency/agency MBS	**46.3**	52.5	45.0	**4.0**	4.7	5.7	**50.3**	57.2	50.7
Foreign government debt[(1)]	**59.1**	63.3	48.9	**19.4**	15.7	13.6	**78.5**	79.0	62.5
Other investment grade	**1.7**	2.0	1.6	**0.5**	0.6	0.8	**2.2**	2.6	2.4
Total HQLA (AVG)	**$ 478.3**	$ 464.6	$ 468.7	**$ 96.9**	$ 92.5	$ 85.8	**$ 575.2**	$ 557.1	$ 554.5

Note: The amounts shown in the table above are presented on an average basis. For securities, the amounts represent the liquidity value that potentially could be realized and, therefore, exclude any securities that are encumbered and incorporate any haircuts applicable under the U.S. LCR rule. The table above incorporates various restrictions that could limit the transferability of liquidity between legal entities, including Section 23A of the Federal Reserve Act.

(1) Foreign government debt includes securities issued or guaranteed by foreign sovereigns, agencies and multilateral development banks. Foreign government debt securities are held largely to support local liquidity requirements and Citi's local franchises and principally include government bonds from Japan, Korea, Mexico, Singapore and Hong Kong.

The table above includes average amounts of HQLA held at Citigroup's operating entities that are eligible for inclusion in the calculation of Citigroup's consolidated Liquidity Coverage ratio (LCR), pursuant to the U.S. LCR rules. These amounts include the HQLA needed to meet the minimum requirements at these entities as well as any amounts in excess of these minimums that are available to be transferred to other entities within Citigroup. Citigroup's average HQLA increased quarter-over-quarter as of the fourth quarter of 2022, primarily driven by wholesale unsecured debt issuances.

As of December 31, 2022, Citigroup had approximately $1,045 billion of available liquidity resources to support client and business needs, including end-of-period HQLA assets; additional unencumbered securities, including excess liquidity held at bank entities that is non-transferable to other entities within Citigroup; available assets not already accounted for within Citi's HQLA to support the Federal Home Loan Bank (FHLB); and Federal Reserve Bank discount window borrowing capacity.

Short-Term Liquidity Measurement: Liquidity Coverage Ratio (LCR)

In addition to internal 30-day liquidity stress testing performed for Citi's major entities, operating subsidiaries and countries, Citi also monitors its liquidity by reference to the LCR.

The LCR is calculated by dividing HQLA by estimated net outflows assuming a stressed 30-day period, with the net outflows determined by standardized stress outflow and inflow rates prescribed in the LCR rule. The outflows are partially offset by contractual inflows from assets maturing within 30 days. Similar to outflows, the inflows are calculated based on prescribed factors to various asset categories, such as retail loans as well as unsecured and secured wholesale lending. The minimum LCR requirement is 100%.

The table below details the components of Citi's LCR calculation and HQLA in excess of net outflows for the periods indicated:

In billions of dollars	**Dec. 31, 2022**	Sept. 30, 2022	Dec. 31, 2021
HQLA	**$575.2**	$ 557.1	$ 554.5
Net outflows	**489.0**	477.0	482.9
LCR	**118 %**	117 %	115 %
HQLA in excess of net outflows	**$ 86.2**	$ 80.1	$ 71.6

Note: The amounts are presented on an average basis.

As of December 31, 2022, Citigroup's average LCR increased, primarily driven by wholesale unsecured debt issuances.

Long-Term Liquidity Measurement: Net Stable Funding Ratio (NSFR)

As previously disclosed, the U.S. banking agencies adopted a rule to assess the availability of a bank's stable funding against a required level.

In general, a bank's available stable funding includes portions of equity, deposits and long-term debt, while its required stable funding will be based on the liquidity characteristics of its assets, derivatives and commitments. Standardized weightings are required to be applied to the various asset and liability classes. The ratio of available stable funding to required stable funding is required to be greater than 100%.

The rule became effective beginning July 1, 2021, while public disclosure requirements to report the ratio will occur on a semiannual basis beginning June 30, 2023. Citi was in compliance with the rule as of December 31, 2022.

Loans

As part of its funding and liquidity objectives, Citi seeks to fund its existing asset base appropriately as well as maintain sufficient liquidity to grow its *PBWM* and *ICG* businesses, including its loan portfolio. Citi maintains a diversified portfolio of loans to its consumer and institutional clients. The table below details the average loans, by business and/or segment, and the total Citigroup end-of-period loans for each of the periods indicated:

In billions of dollars	**4Q22**	3Q22	4Q21
Personal Banking and Wealth Management			
U.S. Retail banking	**$ 37**	$ 36	$ 34
U.S. Cards	**143**	138	128
Global Wealth	**150**	151	150
Total	**$ 330**	$ 325	$ 312
Institutional Clients Group			
Services	**$ 79**	$ 82	$ 77
Banking	**194**	197	195
Markets	**12**	12	17
Total	**$ 285**	$ 291	$ 289
Total *Legacy Franchises*[(1)]	**$ 38**	$ 39	$ 66
Total Citigroup loans (AVG)	**$ 653**	$ 655	$ 667
Total Citigroup loans (EOP)	**$ 657**	$ 646	$ 668

(1) See footnote 2 to the table in "Credit Risk—Consumer Credit—Consumer Credit Portfolio" above.

End-of-period loans decreased 2% year-over-year, largely driven by lower balances in *Legacy Franchises* and the impact of foreign exchange translation. End-of-period loans increased 2% sequentially.

On an average basis, loans declined 2% year-over-year and were largely unchanged sequentially. The year-over-year decline was primarily due to the impact of foreign exchange translation and lower balances in *Legacy Franchises*, which more than offset growth in *PBWM*. The decline in *Legacy Franchises* primarily reflected the reclassification of loans to *Other assets* to reflect held-for-sale accounting as a result of the signing of sale agreements for consumer franchises, as well as the impact of the ongoing Korea and Russia wind-downs.

Average *PBWM* loans as of the fourth quarter of 2022 increased 6% year-over-year, primarily driven by Branded cards and Retail services.

Average *ICG* loans as of the fourth quarter of 2022 decreased 1% year-over-year, primarily driven by RWA optimization efforts within Banking, which more than offset growth in Services from trade finance in TTS.

Deposits

The table below details the average deposits, by business and/or segment, and the total Citigroup end-of-period deposits for each of the periods indicated:

In billions of dollars	**4Q22**	3Q22	4Q21
Personal Banking and Wealth Management			
U.S. Personal Banking	**$ 111**	$ 115	$ 114
Global Wealth	**320**	313	323
Total	**$ 431**	$ 428	$ 437
Institutional Clients Group			
TTS	**$ 694**	$ 664	$ 689
Securities services	**129**	131	140
Markets and Banking	**25**	22	23
Total	**$ 848**	$ 817	$ 852
Legacy Franchises[(1)]	**$ 50**	$ 50	$ 74
Corporate/Other	**$ 32**	$ 21	$ 7
Total Citigroup deposits (AVG)	**$ 1,361**	$ 1,316	$ 1,370
Total Citigroup deposits (EOP)	**$ 1,366**	$ 1,306	$ 1,317

(1) See footnote 2 to the table in "Credit Risk—Consumer Credit—Consumer Credit Portfolio" above.

End-of-period deposits increased 4% year-over-year, largely driven by Treasury and trade solutions in *ICG*, partially offset by the impact of foreign exchange translation. End-of-period deposits increased 5% sequentially.

On an average basis, deposits declined 1% year-over-year and increased 3% sequentially. The year-over-year decline primarily reflected the impact of foreign exchange translation and a decline in *Legacy Franchises*, partially offset by growth in *Corporate/Other*. The decline in *Legacy Franchises* was due to the impact of held-for-sale accounting as a result of the signing of sale agreements for consumer franchises, as well as the ongoing Korea and Russia wind-downs. *ICG* average deposits were largely unchanged year-over-year. *PBWM* average deposits decreased 1% year-over-year, driven by modest decreases in both U.S. Personal Banking and Global Wealth. *Corporate/Other* average deposits increased $25 billion year-over-year, due to the issuance of institutional certificates of deposit as Citi continues to diversify its funding profile.

Long-Term Debt

Long-term debt (generally defined as debt with original maturities of one year or more) represents the most significant component of Citi's funding for the Citigroup parent company and Citi's non-bank subsidiaries and is a supplementary source of funding for the bank entities.

Long-term debt is an important funding source due in part to its multiyear contractual maturity structure. The weighted-average maturity of unsecured long-term debt issued by Citigroup and its affiliates (including Citibank) with a remaining life greater than one year was approximately 7.6 years as of December 31, 2022, compared to 8.6 years as of the prior year and 7.8 years as of the prior quarter. The weighted-average maturity is calculated based on the contractual maturity of each security. For securities that are redeemable prior to maturity at the option of the holder, the weighted-average maturity is calculated based on the earliest date an option becomes exercisable.

Citi's long-term debt outstanding at the Citigroup parent company includes benchmark senior and subordinated debt and what Citi refers to as customer-related debt, consisting of structured notes, such as equity- and credit-linked notes, as well as non-structured notes. Citi's issuance of customer-related debt is generally driven by customer demand and complements benchmark debt issuance as a source of funding for Citi's non-bank entities. Citi's long-term debt at the bank includes bank notes, FHLB advances and securitizations.

Long-Term Debt Outstanding

The following table presents Citi's end-of-period total long-term debt outstanding for each of the dates indicated:

In billions of dollars	**Dec. 31, 2022**	Sept. 30, 2022	Dec. 31, 2021
Non-bank[1]			
Benchmark debt:			
Senior debt	**$ 117.5**	$ 112.7	$ 117.8
Subordinated debt	**22.5**	22.4	25.7
Trust preferred	**1.6**	1.6	1.7
Customer-related debt	**101.1**	86.9	78.3
Local country and other[2]	**7.8**	7.0	7.3
Total non-bank	**$ 250.5**	$ 230.6	$ 230.8
Bank			
FHLB borrowings	**$ 7.3**	$ 7.3	$ 5.3
Securitizations[3]	**7.6**	8.4	9.6
Citibank benchmark senior debt	**2.6**	2.5	3.6
Local country and other[2]	**3.6**	4.3	5.1
Total bank	**$ 21.1**	$ 22.5	$ 23.6
Total long-term debt	**$ 271.6**	$ 253.1	$ 254.4

Note: Amounts represent the current value of long-term debt on Citi's Consolidated Balance Sheet that, for certain debt instruments, includes consideration of fair value, hedging impacts and unamortized discounts and premiums.

(1) Non-bank includes long-term debt issued to third parties by the parent holding company (Citigroup) and Citi's non-bank subsidiaries (including broker-dealer subsidiaries) that are consolidated into Citigroup. As of December 31, 2022, non-bank included $84.2 billion of long-term debt issued by Citi's broker-dealer and other subsidiaries that are consolidated into Citigroup. Certain Citigroup consolidated hedging activities are also included in this line.

(2) Local country and other includes debt issued by Citi's affiliates in support of their local operations. Within non-bank, certain secured financing is also included.

(3) Predominantly credit card securitizations, primarily backed by Branded cards receivables.

Citi's total long-term debt outstanding increased 7% year-over-year, primarily driven by an increase in customer-related debt at the non-bank entities. Sequentially, long-term debt outstanding also increased 7%, largely driven by an increase in customer-related debt and benchmark senior debt at the non-bank entities.

As part of its liability management, Citi has considered, and may continue to consider, opportunities to redeem or repurchase its long-term debt pursuant to open market purchases, tender offers or other means. Such redemptions and repurchases help reduce Citi's overall funding costs. During 2022, Citi redeemed or repurchased an aggregate of approximately $20.8 billion of its outstanding long-term debt.

Long-Term Debt Issuances and Maturities

The table below details Citi's long-term debt issuances and maturities (including repurchases and redemptions) during the periods presented:

	2022		2021		2020	
In billions of dollars	**Maturities**	**Issuances**	Maturities	Issuances	Maturities	Issuances
Non-bank						
Benchmark debt:						
Senior debt	**$ 15.4**	**$ 27.3**	$ 17.6	$ 15.4	$ 6.5	$ 20.4
Subordinated debt	**0.9**	**—**	—	—	—	—
Trust preferred	**0.1**	**—**	—	—	—	—
Customer-related debt	**27.0**	**65.1**	31.2	48.7	27.7	36.8
Local country and other	**2.8**	**3.5**	3.3	3.6	2.4	1.4
Total non-bank	**$ 46.2**	**$ 95.9**	$ 52.1	$ 67.7	$ 36.6	$ 58.6
Bank						
FHLB borrowings	**$ 5.3**	**$ 7.3**	$ 5.7	$ —	$ 7.5	$ 12.9
Securitizations	**2.1**	**0.2**	6.1	—	4.6	0.3
Citibank benchmark senior debt	**0.9**	**—**	9.8	—	9.8	—
Local country and other	**2.6**	**1.3**	1.2	2.9	4.9	4.6
Total bank	**$ 10.9**	**$ 8.8**	$ 22.8	$ 2.9	$ 26.8	$ 17.8
Total	**$ 57.1**	**$ 104.7**	$ 74.9	$ 70.6	$ 63.4	$ 76.4

The table below shows Citi's aggregate long-term debt maturities (including repurchases and redemptions) in 2022, as well as its aggregate expected remaining long-term debt maturities by year as of December 31, 2022:

	Maturities							
In billions of dollars	**2022**	2023	2024	2025	2026	2027	Thereafter	Total
Non-bank								
Benchmark debt:								
Senior debt	**$ 15.4**	$ 4.9	$ 10.5	$ 11.8	$ 23.4	$ 6.9	$ 60.0	$ 117.5
Subordinated debt	**0.9**	1.2	0.9	4.8	2.3	3.6	9.7	22.5
Trust preferred	**0.1**	—	—	—	—	—	1.6	1.6
Customer-related debt	**27.0**	16.4	20.6	14.0	6.2	9.3	34.6	101.1
Local country and other	**2.8**	2.9	0.4	0.3	0.7	0.2	3.1	7.8
Total non-bank	**$ 46.2**	$ 25.4	$ 32.4	$ 30.9	$ 32.6	$ 20.0	$ 109.0	$ 250.5
Bank								
FHLB borrowings	**$ 5.3**	$ 4.3	$ 3.0	$ —	$ —	$ —	$ —	$ 7.3
Securitizations	**2.1**	2.2	1.3	1.6	—	0.8	1.7	7.6
Citibank benchmark senior debt	**0.9**	—	2.6	—	—	—	—	2.6
Local country and other	**2.6**	0.6	1.2	0.2	0.2	—	1.4	3.6
Total bank	**$ 10.9**	$ 7.1	$ 8.1	$ 1.8	$ 0.2	$ 0.8	$ 3.1	$ 21.1
Total long-term debt	**$ 57.1**	$ 32.5	$ 40.5	$ 32.7	$ 32.8	$ 20.8	$ 112.1	$ 271.6

Resolution Plan

Citigroup is required under Title I of the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010 (Dodd-Frank Act) and the rules promulgated by the FDIC and Federal Reserve Board (FRB) to periodically submit a plan for Citi's rapid and orderly resolution under the U.S. Bankruptcy Code in the event of material financial distress or failure. Citigroup will alternate between submitting a full resolution plan and a targeted resolution plan on a biennial cycle.

On November 22, 2022, the FRB and FDIC issued feedback on the resolution plans filed on July 1, 2021 by the eight U.S. global systemically important banks (GSIBs), including Citigroup. The FRB and FDIC identified one shortcoming, but no deficiencies, in Citigroup's 2021 resolution plan regarding data integrity and data quality management issues. For additional information on Citi's resolution plan submissions, see "Risk Factors—Strategic Risks" above.

Under Citi's preferred "single point of entry" resolution plan strategy, only Citigroup, the parent holding company, would enter into bankruptcy, while Citigroup's material legal entities (as defined in the public section of its 2021 resolution plan, which can be found on the FRB's and FDIC's websites) would remain operational outside of any resolution or insolvency proceedings. Citigroup's resolution plan has been designed to minimize the risk of systemic impact to the U.S. and global financial systems, while maximizing the value of the bankruptcy estate for the benefit of Citigroup's creditors, including its unsecured long-term debt holders.

In addition, in line with the FRB's final total loss-absorbing capacity (TLAC) rule, Citigroup believes it has developed the resolution plan so that Citigroup's shareholders and unsecured creditors—including its unsecured long-term debt holders—bear any losses resulting from Citigroup's bankruptcy. Accordingly, any value realized by holders of its unsecured long-term debt may not be sufficient to repay the amounts owed to such debt holders in the event of a bankruptcy or other resolution proceeding of Citigroup.

The FDIC has also indicated that it was developing a single point of entry strategy to implement the Orderly Liquidation Authority under Title II of the Dodd-Frank Act, which provides the FDIC with the ability to resolve a firm when it is determined that bankruptcy would have serious adverse effects on financial stability in the U.S.

As previously disclosed, in response to feedback received from the FRB and FDIC, Citigroup took the following actions:

(i) Citicorp LLC (Citicorp), an existing wholly owned subsidiary of Citigroup, was established as an intermediate holding company (an IHC) for certain of Citigroup's operating material legal entities;

(ii) Citigroup executed an inter-affiliate agreement with Citicorp, Citigroup's operating material legal entities and certain other affiliated entities pursuant to which Citicorp is required to provide liquidity and capital support to Citigroup's operating material legal entities in the event Citigroup were to enter bankruptcy proceedings (Citi Support Agreement);

(iii) pursuant to the Citi Support Agreement:

- Citigroup made an initial contribution of assets, including certain high-quality liquid assets and inter-affiliate loans (Contributable Assets), to Citicorp, and Citicorp became the business-as-usual funding vehicle for Citigroup's operating material legal entities;
- Citigroup will be obligated to continue to transfer Contributable Assets to Citicorp over time, subject to certain amounts retained by Citigroup to, among other things, meet Citigroup's near-term cash needs;
- in the event of a Citigroup bankruptcy, Citigroup will be required to contribute most of its remaining assets to Citicorp; and

(iv) the obligations of both Citigroup and Citicorp under the Citi Support Agreement, as well as the Contributable Assets, are secured pursuant to a security agreement.

The Citi Support Agreement provides two mechanisms, besides Citicorp's issuing of dividends to Citigroup, pursuant to which Citicorp will be required to transfer cash to Citigroup during business as usual so that Citigroup can fund its debt service as well as other operating needs: (i) one or more funding notes issued by Citicorp to Citigroup and (ii) a committed line of credit under which Citicorp may make loans to Citigroup.

Total Loss-Absorbing Capacity (TLAC)

U.S. GSIBs are required to maintain minimum levels of TLAC and eligible LTD, each set by reference to the GSIB's consolidated risk-weighted assets (RWA) and total leverage exposure. The intended purpose of the requirements is to facilitate the orderly resolution of U.S. GSIBs under the U.S. Bankruptcy Code and Title II of the Dodd-Frank Act. For additional information, including Citi's TLAC and LTD amounts and ratios, see "Capital Resources—Current Regulatory Capital Standards" above.

SECURED FUNDING TRANSACTIONS AND SHORT-TERM BORROWINGS

Citi supplements its primary sources of funding with short-term financings that generally include (i) secured funding transactions consisting of securities loaned or sold under agreements to repurchase, i.e., repos, and (ii) to a lesser extent, short-term borrowings consisting of commercial paper and borrowings from the FHLB and other market participants.

Secured Funding Transactions

Secured funding is primarily accessed through Citi's broker-dealer subsidiaries to fund efficiently both (i) secured lending activity and (ii) a portion of the securities inventory held in the context of market making and customer activities. Citi also executes a smaller portion of its secured funding transactions through its bank entities, which are typically collateralized by government debt securities. Generally, daily changes in the level of Citi's secured funding are primarily due to fluctuations in secured lending activity in the matched book (as described below) and securities inventory.

Secured funding of $202 billion as of December 31, 2022 increased 6% from the prior year and was unchanged sequentially, driven by normal business activity. The average balance for secured funding was approximately $205 billion for the quarter ended December 31, 2022.

The portion of secured funding in the broker-dealer subsidiaries that funds secured lending is commonly referred to as "matched book" activity. The majority of this activity is secured by high-quality liquid securities such as U.S. Treasury securities, U.S. agency securities and foreign government debt securities. Other secured funding is secured by less liquid securities, including equity securities, corporate bonds and asset-backed securities, the tenor of which is generally equal to or longer than the tenor of the corresponding matched book assets.

The remainder of the secured funding activity in the broker-dealer subsidiaries serves to fund securities inventory held in the context of market making and customer activities. To maintain reliable funding under a wide range of market conditions, including under periods of stress, Citi manages these activities by taking into consideration the quality of the underlying collateral and establishing minimum required funding tenors. The weighted average maturity of Citi's secured funding of less liquid securities inventory was greater than 110 days as of December 31, 2022.

Citi manages the risks in its secured funding by conducting daily stress tests to account for changes in capacity, tenor, haircut, collateral profile and client actions. In addition, Citi maintains counterparty diversification by establishing concentration triggers and assessing counterparty reliability and stability under stress. Citi generally sources secured funding from more than 150 counterparties.

Short-Term Borrowings

Citi's short-term borrowings of $47 billion as of the fourth quarter of 2022 increased 68% year-over-year, reflecting an increase in FHLB advances and commercial paper issuance, as Citi continues to diversify its funding profile, and decreased 1% sequentially, driven by normal business activity (see Note 18 for further information on Citigroup's and its affiliates' outstanding short-term borrowings).

CREDIT RATINGS

Citigroup's funding and liquidity, funding capacity, ability to access capital markets and other sources of funds, the cost of these funds and its ability to maintain certain deposits are partially dependent on its credit ratings.

The table below shows the ratings for Citigroup and Citibank as of December 31, 2022. While not included in the table below, the long-term and short-term ratings of Citigroup Global Markets Holding Inc. (CGMHI) were A+/F1 at Fitch Ratings, A2/P-1 at Moody's Investors Service and A/A-1 at S&P Global Ratings as of December 31, 2022.

Ratings as of December 31, 2022

	Citigroup Inc.			Citibank, N.A.		
	Long-term	Short-term	Outlook	Long-term	Short-term	Outlook
Fitch Ratings (Fitch)	A	F1	Stable	A+	F1	Stable
Moody's Investors Service (Moody's)	A3	P-2	Stable	Aa3	P-1	Stable
S&P Global Ratings (S&P)	BBB+	A-2	Stable	A+	A-1	Stable

Potential Impacts of Ratings Downgrades

Ratings downgrades by Fitch, Moody's or S&P could negatively impact Citigroup's and/or Citibank's funding and liquidity due to reduced funding capacity, including derivative triggers, which could take the form of cash obligations and collateral requirements.

The following information is provided for the purpose of analyzing the potential funding and liquidity impact to Citigroup and Citibank of a hypothetical simultaneous ratings downgrade across all three major rating agencies. This analysis is subject to certain estimates, estimation methodologies, judgments and uncertainties. Uncertainties include potential ratings limitations that certain entities may have with respect to permissible counterparties, as well as general subjective counterparty behavior. For example, certain corporate customers and markets counterparties could re-evaluate their business relationships with Citi and limit transactions in certain contracts or market instruments with Citi. Changes in counterparty behavior could impact Citi's funding and liquidity, as well as the results of operations of certain of its businesses. The actual impact to Citigroup or Citibank is unpredictable and may differ materially from the potential funding and liquidity impacts described below. For additional information on the impact of credit rating changes on Citi and its applicable subsidiaries, see "Risk Factors—Liquidity Risks" above.

Citigroup Inc. and Citibank—Potential Derivative Triggers

As of December 31, 2022, Citi estimates that a hypothetical one-notch downgrade of the senior debt/long-term rating of Citigroup Inc. across all three major rating agencies could impact Citigroup's funding and liquidity due to derivative triggers by approximately $0.5 billion, compared to $0.6 billion as of September 30, 2022. Other funding sources, such as secured financing transactions and other margin requirements, for which there are no explicit triggers, could also be adversely affected.

As of December 31, 2022, Citi estimates that a hypothetical one-notch downgrade of the senior debt/long-term rating of Citibank across all three major rating agencies could impact Citibank's funding and liquidity due to derivative triggers by approximately $0.4 billion, compared to $0.8 billion as of September 30, 2022. Other funding sources, such as secured financing transactions and other margin requirements, for which there are no explicit triggers, could also be adversely affected.

In total, as of December 31, 2022, Citi estimates that a one-notch downgrade of Citigroup Inc. and Citibank across all three major rating agencies could result in increased aggregate cash obligations and collateral requirements of approximately $0.9 billion, compared to $1.4 billion as of September 30, 2022 (see also Note 23). As detailed under "High-Quality Liquid Assets (HQLA)" above, Citigroup has various liquidity resources available to its bank and non-bank entities in part as a contingency for the potential events described above.

In addition, a broad range of mitigating actions are currently included in Citigroup's and Citibank's contingency funding plans. For Citigroup, these mitigating factors include, but are not limited to, accessing surplus funding capacity from existing clients, tailoring levels of secured lending and adjusting the size of select trading books and collateralized borrowings at certain Citibank subsidiaries. Mitigating actions available to Citibank include, but are not limited to, selling or financing highly liquid government securities, tailoring levels of secured lending, adjusting the size of select trading assets, reducing loan originations and renewals, raising additional deposits or borrowing from the FHLB or central banks. Citi believes these mitigating actions could substantially reduce the funding and liquidity risk, if any, of the potential downgrades described above.

Citibank—Additional Potential Impacts

In addition to the above derivative triggers, Citi believes that a potential downgrade of Citibank's senior debt/long-term rating across any of the three major rating agencies could also have an adverse impact on the commercial paper/short-term rating of Citibank. Citibank has provided liquidity commitments to consolidated asset-backed commercial paper conduits, primarily in the form of asset purchase agreements. As of December 31, 2022, Citibank had liquidity commitments of approximately $11.0 billion to consolidated asset-backed commercial paper conduits, compared to $9.1 billion as of December 31, 2021 (see Note 22 for additional information).

In addition to the above-referenced liquidity resources of certain Citibank entities, Citibank could reduce the funding and liquidity risk, if any, of the potential downgrades described above through mitigating actions, including repricing or reducing certain commitments to commercial paper conduits. In the event of the potential downgrades described above, Citi believes that certain corporate customers could re-evaluate their deposit relationships with Citibank. This re-evaluation could result in clients adjusting their discretionary deposit levels or changing their depository institution, which could potentially reduce certain deposit levels at Citibank. However, Citi could choose to adjust pricing, offer alternative deposit products to its existing customers or seek to attract deposits from new customers, in addition to the mitigating actions referenced above.

MARKET RISK

OVERVIEW

Market risk is the potential for losses arising from changes in the value of Citi's assets and liabilities resulting from changes in market variables such as interest rates, foreign exchange rates, equity prices, commodity prices and credit spreads, as well as their implied volatilities. Market risk arises from both Citi's trading and non-trading portfolios. For additional information on market risk and market risk management at Citi, see "Risk Factors" above.

Each business is required to establish, with approval from Citi's market risk management, a market risk limit framework for identified risk factors that clearly defines approved risk profiles and is within the parameters of Citi's overall risk appetite. These limits are monitored by the Risk organization, including various regional, legal entity and business Risk Management committees, Citi's country and business Asset & Liability Committees and the Citigroup Risk Management and Asset & Liability Committees. In all cases, the businesses are ultimately responsible for the market risks taken and for remaining within their defined limits.

MARKET RISK OF NON-TRADING PORTFOLIOS

Market risk from non-trading portfolios stems predominantly from the potential impact of changes in interest rates and foreign exchange rates on Citi's net interest income and on Citi's *Accumulated other comprehensive income (loss) (AOCI)* from its investment securities portfolios. Market risk from non-trading portfolios also includes the potential impact of changes in foreign exchange rates on Citi's capital invested in foreign currencies.

Banking Book Interest Rate Risk

For interest rate risk purposes, Citi's non-trading portfolios are referred to as the Banking Book. Management of interest rate risk in the Banking Book is governed by Citi's Non-Trading Market Risk Policy. Management's Asset & Liability Committee (ALCO) establishes Citi's risk appetite and related limits for interest rate risk in the Banking Book, which are subject to approval by Citigroup's Board of Directors. Corporate Treasury is responsible for the day-to-day management of Citi's Banking Book interest rate risk as well as periodically reviewing it with the ALCO. Citi's Banking Book interest rate risk management is also subject to independent oversight from Treasury Risk Management, a second line of defense team reporting to the Treasury Chief Risk Officer.

Changes in interest rates impact Citi's net income, *AOCI* and CET1. These changes primarily affect Citi's Banking Book through net interest income, due to a variety of risk factors, including:

- Differences in timing and amounts of the maturity or repricing of assets, liabilities and off-balance sheet instruments;
- Changes in level and/or shape of interest rate curves;
- Client behavior in response to changes in interest rate (e.g., mortgage prepayments, deposit betas); and
- Changes in maturity of instruments resulting from changes in interest rate environment.

As part of their ongoing activities, Citi's businesses generate interest rate-sensitive positions from their client-facing products, such as loans and deposits. The component of this interest rate risk that can be hedged is transferred via Citi's funds transfer pricing process to Corporate Treasury. Corporate Treasury uses various tools to manage the total interest rate risk position within the established risk appetite and target Citi's desired risk profile, including its investment securities portfolio, company-issued debt and interest rate derivatives.

In addition, Citi uses multiple metrics to measure its Banking Book interest rate risk. Interest Rate Exposure (IRE) is a key metric that analyzes the impact of a range of scenarios on Citi's Banking Book net interest income and certain other interest rate-sensitive income versus a base case. IRE does not represent a forecast of Citi's net interest income.

The scenarios, methodologies and assumptions used in this analysis are periodically evaluated and enhanced in response to changes in the market environment, changes in Citi's balance sheet composition, enhancements in Citi's modeling and other factors.

Since the third quarter of 2022, Citi has employed enhanced IRE methodologies and changes to certain assumptions. The changes included, among other things, assumptions around the projected balance sheet and revisions to the treatment of certain business contributions (notably accrual positions in *ICG*'s Markets businesses). These changes resulted in a higher impact to Citi's net interest income over a 12-month period.

Under the enhanced methodology, Citi utilizes the most recent quarter-end balance sheet, assuming no changes to its composition and size over the forecasted horizon (holding the balance sheet static). The forecasts incorporate expectations and assumptions of deposit pricing, loan spreads and mortgage prepayment behavior implied by the interest rate curves in each scenario. The base case scenario reflects the market implied forward interest rates, and sensitivity scenarios assume instantaneous shocks to the base case. The forecasts do not assume Citi takes any risk-mitigating actions in response to changes in the interest rate environment. Certain interest rates are subject to flooring assumptions in downward rate scenarios. Deposit pricing sensitivities, (i.e., deposit betas), are informed by historical and expected behavior. Actual deposit pricing could differ from the assumptions used in these forecasts.

Citi's IRE analysis primarily reflects the impacts from the following Banking Book assets and liabilities: loans, client deposits, Citi's deposits with other banks, investment securities, long-term debt, any related interest rate hedges and the funds transfer pricing of positions in total trading and credit portfolio VAR. It excludes impacts from any positions that are included in total trading and credit portfolio VAR.

Interest Rate Risk of Investment Portfolios—Impact on *AOCI*

Citi also measures the potential impacts of changes in interest rates on the value of its *AOCI*, which can in turn impact Citi's common equity and tangible common equity. This will impact Citi's CET1 and other regulatory capital ratios. Citi seeks to manage its exposure to changes in the market level of interest rates, while limiting the potential impact on its *AOCI* and regulatory capital position.

AOCI at risk is managed as part of the Company-wide interest rate risk position. *AOCI* at risk considers potential changes in *AOCI* (and the corresponding impact on the CET1 Capital ratio) relative to Citi's capital generation capacity.

The following table presents the 12-month estimated impact to Citi's net interest income, *AOCI* and the CET1 Capital ratio, each assuming an unanticipated parallel instantaneous 100 basis point (bps) increase in interest rates:

In millions of dollars, except as otherwise noted	**Dec. 31, 2022**	Sept. 30, 2022	Dec. 31, 2021
Parallel interest rate shock +100 bps			
Interest rate exposure[1][2]			
U.S. dollar	**$ 186**	$ 677	$ 781
All other currencies	**1,650**	1,483	2,025
Total	**$ 1,836**	$ 2,160	$ 2,806
As a percentage of average interest-earning assets	**0.08 %**	0.10 %	0.12 %
Estimated initial negative impact to *AOCI* (after-tax)[3]	**$ (1,102)**	$ (969)	$ (4,609)
Estimated initial impact on CET1 Capital ratio (bps)	**(10)**	(9)	(30)

(1) Excludes trading book and fair value option banking book portfolios and replaces them with the associated transfer pricing.
(2) IRE as of December 31, 2021 excludes certain IRE methodology enhancements implemented in September 2022, most notably the banking book revisions to the treatment of certain business.
(3) Includes the effect of changes in interest rates on *AOCI* related to investment securities, cash flow hedges and pension liability adjustments.

Citi's balance sheet is asset sensitive (assets reprice faster than liabilities), resulting in higher net interest income in increasing interest rate scenarios. The estimated impact to Citi's net interest income in a 100 bps upward rate shock scenario as of December 31, 2022 decreased quarter-over-quarter and year-over-year, primarily reflecting the net impact of lower expected gains due to U.S. dollar interest rate moves that have already been realized and changes in Citi's balance sheet. At progressively higher interest rate levels, the marginal net interest income benefit is lower, as Citi assumes it will pass on a larger share of rate changes to depositors (i.e., higher betas), further reducing Citi's IRE sensitivity. Currency-specific interest rate changes and balance sheet factors may drive quarter-to-quarter volatility in Citi's estimated IRE.

In a 100 bps upward rate shock scenario, Citi expects that the approximate $1.1 billion initial negative impact to *AOCI* could potentially be offset in shareholders' equity through the expected recovery of the impact on *AOCI* through accretion of Citi's investment portfolio and expected net interest income benefit over a period of approximately four months.

Scenario Analysis

The following table presents the estimated impact to Citi's net interest income, *AOCI* and the CET1 Capital ratio (on a fully implemented basis) under five different scenarios of changes in interest rate for the U.S. dollar and all other currencies in which Citi has invested capital as of December 31, 2022. The 100 bps downward rate scenarios are impacted by the low level of interest rates in several countries and the assumption that market interest rates, as well as rates paid to depositors and charged to borrowers, do not fall below zero (i.e., the "flooring assumption"). The rate scenarios are also impacted by convexity related to mortgage products.

In millions of dollars, except as otherwise noted	**Scenario 1**	**Scenario 2**	**Scenario 3**	**Scenario 4**	**Scenario 5**
Overnight rate change (bps)	100	100	—	—	(100)
10-year rate change (bps)	100	—	100	(100)	(100)
Interest rate exposure					
U.S. dollar	$ 186	$ 98	$ 105	$ (121)	$ (322)
All other currencies	1,650	1,426	229	(236)	(1,434)
Total	$ 1,836	$ 1,524	$ 334	$ (357)	$ (1,756)
Estimated initial impact to *AOCI* (after-tax)[(1)]	$ (1,102)	$ (931)	$ (159)	$ 46	$ 1,014
Estimated initial impact to CET1 Capital ratio (bps)	(10)	(8)	(2)	1	10

Note: Each scenario assumes that the rate change will occur instantaneously. Changes in interest rates for maturities between the overnight rate and the 10-year rate are interpolated.

(1) Includes the effect of changes in interest rates on *AOCI* related to investment securities, cash flow hedges and pension liability adjustments.

As shown in the table above, the estimated impact to Citi's net interest income remains larger under Scenario 2 than Scenario 3, as Citi's Banking Book has relatively higher interest rate exposure to the short end of the yield curve. For U.S. dollars, exposure to downward rate shocks is larger in magnitude than to upward rate shocks. This is because of the lower benefit to net interest income from Citi's deposit base at higher rate levels, as well as the prepayment effects on mortgage loans and mortgage-backed securities. For other currencies, exposure to downward rate shocks is smaller in magnitude as a result of Citi's flooring assumption, given low rate levels for certain non-U.S. dollar currencies.

The magnitude of the impact to *AOCI* is greater under Scenario 2 as compared to Scenario 3. This is because the combination of changes to Citi's investment portfolio, partially offset by changes related to Citi's pension liabilities, results in a net position that is more sensitive to rates at shorter- and intermediate-term maturities.

Changes in Foreign Exchange Rates—Impacts on *AOCI* and Capital

As of December 31, 2022, Citi estimates that an unanticipated parallel instantaneous 5% appreciation of the U.S. dollar against all of the other currencies in which Citi has invested capital could reduce Citi's tangible common equity (TCE) by approximately $1.7 billion, or 1.0%, as a result of changes to Citi's CTA in *AOCI*, net of hedges. This impact would be primarily due to changes in the value of the Mexican peso, Euro, Singapore dollar and Indian rupee.

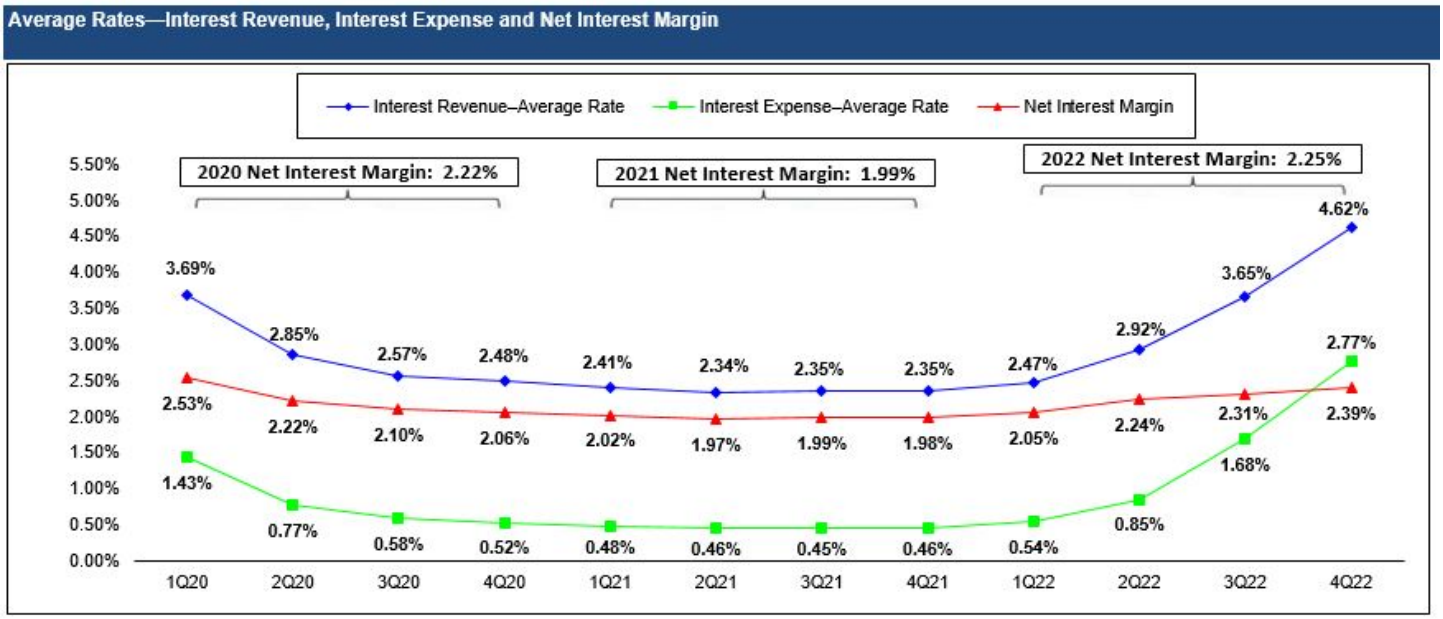
This impact is also before any mitigating actions Citi may take, including ongoing management of its foreign currency translation exposure. Specifically, as currency movements change the value of Citi's net investments in foreign currency-denominated capital, these movements also change the value of Citi's risk-weighted assets denominated in those currencies. This, coupled with Citi's foreign currency hedging strategies, such as foreign currency borrowings, foreign currency forwards and other currency hedging instruments, lessens the impact of foreign currency movements on Citi's CET1 Capital ratio. Changes in these hedging strategies, as well as hedging costs, divestitures and tax impacts, can further affect the actual impact of changes in foreign exchange rates on Citi's capital as compared to an unanticipated parallel shock, as described above.

The effect of Citi's ongoing management strategies with respect to quarterly changes in foreign exchange rates, and the quarterly impact of these changes on Citi's TCE and CET1 Capital ratio, are shown in the table below. See Note 20 for additional information on the changes in *AOCI*.

	For the quarter ended		
In millions of dollars, except as otherwise noted	**Dec. 31, 2022**	Sept. 30, 2022	Dec. 31, 2021
Change in FX spot rate[(1)]	**4.0 %**	(4.5)%	(0.6)%
Change in TCE due to FX translation, net of hedges	**$ 1,193**	$ (2,121)	$ (438)
As a percentage of TCE	**0.8 %**	(1.4)%	(0.3)%
Estimated impact to CET1 Capital ratio (on a fully implemented basis) due to changes in FX translation, net of hedges (bps)	**(3)**	(2)	(1)

(1) FX spot rate change is a weighted average based on Citi's quarterly average GAAP capital exposure to foreign countries.

Interest Revenue/Expense and Net Interest Margin (NIM)



In millions of dollars, except as otherwise noted	**2022**	2021	2020	**Change 2022 vs. 2021**	Change 2021 vs. 2020
Interest revenue[1]	**$ 74,573**	$ 50,667	$ 58,285	**47 %**	(13)%
Interest expense[2]	**25,740**	7,981	13,338	**223**	(40)
Net interest income, taxable equivalent basis[1]	**$ 48,833**	$ 42,686	$ 44,947	**14 %**	(5)%
Interest revenue—average rate[3]	**3.43 %**	2.36 %	2.88 %	**107 bps**	(52) bps
Interest expense—average rate	**1.48**	0.46	0.81	**102 bps**	(35) bps
Net interest margin[3][4]	**2.25**	1.99	2.22	**26 bps**	(23) bps
Interest rate benchmarks					
Two-year U.S. Treasury note—average rate	**2.99 %**	0.27 %	0.39 %	**272 bps**	(12) bps
10-year U.S. Treasury note—average rate	**2.95**	1.45	0.89	**150 bps**	56 bps
10-year vs. two-year spread	(4) **bps**	118 bps	50 bps		

(1) *Interest revenue* and *Net interest income* include the taxable equivalent adjustments primarily related to the tax-exempt bond portfolio and certain tax-advantaged loan programs (based on the U.S. federal statutory tax rate of 21%) of $165 million, $192 million and $196 million for 2022, 2021 and 2020, respectively.

(2) Interest expense associated with certain hybrid financial instruments, which are classified as *Long-term debt* and accounted for at fair value, is reported together with any changes in fair value as part of *Principal transactions* in the Consolidated Statement of Income and is therefore not reflected in *Interest expense* in the table above.

(3) The average rate on interest revenue and net interest margin reflects the taxable equivalent gross-up adjustment. See footnote 1 above.

(4) Citi's NIM is calculated by dividing net interest income by average interest-earning assets.

Non-*ICG* Markets Net Interest Income

In millions of dollars	**2022**	2021	2020
Net interest income—taxable equivalent basis[(1)] per above	**$ 48,833**	$ 42,686	$ 44,947
ICG Markets net interest income—taxable equivalent basis[(1)]	**5,173**	5,167	5,208
Non-*ICG* Markets net interest income—taxable equivalent basis[(1)]	**$ 43,660**	$ 37,519	$ 39,739

(1) *Interest revenue* and *Net interest income* include the taxable equivalent adjustments discussed in the table above.

Citi's net interest income in the fourth quarter of 2022 was $13.3 billion (also $13.3 billion on a taxable equivalent basis), an increase of $2.5 billion versus the prior year, primarily driven by non-*ICG* Markets (approximately $2.2 billion), as *ICG* Markets was largely unchanged (up approximately $0.3 billion across fixed income markets and equity markets). The increase in net interest income in non-*ICG* Markets was primarily driven by higher interest rates. Citi's net interest margin was 2.39% on a taxable equivalent basis in the fourth quarter of 2022, an increase of eight basis points from the prior quarter, also largely driven by higher interest rates.

Citi's net interest income for 2022 increased 15%, or approximately $6.2 billion, to $48.7 billion ($48.8 billion on a taxable equivalent basis) versus the prior year. The increase was primarily due to an increase in non-*ICG* Markets net interest income, largely reflecting higher interest rates and higher loan balances in *PBWM*. In 2022, Citi's net interest margin increased to 2.25% on a taxable equivalent basis, compared to 1.99% in 2021, primarily driven by higher interest rates and a mix-shift in balances.

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Additional Interest Rate Details

Average Balances and Interest Rates—Assets[1][2][3]

Taxable Equivalent Basis

	Average balance			Interest revenue			% Average rate		
In millions of dollars, except rates	**2022**	2021	2020	**2022**	2021	2020	**2022**	2021	2020
Assets									
Deposits with banks[4]	**$ 262,504**	$ 298,319	$ 288,629	**$ 4,515**	$ 577	$ 928	**1.72 %**	0.19 %	0.32 %
Securities borrowed and purchased under agreements to resell[5]									
In U.S. offices	**$ 188,672**	$ 172,716	$ 149,076	**$ 3,933**	$ 385	$ 1,202	**2.08 %**	0.22 %	0.81 %
In offices outside the U.S.[4]	**164,675**	149,944	138,074	**3,221**	667	1,081	**1.96**	0.44	0.78
Total	**$ 353,347**	$ 322,660	$ 287,150	**$ 7,154**	$ 1,052	$ 2,283	**2.02 %**	0.33 %	0.80 %
Trading account assets[6][7]									
In U.S. offices	**$ 142,146**	$ 140,215	$ 144,130	**$ 4,005**	$ 2,653	$ 3,624	**2.82 %**	1.89 %	2.51 %
In offices outside the U.S.[4]	**132,046**	151,722	134,078	**3,422**	2,718	2,509	**2.59**	1.79	1.87
Total	**$ 274,192**	$ 291,937	$ 278,208	**$ 7,427**	$ 5,371	$ 6,133	**2.71 %**	1.84 %	2.20 %
Investments									
In U.S. offices									
Taxable	**$ 355,012**	$ 322,884	$ 265,833	**$ 5,642**	$ 3,547	$ 3,860	**1.59 %**	1.10 %	1.45 %
Exempt from U.S. income tax	**11,742**	12,296	14,084	**424**	437	452	**3.61**	3.55	3.21
In offices outside the U.S.[4]	**150,968**	152,940	139,400	**5,210**	3,498	3,781	**3.45**	2.29	2.71
Total	**$ 517,722**	$ 488,120	$ 419,317	**$ 11,276**	$ 7,482	$ 8,093	**2.18 %**	1.53 %	1.93 %
Consumer loans[8]									
In U.S. offices	**$ 268,910**	$ 253,184	$ 258,614	**$ 23,127**	$ 19,810	$ 20,436	**8.60 %**	7.82 %	7.90 %
In offices outside the U.S.[4]	**86,497**	121,794	120,974	**5,264**	6,598	7,327	**6.09**	5.42	6.06
Total	**$ 355,407**	$ 374,978	$ 379,588	**$ 28,391**	$ 26,408	$ 27,763	**7.99 %**	7.04 %	7.31 %
Corporate loans[8]									
In U.S. offices	**$ 139,906**	$ 132,957	$ 138,232	**$ 5,417**	$ 4,213	$ 6,264	**3.87 %**	3.17 %	4.53 %
In offices outside the U.S.[4]	**158,008**	160,101	167,405	**7,528**	4,911	6,242	**4.76**	3.07	3.73
Total	**$ 297,914**	$ 293,058	$ 305,637	**$ 12,945**	$ 9,124	$ 12,506	**4.35 %**	3.11 %	4.09 %
Total loans[8]									
In U.S. offices	**$ 408,816**	$ 386,141	$ 396,846	**$ 28,544**	$ 24,023	$ 26,700	**6.98 %**	6.22 %	6.73 %
In offices outside the U.S.[4]	**244,505**	281,895	288,379	**12,792**	11,509	13,569	**5.23**	4.08	4.71
Total	**$ 653,321**	$ 668,036	$ 685,225	**$ 41,336**	$ 35,532	$ 40,269	**6.33 %**	5.32 %	5.88 %
Other interest-earning assets[9]	**$ 112,549**	$ 75,876	$ 67,547	**$ 2,865**	$ 653	$ 579	**2.55 %**	0.86 %	0.86 %
Total interest-earning assets	**$ 2,173,635**	$ 2,144,948	$ 2,026,076	**$ 74,573**	$ 50,667	$ 58,285	**3.43 %**	2.36 %	2.88 %
Non-interest-earning assets[6]	**$ 222,388**	$ 202,761	$ 200,378						
Total assets	**$ 2,396,023**	$ 2,347,709	$ 2,226,454						

(1) *Interest revenue* and *Net interest income* include the taxable equivalent adjustments primarily related to the tax-exempt bond portfolio and certain tax-advantaged loan programs (based on the U.S. federal statutory tax rate of 21%) of $165 million, $192 million and $196 million for 2022, 2021 and 2020, respectively.
(2) Interest rates and amounts include the effects of risk management activities associated with the respective asset categories.
(3) Monthly or quarterly averages have been used by certain subsidiaries where daily averages are unavailable.
(4) Average rates reflect prevailing local interest rates, including inflationary effects and monetary corrections in certain countries.
(5) Average volumes of securities borrowed or purchased under agreements to resell are reported net pursuant to ASC 210-20-45. However, *Interest revenue* excludes the impact of ASC 210-20-45.
(6) The fair value carrying amounts of derivative contracts are reported net, pursuant to ASC 815-10-45, in *Non-interest-earning assets* and *Other non-interest-bearing liabilities*.
(7) *Interest expense* on *Trading account liabilities* of *ICG* is reported as a reduction of *Interest revenue*. *Interest revenue* and *Interest expense* on cash collateral positions are reported in interest on *Trading account assets* and *Trading account liabilities*, respectively.
(8) Net of unearned income. Includes cash-basis loans.
(9) Includes assets from businesses held-for-sale (see Note 2) and *Brokerage receivables*.

Average Balances and Interest Rates—Liabilities and Equity, and Net Interest Income[1][2][3]

Taxable Equivalent Basis

	Average balance			Interest expense			% Average rate		
In millions of dollars, except rates	**2022**	2021	2020	**2022**	2021	2020	**2022**	2021	2020
Liabilities									
Deposits									
In U.S. offices[4]	**$ 572,394**	$ 532,466	$ 485,848	**$ 5,986**	$ 1,084	$ 2,524	**1.05 %**	0.20 %	0.52 %
In offices outside the U.S.[5]	**516,329**	557,207	541,301	**5,573**	1,812	2,810	**1.08**	0.33	0.52
Total	**$ 1,088,723**	$ 1,089,673	$ 1,027,149	**$ 11,559**	$ 2,896	$ 5,334	**1.06 %**	0.27 %	0.52 %
Securities loaned and sold under agreements to repurchase[6]									
In U.S. offices	**$ 112,771**	$ 136,955	$ 137,348	**$ 2,816**	$ 676	$ 1,292	**2.50 %**	0.49 %	0.94 %
In offices outside the U.S.[5]	**94,936**	93,744	79,426	**1,639**	336	785	**1.73**	0.36	0.99
Total	**$ 207,707**	$ 230,699	$ 216,774	**$ 4,455**	$ 1,012	$ 2,077	**2.14 %**	0.44 %	0.96 %
Trading account liabilities[7][8]									
In U.S. offices	**$ 52,166**	$ 47,871	$ 38,308	**$ 697**	$ 109	$ 283	**1.34 %**	0.23 %	0.74 %
In offices outside the U.S.[5]	**70,102**	67,739	52,051	**740**	373	345	**1.06**	0.55	0.66
Total	**$ 122,268**	$ 115,610	$ 90,359	**$ 1,437**	$ 482	$ 628	**1.18 %**	0.42 %	0.70 %
Short-term borrowings and other interest-bearing liabilities[9]									
In U.S. offices	**$ 95,054**	$ 69,683	$ 82,363	**$ 2,161**	$ (27)	$ 493	**2.27 %**	(0.04)%	0.60 %
In offices outside the U.S.[5]	**55,133**	26,133	20,053	**327**	148	137	**0.59**	0.57	0.68
Total	**$ 150,187**	$ 95,816	$ 102,416	**$ 2,488**	$ 121	$ 630	**1.66 %**	0.13 %	0.62 %
Long-term debt[10]									
In U.S. offices	**$ 166,063**	$ 186,522	$ 213,809	**$ 5,625**	$ 3,384	$ 4,656	**3.39 %**	1.81 %	2.18 %
In offices outside the U.S.[5]	**3,592**	4,282	3,918	**176**	86	13	**4.90**	2.01	0.33
Total	**$ 169,655**	$ 190,804	$ 217,727	**$ 5,801**	$ 3,470	$ 4,669	**3.42 %**	1.82 %	2.14 %
Total interest-bearing liabilities	**$ 1,738,540**	$ 1,722,602	$ 1,654,425	**$ 25,740**	$ 7,981	$ 13,338	**1.48 %**	0.46 %	0.81 %
Demand deposits in U.S. offices	**$ 135,725**	$ 98,414	$ 30,876						
Other non-interest-bearing liabilities[7]	**322,151**	324,643	346,736						
Total liabilities	**$ 2,196,416**	$ 2,145,659	$ 2,032,037						
Citigroup stockholders' equity	**$ 199,088**	$ 201,360	$ 193,769						
Noncontrolling interests	**519**	690	648						
Total equity	**$ 199,607**	$ 202,050	$ 194,417						
Total liabilities and stockholders' equity	**$ 2,396,023**	$ 2,347,709	$ 2,226,454						
Net interest income as a percentage of average interest-earning assets[11]									
In U.S. offices	**$ 1,272,222**	$ 1,244,182	$ 1,187,077	**$ 28,802**	$ 26,404	$ 27,520	**2.26 %**	2.12 %	2.32 %
In offices outside the U.S.[6]	**901,412**	900,766	838,999	**20,031**	16,282	17,427	**2.22**	1.81	2.08
Total	**$ 2,173,634**	$ 2,144,948	$ 2,026,076	**$ 48,833**	$ 42,686	$ 44,947	**2.25 %**	1.99 %	2.22 %

(1) *Interest revenue* and *Net interest income* include the taxable equivalent adjustments discussed in the table above.
(2) Interest rates and amounts include the effects of risk management activities associated with the respective liability categories.
(3) Monthly or quarterly averages have been used by certain subsidiaries where daily averages are unavailable.
(4) Consists of other time deposits and savings deposits. Savings deposits are made up of insured money market accounts, NOW accounts and other savings deposits.
(5) Average rates reflect prevailing local interest rates, including inflationary effects and monetary corrections in certain countries.
(6) Average volumes of securities sold under agreements to repurchase are reported net pursuant to ASC 210-20-45. However, *Interest expense* excludes the impact of ASC 210-20-45.
(7) The fair value carrying amounts of derivative contracts are reported net, pursuant to ASC 815-10-45, in *Non-interest-earning assets* and *Other non-interest-bearing liabilities*.
(8) *Interest expense* on *Trading account liabilities* of *ICG* is reported as a reduction of *Interest revenue*. *Interest revenue* and *Interest expense* on cash collateral positions are reported in interest on *Trading account assets* and *Trading account liabilities*, respectively.

(9) Includes *Brokerage payables*.
(10) Excludes hybrid financial instruments and beneficial interests in consolidated VIEs that are classified as *Long-term debt*, as the changes in fair value for these obligations are recorded in *Principal transactions*.
(11) Includes allocations for capital and funding costs based on the location of the asset.

Analysis of Changes in Interest Revenue[(1)(2)(3)]

	2022 vs. 2021			2021 vs. 2020		
	Increase (decrease) due to change in:			Increase (decrease) due to change in:		
In millions of dollars	Average balance	Average rate	Net change	Average balance	Average rate	Net change
Deposits with banks[(3)]	**$ (77)**	**$ 4,015**	**$ 3,938**	$ 30	$ (381)	$ (351)
Securities borrowed and purchased under agreements to resell						
In U.S. offices	**$ 39**	**$ 3,509**	**$ 3,548**	$ 166	$ (983)	$ (817)
In offices outside the U.S.[(3)]	**72**	**2,482**	**2,554**	86	(500)	(414)
Total	**$ 111**	**$ 5,991**	**$ 6,102**	$ 252	$ (1,483)	$ (1,231)
Trading account assets[(4)]						
In U.S. offices	**$ 37**	**$ 1,315**	**$ 1,352**	$ (96)	$ (875)	$ (971)
In offices outside the U.S.[(3)]	**(388)**	**1,092**	**704**	320	(111)	209
Total	**$ (351)**	**$ 2,407**	**$ 2,056**	$ 224	$ (986)	$ (762)
Investments[(1)]						
In U.S. offices	**$ 404**	**$ 1,678**	**$ 2,082**	$ 761	$ (1,089)	$ (328)
In offices outside the U.S.[(3)]	**(46)**	**1,758**	**1,712**	345	(628)	(283)
Total	**$ 358**	**$ 3,436**	**$ 3,794**	$ 1,106	$ (1,717)	$ (611)
Consumer loans (net of unearned income)[(5)]						
In U.S. offices	**$ 1,277**	**$ 2,040**	**$ 3,317**	$ (426)	$ (200)	$ (626)
In offices outside the U.S.[(3)]	**(2,078)**	**744**	**(1,334)**	49	(778)	(729)
Total	**$ (801)**	**$ 2,784**	**$ 1,983**	$ (377)	$ (978)	$ (1,355)
Corporate loans (net of unearned income)[(5)]						
In U.S. offices	**$ 230**	**$ 974**	**$ 1,204**	$ (231)	$ (1,820)	$ (2,051)
In offices outside the U.S.[(3)]	**(65)**	**2,682**	**2,617**	(263)	(1,068)	(1,331)
Total	**$ 165**	**$ 3,656**	**$ 3,821**	$ (494)	$ (2,888)	$ (3,382)
Loans (net of unearned income)[(5)]						
In U.S. offices	**$ 1,507**	**$ 3,014**	**$ 4,521**	$ (706)	$ (1,971)	$ (2,677)
In offices outside the U.S.[(3)]	**(2,143)**	**3,426**	**1,283**	(299)	(1,761)	(2,060)
Total	**$ (636)**	**$ 6,440**	**$ 5,804**	$ (1,005)	$ (3,732)	$ (4,737)
Other interest-earning assets[(6)]	**$ 438**	**$ 1,774**	**$ 2,212**	$ 72	$ 2	$ 74
Total interest revenue	**$ (157)**	**$ 24,063**	**$ 23,906**	$ 679	$ (8,297)	$ (7,618)

(1) *Interest revenue* and *Net interest income* include the taxable equivalent adjustments discussed in the table above.
(2) Rate/volume variance is allocated based on the percentage relationship of changes in volume and changes in rate to the total net change.
(3) Changes in average rates reflect changes in prevailing local interest rates, including inflationary effects and monetary corrections in certain countries.
(4) *Interest expense* on *Trading account liabilities* of *ICG* is reported as a reduction of *Interest revenue*. *Interest revenue* and *Interest expense* on cash collateral positions are reported in interest on *Trading account assets* and *Trading account liabilities*, respectively.
(5) Includes cash-basis loans.
(6) Includes *Brokerage receivables*.

***Analysis of Changes in Interest Expense and Net Interest Income*[1][2][3]**

	2022 vs. 2021			2021 vs. 2020		
	Increase (decrease) due to change in:			Increase (decrease) due to change in:		
In millions of dollars	**Average balance**	**Average rate**	**Net change**	Average balance	Average rate	Net change
Deposits						
In U.S. offices	**$ 87**	**$ 4,815**	**$ 4,902**	$ 222	$ (1,661)	$ (1,439)
In offices outside the U.S.[3]	**(142)**	**3,903**	**3,761**	80	(1,078)	(998)
Total	**$ (55)**	**$ 8,718**	**$ 8,663**	$ 302	$ (2,739)	$ (2,437)
Securities loaned and sold under agreements to repurchase						
In U.S. offices	**$ (140)**	**$ 2,280**	**$ 2,140**	$ (4)	$ (612)	$ (616)
In offices outside the U.S.[3]	**4**	**1,299**	**1,303**	122	(571)	(449)
Total	**$ (136)**	**$ 3,579**	**$ 3,443**	$ 118	$ (1,183)	$ (1,065)
Trading account liabilities[4]						
In U.S. offices	**$ 11**	**$ 577**	**$ 588**	$ 58	$ (232)	$ (174)
In offices outside the U.S.[3]	**13**	**354**	**367**	93	(65)	28
Total	**$ 24**	**$ 931**	**$ 955**	$ 151	$ (297)	$ (146)
Short-term borrowings and other interest-bearing liabilities[5]						
In U.S. offices	**$ (6)**	**$ 2,194**	**$ 2,188**	$ (66)	$ (454)	$ (520)
In offices outside the U.S.[3]	**172**	**7**	**179**	37	(26)	11
Total	**$ 166**	**$ 2,201**	**$ 2,367**	$ (29)	$ (480)	$ (509)
Long-term debt						
In U.S. offices	**$ (407)**	**$ 2,648**	**$ 2,241**	$ (551)	$ (721)	$ (1,272)
In offices outside the U.S.[3]	**(16)**	**106**	**90**	1	71	72
Total	**$ (423)**	**$ 2,754**	**$ 2,331**	$ (550)	$ (650)	$ (1,200)
Total interest expense	**$ (424)**	**$ 18,183**	**$ 17,759**	$ (8)	$ (5,349)	$ (5,357)
Net interest income	**$ 267**	**$ 5,880**	**$ 6,147**	$ 687	$ (2,948)	$ (2,261)

(1) *Interest revenue* and *Net interest income* include the taxable equivalent adjustments discussed in the table above.
(2) Rate/volume variance is allocated based on the percentage relationship of changes in volume and changes in rate to the total net change.
(3) Changes in average rates reflect changes in prevailing local interest rates, including inflationary effects and monetary corrections in certain countries.
(4) *Interest expense* on *Trading account liabilities* of *ICG* is reported as a reduction of *Interest revenue*. *Interest revenue* and *Interest expense* on cash collateral positions are reported in interest on *Trading account assets* and *Trading account liabilities*, respectively.
(5) Includes *Brokerage payables*.

Market Risk of Trading Portfolios

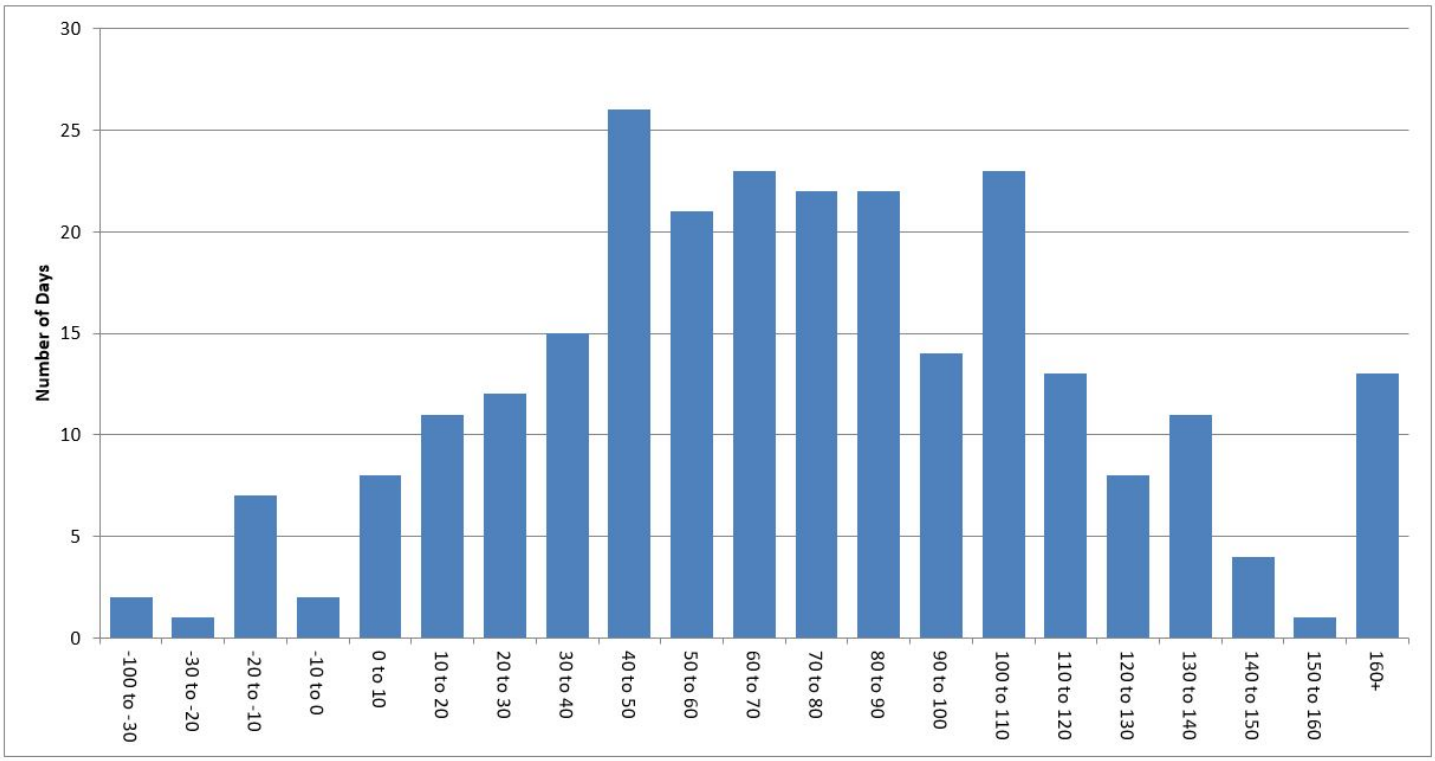
Trading portfolios include positions resulting from market-making activities, hedges of certain available-for-sale (AFS) debt securities, the CVA relating to derivative counterparties and all associated hedges, fair value option loans and hedges of the loan portfolio within capital markets origination in *ICG*.

The market risk of Citi's trading portfolios is monitored using a combination of quantitative and qualitative measures, including, but not limited to, factor sensitivities, value at risk (VAR) and stress testing. Each trading portfolio across Citi's businesses has its own market risk limit framework encompassing these measures and other controls, including trading mandates, new product approval, permitted product lists and pre-trade approval for larger, more complex and less liquid transactions.

The following chart of total daily trading-related revenue (loss) captures trading volatility and shows the number of days in which revenues for Citi's trading businesses fell within particular ranges. Trading-related revenue includes trading, net interest and other revenue associated with Citi's trading businesses. It excludes DVA, FVA and CVA adjustments incurred due to changes in the credit quality of counterparties, as well as any associated hedges of that CVA. In addition, it excludes fees and other revenue associated with capital markets origination activities. Trading-related revenues are driven by both customer flows and the changes in valuation of the trading inventory. As shown in the chart below, positive trading-related revenue was achieved for 95.4% of the trading days in 2022.

Daily Trading-Related Revenue (Loss)(1)—12 Months Ended December 31, 2022

In millions of dollars



(1) Reflects the effects of asymmetrical accounting for economic hedges of certain AFS debt securities. Specifically, the change in the fair value of hedging derivatives is included in trading-related revenue, while the offsetting change in the fair value of hedged AFS debt securities is included in *AOCI* and not reflected above.

Factor Sensitivities

Factor sensitivities are expressed as the change in the value of a position for a defined change in a market risk factor, such as a change in the value of a U.S. Treasury Bond for a one-basis-point change in interest rates. Citi's Global Market Risk function, within the Independent Risk Management organization, works to ensure that factor sensitivities are calculated, monitored and limited for all material risks taken in the trading portfolios.

Value at Risk (VAR)

VAR estimates, at a 99% confidence level, the potential decline in the value of a position or a portfolio under normal market conditions assuming a one-day holding period. VAR statistics, which are based on historical data, can be materially different across firms due to differences in portfolio composition, VAR methodologies and model parameters. As a result, Citi believes VAR statistics can be used more effectively as indicators of trends in risk-taking within a firm, rather than as a basis for inferring differences in risk-taking across firms.

Citi uses a single, independently approved Monte Carlo simulation VAR model (see "VAR Model Review and Validation" below), which has been designed to capture material risk sensitivities (such as first- and second-order sensitivities of positions to changes in market prices) of various asset classes/risk types (such as interest rate, credit spread, foreign exchange, equity and commodity risks). Citi's VAR includes positions that are measured at fair value; it does not include investment securities classified as AFS or HTM. See Note 13 for information on these securities.

Citi believes its VAR model is conservatively calibrated to incorporate fat-tail scaling and the greater of short-term (approximately the most recent month) and long-term (18 months for commodities and three years for others) market volatility. The Monte Carlo simulation involves approximately 550,000 market factors, making use of approximately 480,000 time series, with sensitivities updated daily, volatility parameters updated intra-monthly and correlation parameters updated monthly. The conservative features of the VAR calibration contribute an approximate 46% add-on to what would be a VAR estimated under the assumption of stable and perfectly, normally distributed markets.

As presented in the table below, Citi's average trading VAR increased $22 million from 2021 to 2022, mainly due to increased market volatility. Citi's average trading and credit portfolio VAR increased $23 million from 2021 to 2022 in line with trading VAR.

Year-end and Average Trading VAR and Trading and Credit Portfolio VAR

In millions of dollars	**December 31, 2022**	**2022 Average**	December 31, 2021	2021 Average
Interest rate	**$ 130**	**$ 100**	$ 50	$ 65
Credit spread	**78**	**74**	59	71
Covariance adjustment[1]	**(45)**	**(49)**	(35)	(42)
Fully diversified interest rate and credit spread[2]	**$ 163**	**$ 125**	$ 74	$ 94
Foreign exchange	**20**	**31**	36	42
Equity	**27**	**27**	29	33
Commodity	**32**	**41**	28	34
Covariance adjustment[1]	**(94)**	**(101)**	(88)	(102)
Total trading VAR—all market risk factors, including general and specific risk (excluding credit portfolios)[2]	**$ 148**	**$ 123**	$ 79	$ 101
Specific risk-only component[3]	**$ (4)**	**$ (2)**	$ 3	$ 1
Total trading VAR—general market risk factors only (excluding credit portfolios)	**$ 152**	**$ 125**	$ 76	$ 100
Incremental impact of the credit portfolio[4]	**$ 30**	**$ 31**	$ 45	$ 30
Total trading and credit portfolio VAR	**$ 178**	**$ 154**	$ 124	$ 131

(1) Covariance adjustment (also known as diversification benefit) equals the difference between the total VAR and the sum of the VARs tied to each risk type. The benefit reflects the fact that the risks within individual and across risk types are not perfectly correlated and, consequently, the total VAR on a given day will be lower than the sum of the VARs relating to each risk type. The determination of the primary drivers of changes to the covariance adjustment is made by an examination of the impact of both model parameter and position changes.

(2) The total trading VAR includes mark-to-market and certain fair value option trading positions in *ICG*, with the exception of hedges to the loan portfolio, fair value option loans and all CVA exposures. Available-for-sale and accrual exposures are not included.

(3) The specific risk-only component represents the level of equity and fixed income issuer-specific risk embedded in VAR.

(4) The credit portfolio is composed of mark-to-market positions associated with non-trading business units, the CVA relating to derivative counterparties and all associated CVA hedges. FVA and DVA are not included. The credit portfolio also includes hedges to the loan portfolio, fair value option loans and hedges to the leveraged finance pipeline within capital markets origination in *ICG*.

The table below provides the range of market factor VARs associated with Citi's total trading VAR, inclusive of specific risk:

	2022		2021	
In millions of dollars	**Low**	**High**	Low	High
Interest rate	**$ 45**	**$ 165**	$ 47	$ 96
Credit spread	**59**	**108**	54	96
Fully diversified interest rate and credit spread	**$ 72**	**$ 183**	$ 74	$ 123
Foreign exchange	**12**	**98**	33	49
Equity	**12**	**44**	21	50
Commodity	**27**	**104**	19	55
Total trading	**$ 78**	**$ 168**	$ 79	$ 130
Total trading and credit portfolio	**110**	**226**	108	166

Note: No covariance adjustment can be inferred from the above table as the high and low for each market factor will be from different close-of-business dates.

The following table provides the VAR for *ICG*, excluding the CVA relating to derivative counterparties, hedges of CVA, fair value option loans and hedges to the loan portfolio:

In millions of dollars	Dec. 31, 2022
Total—all market risk factors, including general and specific risk	**$ 150**
Average—during year	**$ 124**
High—during year	**166**
Low—during year	**81**

VAR Model Review and Validation

Generally, Citi's VAR review and model validation process entails reviewing the model framework, major assumptions and implementation of the mathematical algorithm. In addition, product-specific back-testing on portfolios is periodically completed as part of the ongoing model performance monitoring process and reviewed with Citi's U.S. banking regulators. Furthermore, Regulatory VAR back-testing (as described below) is performed against buy-and-hold profit and loss on a monthly basis for multiple sub-portfolios across the organization (trading desk level, *ICG* operating segment and Citigroup) and the results are shared with U.S. banking regulators.

Material VAR model and assumption changes must be independently validated within Citi's Independent Risk Management organization. All model changes, including those for the VAR model, are validated by the model validation group within Citi's Model Risk Management. In the event of significant model changes, parallel model runs are undertaken prior to implementation. In addition, significant model and assumption changes are subject to the periodic reviews and approval by Citi's U.S. banking regulators.

Citi uses the same independently validated VAR model for both Regulatory VAR and Risk Management VAR (i.e., total trading and total trading and credit portfolios VARs) and, as such, the model review and validation process for both purposes is as described above.

Regulatory VAR, which is calculated in accordance with Basel III, differs from Risk Management VAR due to the fact that certain positions included in Risk Management VAR are not eligible for market risk treatment in Regulatory VAR. The composition of Risk Management VAR is discussed under "Value at Risk" above. The applicability of the VAR model for positions eligible for market risk treatment under U.S. regulatory capital rules is periodically reviewed and approved by Citi's U.S. banking regulators.

In accordance with Basel III, Regulatory VAR includes all trading book-covered positions and all foreign exchange and commodity exposures. Pursuant to Basel III, Regulatory VAR excludes positions that fail to meet the intent and ability to trade requirements and are therefore classified as non-trading book and categories of exposures that are specifically excluded as covered positions. Regulatory VAR excludes CVA on derivative instruments and DVA on Citi's own fair value option liabilities. CVA hedges are excluded from Regulatory VAR and included in credit risk-weighted assets as computed under the Advanced Approaches for determining risk-weighted assets.

Regulatory VAR Back-Testing

In accordance with Basel III, Citi is required to perform back-testing to evaluate the effectiveness of its Regulatory VAR model. Regulatory VAR back-testing is the process in which the daily one-day VAR, at a 99% confidence interval, is compared to the buy-and-hold profit and loss (i.e., the profit and loss impact if the portfolio is held constant at the end of the day and re-priced the following day). Buy-and-hold profit and loss represents the daily mark-to-market profit and loss attributable to price movements in covered positions from the close of the previous business day. Buy-and-hold profit and loss excludes realized trading revenue, net interest, fees and commissions, intra-day trading profit and loss and changes in reserves.

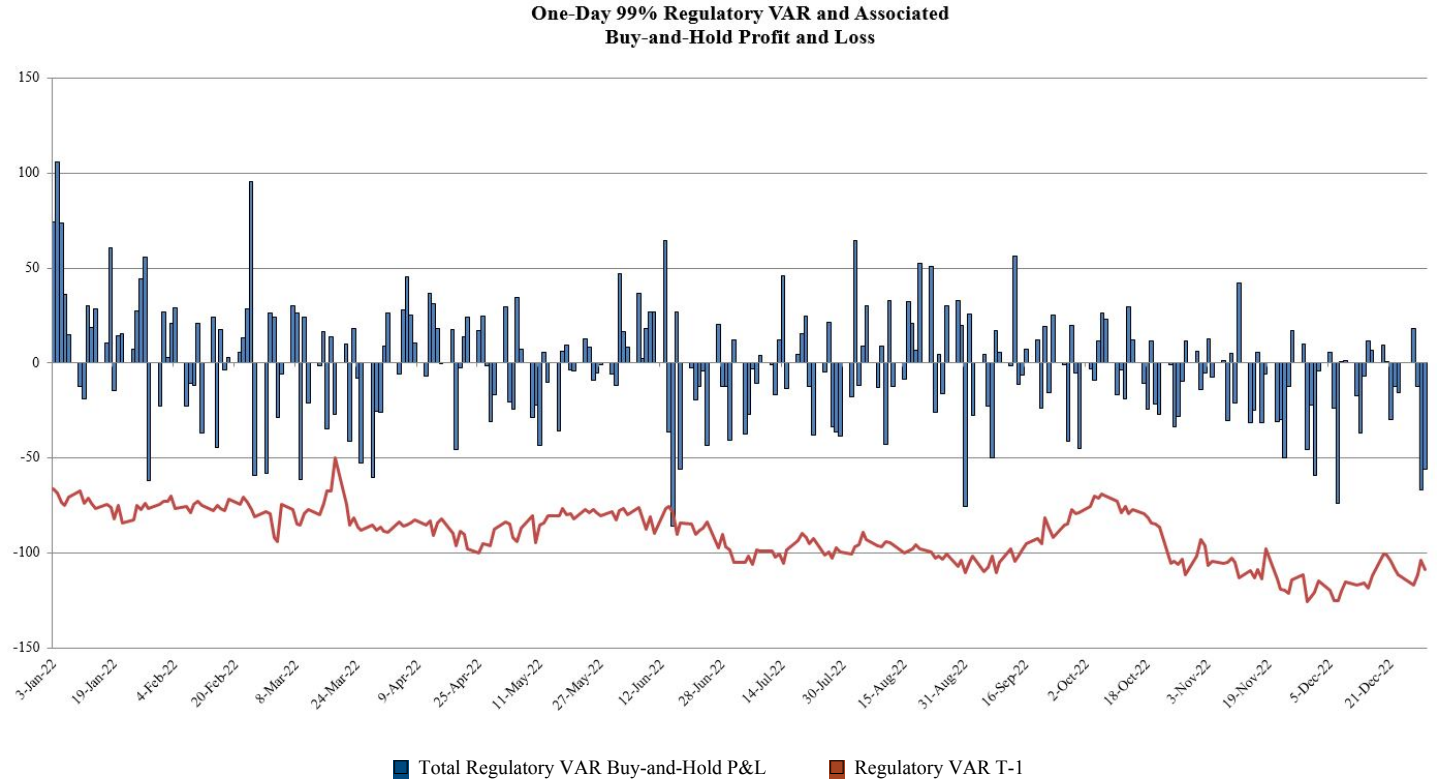
Based on a 99% confidence level, Citi would expect two to three days in any one year where buy-and-hold losses exceed the Regulatory VAR. Given the conservative calibration of Citi's VAR model (as a result of taking the greater of short- and long-term volatilities and fat-tail scaling of volatilities), Citi would expect fewer exceptions under normal and stable market conditions. Periods of unstable market conditions could increase the number of back-testing exceptions.

The following graph shows the daily buy-and-hold profit and loss associated with Citi's covered positions compared to Citi's one-day Regulatory VAR during 2022. During 2022, one back-testing exception was observed at the Citigroup level.

The difference between the 48.3% of days with buy-and-hold gains for Regulatory VAR back-testing and the 95.4% of days with trading, net interest and other revenue associated with Citi's trading businesses, shown in the histogram of daily trading-related revenue below, reflects, among other things, that a significant portion of Citi's trading-related revenue is not generated from daily price movements on these positions and exposures, as well as differences in the portfolio composition of Regulatory VAR and Risk Management VAR.

Regulatory Trading VAR and Associated Buy-and-Hold Profit and Loss[(1)]—12 Months Ended December 31, 2022

In millions of dollars



(1) Buy-and-hold profit and loss, as defined by the banking regulators under Basel III, represents the daily mark-to-market revenue movement attributable to the trading position from the close of the previous business day. Buy-and-hold profit and loss excludes realized trading revenue and net interest intra-day trading profit and loss on new and terminated trades, as well as changes in reserves. Therefore, it is not comparable to the trading-related revenue presented in the chart of daily trading-related revenue above.

Stress Testing

Citi performs market risk stress testing on a regular basis to estimate the impact of extreme market movements. It is performed on individual positions and trading portfolios, as well as in aggregate, inclusive of multiple trading portfolios. Citi's market risk management, after consultations with the businesses, develops both systemic and specific stress scenarios, reviews the output of periodic stress testing exercises and uses the information to assess the ongoing appropriateness of exposure levels and limits. Citi uses two complementary approaches to market risk stress testing across all major risk factors (i.e., equity, foreign exchange, commodity, interest rate and credit spreads): top-down systemic stresses and bottom-up business-specific stresses. Systemic stresses are designed to quantify the potential impact of extreme market movements on an institution-wide basis, and are constructed using both historical periods of market stress and projections of adverse economic scenarios. Business-specific stresses are designed to probe the risks of particular portfolios and market segments, especially those risks that are not fully captured in VAR and systemic stresses.

The systemic stress scenarios and business-specific stress scenarios at Citi are used in several reports reviewed by senior management and also to calculate internal risk capital for trading market risk. In general, changes in market values are defined over a one-year horizon. For the most liquid positions and market factors, changes in market values are defined over a shorter two-month horizon. The limited set of positions and market factors whose market value changes are defined over a two-month horizon are those that in management's judgment have historically remained very liquid during financial crises, even as the trading liquidity of most other positions and market factors materially declined.

OPERATIONAL RISK

Overview

Operational risk is the risk of loss resulting from inadequate or failed internal processes or systems, including human error or misjudgment, or from external events. This includes legal risk, which is the risk of loss (including litigation costs, settlements and regulatory fines) resulting from the failure of Citi to comply with laws, regulations, prudent ethical standards and contractual obligations in any aspect of its businesses, but excludes strategic and reputation risks. Citi also recognizes the impact of operational risk on the reputation risk associated with Citi's business activities.

Operational risk is inherent in Citi's global business activities, as well as related support functions, and can result in losses. Citi maintains a comprehensive Company-wide risk taxonomy to classify operational risks that it faces using standardized definitions across Citi's Operational Risk Management Framework (see discussion below). This taxonomy also supports regulatory requirements and expectations inclusive of those related to U.S. Basel III, Comprehensive Capital Analysis and Review (CCAR), Heightened Standards for Large Financial Institutions and Dodd-Frank Act Stress Testing (DFAST).

Citi manages operational risk consistent with the overall framework described in "Managing Global Risk—Overview" above. Citi's goal is to keep operational risk at appropriate levels relative to the characteristics of its businesses, the markets in which it operates, its capital and liquidity and the competitive, economic and regulatory environment. This includes effectively managing operational risk and maintaining or reducing operational risk exposures within Citi's operational risk appetite.

Citi's Independent Operational Risk Management group has established a global Operational Risk Management Framework with policies and practices for identification, measurement, monitoring, managing and reporting operational risks and the overall operating effectiveness of the internal control environment. As part of this framework, Citi has defined its operational risk appetite and established a manager's control assessment (MCA) process for self-identification of significant operational risks, assessment of the performance of key controls and mitigation of residual risk above acceptable levels.

Each Citi operating segment must implement operational risk processes consistent with the requirements of this framework. This includes:

- understanding the operational risks they are exposed to;
- designing controls to mitigate identified risks;
- establishing key indicators;
- monitoring and reporting whether the operational risk exposures are in or out of their operational risk appetite;
- having processes in place to bring operational risk exposures within acceptable levels;
- periodically estimating and aggregating the operational risks they are exposed to; and
- ensuring that sufficient resources are available to actively improve the operational risk environment and mitigate emerging risks.

Citi considers operational risks that result from the introduction of new or changes to existing products, or result from significant changes in its organizational structures, systems, processes and personnel.

Citi has a governance structure for the oversight of operational risk exposures through Business Risk and Controls Committees (BRCCs), which include a Citigroup Global BRCC as well as business, functions, regional and country BRCCs. BRCCs provide escalation channels for senior management to review operational risk exposures including breaches of operational risk appetite, key indicators, operational risk events and control issues. Membership includes senior business and functions leadership as well as members of the second line of defense.

In addition, Independent Risk Management, including the Operational Risk Management group, works proactively with Citi's businesses and functions to drive a strong and embedded operational risk management culture and framework across Citi. The Operational Risk Management group actively challenges business and functions implementation of the Operational Risk Management Framework requirements and the quality of operational risk management practices and outcomes.

Information about businesses' key operational risks, historical operational risk losses and the control environment is reported by each major business segment and functional area. Citi's operational risk profile and related information is summarized and reported to senior management, as well as to the Audit and Risk Committees of Citi's Board of Directors by the Head of Operational Risk Management.

Operational risk is measured through Operational Risk Capital and Operational Risk Regulatory Capital for the Advanced Approaches under Basel III. Projected operational risk losses under stress scenarios are estimated as a required part of the FRB's CCAR process.

For additional information on Citi's operational risks, see "Risk Factors—Operational Risk" above.

Cybersecurity Risk

Overview

Cybersecurity risk is the business risk associated with the threat posed by a cyberattack, cyber breach or the failure to protect Citi's most vital business information assets or operations, resulting in a financial or reputational loss (for additional information, see the operational processes and systems and cybersecurity risk factors in "Risk Factors—Operational Risks" above). With an evolving threat landscape, ever-increasing sophistication of threat actor tactics, techniques and procedures, and use of new technologies to conduct financial transactions, Citi and its clients, customers and third parties are and will continue to be at risk from cyberattacks and information security incidents. Citi recognizes the significance of these risks and, therefore, leverages a threat-focused strategy to protect against, detect and respond to, and recover from cyberattacks. Further, Citi actively participates in financial industry, government and cross-sector knowledge-sharing groups to enhance individual and collective cybersecurity preparedness and resilience.

Risk Management

Citi's technology and cybersecurity risk management program is built on three lines of defense. Citi's first line of defense under the Office of the Chief Information Security Officer provides frontline business, operational and technical controls and capabilities to protect against cybersecurity risks, and to respond to cyber incidents and data breaches. Citi manages these threats through state-of-the-art Fusion Centers, which serve as central commands for monitoring and coordinating responses to cyber threats. The enterprise information security team is responsible for infrastructure defense and security controls, performing vulnerability assessments and third-party information security assessments, employee awareness and training programs and security incident management. In each case the team works in coordination with a network of information security officers who are embedded within the businesses and functions globally.

Citi's Operational Risk Management-Technology and Cyber (ORM-T/C) and Independent Compliance Risk Management-Technology and Information Security (ICRM-T) groups serve as the second line of defense, and actively evaluate, anticipate and challenge Citi's risk mitigation practices and capabilities. Citi seeks to proactively identify and remediate technology and cybersecurity risks before they materialize as incidents that negatively affect business operations. Accordingly, the ORM-T/C team independently challenges and monitors capabilities in accordance with Citi's defined Technology and Cyber Risk Appetite statements. To address evolving cybersecurity risks and corresponding regulations, ORM-T/C and ICRM-T teams collectively also monitor cyber legal and regulatory requirements, identify and define emerging risks, execute strategic cyber threat assessments, perform new products and initiative reviews, perform data management risk oversight and conduct cyber risk assurance reviews (inclusive of third-party assessments). In addition, ORM-T/C employs tools and oversees and challenges metrics that are both tailored to cybersecurity and technology and aligned with Citi's overall operational risk management framework to effectively track, identify and manage risk.

Internal audit serves as the third line of defense and independently provides assurance on how effectively the organization as a whole manages cybersecurity risk. Citi also has multiple senior committees such as the Information Security Risk Committee (ISRC), which governs enterprise-level risk tolerance inclusive of cybersecurity risk.

Board Oversight

Citi's Board of Directors and/or one or more Board Committees provides oversight of management's efforts to mitigate cybersecurity risk and respond to cyber incidents. The Board and/or one or more Board Committees receives regular reports on cybersecurity and engages in discussions throughout the year with management and subject-matter experts on the effectiveness of Citi's overall cybersecurity program. The Board and/or one or more Board Committees also obtains updates on Citi's inherent cybersecurity risks and Citi's road map and progress for addressing these risks.

Moreover, Citi's Board and its committee members receive contemporaneous reporting on significant cyber events including response, legal obligations, and outreach and notification to regulators, and customers when needed, as well as guidance to management as appropriate. On an annual basis, the Board's Risk Management Committee approved a standalone Cybersecurity Risk Appetite Statement against which Citi's performance is measured quarterly. For additional information on the Board's oversight of cybersecurity risk management, see Citi's upcoming 2023 Proxy Statement to be filed with the SEC in March 2023.

COMPLIANCE RISK

Compliance risk is the risk to current or projected financial condition and resilience arising from violations of laws, rules, or regulations, or from non-conformance with prescribed practices, internal policies and procedures or ethical standards. Compliance risk exposes Citi to fines, civil money penalties, payment of damages and the voiding of contracts. Compliance risk can result in diminished reputation, harm to Citi's customers, limited business opportunities and lessened expansion potential. It encompasses the risk of noncompliance with all laws and regulations, as well as prudent ethical standards and some contractual obligations. It could also include exposure to litigation (known as legal risk) from all aspects of traditional and non-traditional banking.

Citi seeks to operate with integrity, maintain strong ethical standards and adhere to applicable policies and regulatory and legal requirements. Citi must maintain and execute a proactive Compliance Risk Management (CRM) Framework (as set forth in the CRM Policy) that is designed to manage compliance risk effectively across Citi, with a view to fundamentally strengthen the compliance risk management culture across the lines of defense taking into account Citi's risk governance framework and regulatory requirements. Independent Compliance Risk Management's (ICRM) primary objectives are to:

- Drive and embed a culture of compliance and control throughout Citi;
- Maintain and oversee an integrated CRM Framework that facilitates enterprise-wide compliance with local, national or cross-border laws, rules or regulations, Citi's internal policies, standards and procedures and relevant standards of conduct;
- Assess compliance risks and issues across product lines, functions and geographies, supported by globally consistent systems and compliance risk management processes; and
- Provide compliance risk data aggregation and reporting capabilities.

Citi carries out its objectives and fulfills its responsibilities through the CRM Framework, which is composed of the following integrated key activities, to holistically manage compliance risk:

- Management of Citi's compliance with laws, rules and regulations by identifying and analyzing changes, assessing the impact, and implementing appropriate policies, processes and controls;

- Developing and providing compliance training to ensure colleagues are aware of and understand the key laws, rules and regulations;
- Monitoring the Compliance Risk Appetite, which is articulated through qualitative compliance risk statements describing Citi's appetite for certain types of risk and quantitative measures to monitor the Company's compliance risk exposure;
- Executing Compliance Risk Assessments, the results of which inform Compliance Risk Monitoring and testing of compliance risks and controls in assessing conformance with laws, rules, regulations and internal policies; and
- Issue identification, escalation and remediation to drive accountability, including measurement and reporting of compliance risk metrics against established thresholds in support of the CRM Policy and Compliance Risk Appetite.

To anticipate, control and mitigate compliance risk, Citi has established the CRM Policy to achieve standardization and centralization of methodologies and processes, and to enable more consistent and comprehensive execution of compliance risk management.

Citi has a commitment, as well as an obligation, to identify, assess and mitigate compliance risks associated with its businesses and functions. ICRM is responsible for oversight of Citi's CRM Policy, while all businesses and global control functions are responsible for managing their compliance risks and operating within the Compliance Risk Appetite.

As discussed above, Citi is working to address the FRB and OCC consent orders, which include improvements to Citi's CRM Framework and its enterprise-wide application (for additional information regarding the consent orders, see "Citi's Consent Order Compliance" above).

REPUTATION RISK

Citi's reputation is a vital asset in building trust and Citi is diligent in enhancing and protecting its reputation with its key stakeholders. To support this, Citi has developed a reputation risk framework. Under this framework, Citigroup and Citibank, N.A. have implemented a risk appetite statement and related key indicators to monitor corporate activities and operations relative to Citi's risk appetite. The framework also requires that business segments and regions escalate potential material reputation risks that require review or mitigation through a Reputation Risk Committee or equivalent.

The Reputation Risk Committees, which are composed of Citi's senior executives, govern the process by which material reputation risks are identified, measured, monitored, controlled and reported. The Reputation Risk Committees determine the appropriate actions to be taken in line with risk appetite and regulatory expectations, while promoting a culture of risk awareness and high standards of integrity and ethical behavior across the Company, consistent with Citi's Mission and Value Proposition. The Citigroup Reputation Risk Committee may escalate reputation risks to the Nomination, Governance and Public Affairs Committee or other appropriate committee of the Citigroup Board of Directors.

Every Citi employee is responsible for safeguarding Citi's reputation, guided by Citi's Code of Conduct. Colleagues are expected to exercise sound judgment and common sense in decisions and actions. They are also expected to promptly escalate all issues that present material reputation risk in line with policy.

STRATEGIC RISK

As discussed above, strategic risk is the risk of a sustained impact (not episodic impact) to Citi's core strategic objectives as measured by impacts on anticipated earnings, market capitalization, or capital, arising from external factors affecting the Company's operating environment, as well as the risks associated with defining the strategy and executing the strategy, which are identified, measured and managed as part of the Strategic Risk Framework at the Enterprise Level.

In this context, external factors affecting Citi's operating environment are the economic environment, geopolitical/political landscape, industry/competitive landscape, societal trends, customer/client behavior, regulatory/legislative environment and trends related to investors/shareholders.

Citi's Executive Management Team is responsible for the development and execution of Citi's strategy. This strategy is translated into forward-looking plans (collectively Citi's Strategic Plan) that are then cascaded across the organization. Citi's Strategic Plan is presented to the Board on an annual basis, and is aligned with risk appetite thresholds and includes a risk assessment as required by internal frameworks. It is also aligned with limit requirements for capital allocation. Governance and oversight of strategic risk is facilitated by internal committees on a group-wide basis as well as strategic committees at the operating segment and regional levels.

Citi works to ensure that strategic risks are adequately considered and addressed across its various risk management activities, and that strategic risks are assessed in the context of Citi's risk appetite. Citi conducts a top-down, bottom-up risk identification process to identify risks, including strategic risks. Business segments undertake a quarterly risk identification process to systematically identify and document all material risks faced by Citi. Independent Risk Management oversees the risk identification process through regular reviews and coordinates identification and monitoring of top risks. In addition, Citi performs a quarterly Risk Assessment of the Plan (RAOP) and continuously monitors risks associated with its execution of strategy. Independent Risk Management also manages strategic risk by monitoring risk appetite thresholds in conjunction with various strategic risk committees, which are part of the governance structure that Citi has in place to manage its strategic risks.

For additional information on Citi's strategic risks, see "Risk Factors—Strategic Risks" above.

Climate Risk

Climate change presents immediate and long-term risks to Citi and its clients and customers, with the risks expected to increase over time. Climate risk refers to the risk of loss arising from climate change and comprises both physical risk and transition risk. Physical risk considers how chronic and acute climate change (e.g., increased storms, drought, fires, floods) can directly damage physical assets (e.g., real estate,

crops) or otherwise impact their value or productivity. Transition risk considers how changes in policy, technology, business practices and market preferences to address climate change (e.g., carbon pricing policies, power generation shifts from fossil fuels to renewable energy) can lead to changes in the value of assets, commodities and companies.

Climate risk is an overarching risk that can act as a driver of other categories of risk, such as credit risk from obligors exposed to high climate risk, strategic risks if Citi fails to consider transition risk in client selection, reputational risk from increased stakeholder concerns about financing high-carbon industries and operational risk from physical risks to Citi's facilities and personnel. Citi's focus on climate risk continues to increase, driven by materiality of strategic, reputational and financial risk considerations. Citi continues to make progress toward embedding these considerations into its overarching risk management approach. For additional information on climate risk, see "Risk Factors—Strategic Risks" above.

Citi reviews factors related to climate risk under its Environmental and Social Risk Management (ESRM) Policy, which includes a focus on climate risk related to financed projects and clients in high-carbon sectors. Considering the credit risk of stranded assets, as well as the reputational risks associated with the coal sector due to its high-carbon emissions, Citi's ESRM Policy includes a prohibition on all project-related financing of new coal-fired power plants and new or expanding thermal coal mines, as well as timetables to reduce financing of companies with high exposure to coal-fired power and coal mining that do not pursue low-carbon transition in the coming years. These sector approaches set clear expectations for clients and help address certain climate risk-driven credit risk concerns while reducing reputation risk.

Citi continues to explore and test methodologies for quantifying how climate risks could impact the individual credit profiles of its clients across various sectors. To assist in embedding climate risk assessments in its credit assessment process, Citi has developed sector-specific climate risk assessments. Such climate risk assessments are designed to supplement publicly available client disclosures and data provided from third-party vendors and facilitate conversations with clients on their most material climate risks and management plans for adaptation and mitigation. Citi's assessments consider sectors that have been identified as higher climate risk by its risk identification process. This will help Citi better understand its clients' businesses and climate-related risks. Citi's Net Zero plan is leading to the further integration of climate risk discussions into client engagement and client selection.

Citi continues to develop globally consistent principles and approaches for managing climate risk across the Company through the implementation of its Climate Risk Management Framework. Through this implementation, climate risk is being embedded into relevant policies and processes over time.

Furthermore, Citi continues to participate in financial industry initiatives and develop and pilot new methodologies and approaches for measuring and assessing the potential financial risks of climate change. Citi also continues to monitor regulatory developments on climate risk and sustainable finance and actively engage with regulators on these topics.

For additional information about sustainability and other ESG matters at Citi, see "Sustainability and Other ESG Matters" above.

OTHER RISKS

LIBOR Transition Risk

As previously disclosed, the LIBOR administrator ceased publication of non-USD LIBOR and one-week and two-month USD LIBOR on a permanent or representative basis on December 31, 2021, with plans for all other USD LIBOR tenors to permanently cease or become non-representative after June 30, 2023. As a result, Citi ceased entering into new contracts referencing USD LIBOR as of January 1, 2022, other than for limited circumstances where regulators recognized that it may be appropriate for banks to enter into new USD LIBOR contracts, including with respect to market-making, hedging or novations of USD transactions executed before January 1, 2022. (For information about risks to Citi from a transition away from and discontinuation of LIBOR or any other benchmark rates, see "Risk Factors—Other Risks" above.)

During 2022, Citi continued its efforts to manage its LIBOR transition risks. Citi has been focused on further reducing its LIBOR exposure and remediating its remaining outstanding LIBOR-linked contracts. In addition, Citi has continued to monitor and engage on legislative, regulatory and other initiatives and developments related to LIBOR transition matters.

As of December 31, 2022, Citi had a USD LIBOR-linked gross notional exposure of approximately $7.1 trillion that matures after the LIBOR cessation date of June 30, 2023, of which approximately $7 trillion relates to derivatives. This derivatives exposure includes (i) bilateral derivatives with a gross notional of approximately $2.5 trillion of which 96% is already remediated through inclusion of ISDA fallbacks and (ii) cleared derivatives with a gross notional of approximately $4.5 trillion that will be covered by the Central Counterparty Clearing House (CCP) conversions planned for the second quarter of 2023.

The remaining gross notional of approximately $0.15 trillion relates to cash products (e.g., loans, debt securities, preferred stock and securitizations), which Citi continues to address through active conversion or insertion of robust contract fallback language or is covered by legislative solutions such as the Adjustable Interest Rate (LIBOR) Act (see the discussion below). Due to rounding, USD LIBOR-linked derivatives and cash products exposure may not sum to total USD LIBOR-linked gross notional exposure.

In the U.S., the LIBOR Act provides for the use of a statutory replacement for the overnight, one-month, three-month, six-month and 12-month tenors of USD LIBOR in all contracts governed by U.S. law that lack adequate fallback provisions. As required by the LIBOR Act, each proposed replacement rate, which differs depending on product type, is based on the Secured Overnight Financing Rate (SOFR). Citi's USD LIBOR-linked securities and contracts that do not have adequate fallbacks as described in the LIBOR Act and

that are governed by U.S. law will fall within the application of the LIBOR Act. As a result, USD LIBOR in these contracts will be replaced with SOFR plus the applicable spread adjustment.

Citi is focused on remediating contracts that reference the USD LIBOR Ice Swap Rate and non-U.S. law contracts, which are not covered by the LIBOR Act. As of December 31, 2022, Citi had a USD LIBOR Ice Swap Rate gross notional exposure of approximately $0.17 trillion. This includes approximately $0.16 trillion of bilateral derivatives, of which 79% has already been remediated through inclusion of ISDA fallbacks, and approximately $0.01 trillion of debt securities that Citi is addressing through its remediation action plans. The USD LIBOR Ice Swap Rate is a separate rate from USD LIBOR and is not included in the USD LIBOR-linked gross notional exposure.

On November 23, 2022, the FCA proposed the publication of one-, three- and six-month USD LIBOR on a synthetic basis through September 2024, which would provide additional time for non-U.S.-law-governed contracts and any contracts that reference the USD LIBOR Ice Swap Rate to be remediated or mature.

Further, Citi continued to engage with regulators, financial accounting bodies and others on LIBOR transition matters. This included participating in a number of working groups, including the Alternative Reference Rates Committee (ARRC) convened by the FRB, to promote and advance development of SOFR and seek to identify and address potential challenges from LIBOR transition.

Citi has also continued to use alternative reference rates in certain newly issued financial instruments. Citi has issued floating rate benchmark and customer-related debt linked to SOFR and originated and arranged loans linked to SOFR. Citi’s derivatives contracts are predominantly linked to SOFR and other global alternative reference rates. Citi also provides term SOFR-linked products to clients in accordance with industry best practices and recommendations.

Country Risk

Top 25 Country Exposures

The following table presents Citi's top 25 exposures by country (excluding the U.S.) as of December 31, 2022. (Including the U.S., the total exposure as of December 31, 2022 to the top 25 countries would represent approximately 98% of Citi's exposure to all countries.)

For purposes of the table, loan amounts are reflected in the country where the loan is booked, which is generally based on the domicile of the borrower. For example, a loan to a Chinese subsidiary of a Switzerland-based corporation will generally be categorized as a loan in China. In addition, Citi has developed regional booking centers in certain countries, most significantly in the United Kingdom (U.K.) and Ireland, in order to more efficiently serve its corporate customers. As an example, with respect to the U.K., only 38% of corporate loans presented in the table below are to U.K. domiciled entities (40% for unfunded commitments), with the balance of the loans predominately to European domiciled counterparties. Approximately 90% of the total U.K. funded loans and 89% of the total U.K. unfunded commitments were investment grade as of December 31, 2022.

Trading account assets and investment securities are generally categorized based on the domicile of the issuer of the security of the underlying reference entity. For additional information on the assets included in the table, see the footnotes to the table below.

In billions of dollars	ICG loans	PBWM loans[1]	Legacy Franchises loans	Loans transferred to HFS[7]	Other funded[2]	Unfunded[3]	Net MTM on derivatives/ repos[4]	Total hedges (on loans and CVA)	Investment securities[5]	Trading account assets[6]	Total as of 4Q22	Total as of 3Q22	Total as of 4Q21	Total as a % of Citi as of 4Q22
United Kingdom	$34.1	$ 4.9	$ —	$ —	$ 1.1	$ 38.7	$ 11.2	$ (6.3)	$ 4.9	$ (0.1)	**$88.5**	$93.0	$ 95.9	5.1 %
Mexico	8.4	0.1	21.9	—	0.3	8.4	2.0	(2.1)	19.3	2.9	**61.2**	56.3	59.6	3.5
Hong Kong	9.0	19.7	—	—	0.4	6.7	1.7	(1.2)	10.8	1.2	**48.3**	50.2	50.4	2.8
Ireland	14.6	—	—	—	0.5	31.6	0.2	(0.2)	—	0.7	**47.4**	50.3	44.5	2.7
Singapore	9.1	18.7	—	—	0.2	6.2	0.9	(0.5)	9.3	1.3	**45.2**	44.5	45.7	2.6
Brazil	12.2	—	—	—	0.1	3.3	7.0	(1.0)	7.0	0.1	**28.7**	29.8	27.3	1.6
India	6.3	—	—	3.4	0.8	4.4	1.6	(0.6)	8.6	0.8	**25.3**	25.6	29.8	1.5
South Korea	3.7	—	8.7	—	0.1	2.1	1.5	(0.9)	8.1	0.4	**23.7**	22.8	32.0	1.4
Germany	0.5	—	—	—	0.2	6.6	7.7	(4.1)	9.1	2.6	**22.6**	20.4	19.4	1.3
China	5.2	—	2.9	—	0.8	1.7	1.0	(1.2)	9.1	1.2	**20.7**	19.1	23.4	1.2
Japan	1.5	—	—	—	—	4.0	3.1	(2.3)	5.1	7.6	**19.0**	17.9	15.9	1.1
United Arab Emirates	7.2	1.5	—	—	1.0	5.8	0.2	(0.4)	2.1	—	**17.4**	15.8	14.9	1.0
Jersey	2.4	3.3	—	—	—	10.3	—	(0.1)	—	—	**15.9**	16.1	17.7	0.9
Poland	3.1	—	1.4	—	—	2.8	0.6	(0.1)	7.3	0.5	**15.6**	12.5	13.1	0.9
Canada	1.5	1.5	—	—	0.1	6.2	1.7	(1.9)	3.7	2.4	**15.2**	15.8	14.7	0.9
Australia[8]	8.7	0.4	—	—	—	5.4	0.8	(1.0)	0.8	(0.7)	**14.4**	14.5	16.4	0.8
Taiwan	4.0	—	—	7.9	0.1	1.2	0.4	(0.1)	0.2	0.1	**13.8**	14.4	15.3	0.8
Indonesia	1.8	—	—	0.5	—	1.2	1.5	(0.2)	1.0	0.1	**5.9**	5.6	5.5	0.3
Malaysia	1.4	—	—	—	0.2	0.7	0.1	—	3.1	(0.1)	**5.4**	8.0	7.8	0.3
Philippines[9]	0.8	—	—	—	0.1	0.2	2.4	—	1.8	(0.3)	**5.0**	5.3	2.3	0.3
Luxembourg	0.1	0.9	—	—	—	—	0.2	(0.3)	3.7	0.1	**4.7**	4.4	4.0	0.3
South Africa	1.5	—	—	—	—	0.5	—	(0.2)	2.5	0.1	**4.4**	4.3	3.8	0.3
Thailand	1.2	—	—	—	—	0.3	0.1	—	2.4	0.2	**4.2**	7.4	7.9	0.2
Czech Republic	0.7	—	—	—	—	0.9	2.0	—	0.4	—	**4.0**	3.2	3.5	0.2
Chile	1.0	—	—	—	2.2	0.1	0.1	—	—	—	**3.4**	3.2	2.5	0.2
Total as a % of Citi's total exposure														**32.2 %**
Total as a % of Citi's non-U.S. total exposure														**93.9 %**

(1) *PBWM* loans reflect funded loans, including those related to the Private bank, net of unearned income. As of December 31, 2022, Private bank loans in the table above totaled $19.8 billion, concentrated in Singapore ($5.2 billion), the U.K. ($4.8 billion) and Hong Kong ($4.1 billion).

(2) Other funded includes other direct exposures such as accounts receivable and investments accounted for under the equity method.

(3) Unfunded exposure includes unfunded corporate lending commitments, letters of credit and other contingencies.

(4) Net mark-to-market (MTM) counterparty risk on OTC derivatives and securities lending/borrowing transactions (repos). Exposures are shown net of collateral and inclusive of CVA. Also includes margin loans.
(5) Investment securities include debt securities available-for-sale, recorded at fair market value, and debt securities held-to-maturity, recorded at amortized cost.
(6) Trading account assets are shown on a net basis and include issuer risk on cash products and derivative exposure where the underlying reference entity/issuer is located in that country.
(7) December 31, 2022, September 30, 2022 and December 31, 2021 include *Legacy Franchises* loans reclassified to HFS as a result of Citi's agreement to sell its consumer banking business in each applicable country. For additional information, see "*Legacy Franchises*" above and Note 2.
(8) December 31, 2021 includes *Legacy Franchises* loans reclassified to HFS as a result of Citi's agreement to sell its consumer banking business in Australia, which closed on June 1, 2022. For additional information, see "*Legacy Franchises*" above and Note 2.
(9) December 31, 2021 includes *Legacy Franchises* loans reclassified to HFS as a result of Citi's agreement to sell its consumer banking business in the Philippines, which closed on August 1, 2022. For additional information, see "*Legacy Franchises*" above and Note 2.

Russia

Introduction

In Russia, Citi has operated through both its *ICG* and *Legacy Franchises* segments. Citi continues to closely monitor the war in Ukraine, related sanctions and economic conditions and continues to mitigate its Russia exposures and risks as appropriate.

As previously disclosed, Citi intends to wind down nearly all of its consumer, local commercial and institutional banking businesses in the country. As a result, Citi has ceased soliciting any new business or new clients in Russia. Citi will continue to manage its existing legal and regulatory commitments and obligations, as well as support its employees, during this period. For additional information, see "Citi's Wind-Down of Its Russia Operations" below.

For additional information about Citi's risks related to its Russia exposures, see "Risk Factors—Market-Related Risk," "—Operational Risks" and "—Other Risks" above.

Impact of Russia's Invasion of Ukraine on Citi's Businesses

Russia-related Balance Sheet Exposures

Citi's domestic operations in Russia are conducted through a subsidiary of Citibank, AO Citibank, which uses the Russian ruble as its functional currency.

The following table summarizes Citi's exposures related to its Russia operations:

In billions of U.S. dollars	**December 31, 2022**	September 30, 2022	December 31, 2021	Change 4Q22 vs. 3Q22
Loans	$ 0.6	$ 1.6	$ 2.9	$ (1.0)
Investment securities[1]	1.1	1.4	1.5	(0.3)
Net MTM on derivatives/repos[2]	1.4	1.4	0.4	—
Total hedges (on loans and CVA)	(0.1)	(0.1)	(0.1)	—
Unfunded[3]	0.1	0.2	0.7	(0.1)
Trading accounts assets	—	0.1	—	(0.1)
Country risk exposure	**$ 3.1**	**$ 4.6**	**$ 5.4**	**$ (1.5)**
Cash on deposit and placements[4]	2.4	3.0	1.0	(0.6)
National Settlements Depository[5]	1.8	—	—	1.8
Reverse repurchase agreements[2]	—	—	1.8	—
Total third-party exposure[6]	**$ 7.3**	**$ 7.6**	**$ 8.2**	**$ (0.3)**
Additional exposures to Russian counterparties that are not held by the Russian subsidiary	0.2	0.3	1.6	(0.1)
Total Russia exposure[7]	**$ 7.5**	**$ 7.9**	**$ 9.8**	**$ (0.4)**

(1) Investment securities include debt securities available-for-sale (AFS), recorded at fair market value, primarily local government debt securities. There were no impairment losses recognized during the third and fourth quarters of 2022.
(2) Net mark-to-market (MTM) on OTC derivatives and securities lending/borrowing transactions (repos). Effective from 2Q22, reverse repurchase agreements have been shown gross of collateral and reclassified to net MTM on derivatives/repos in the table above, as netting of collateral for Russia-related reverse repurchase agreements was removed. This removal was due to the inability to conclude, with a well-founded basis, the enforceability of contractual rights in the Russian legal system in the event of a counterparty default, given the geopolitical uncertainty caused by the war in Ukraine. As this exposure was already included in Total third-party exposure, the Total Russia exposure was not impacted by this reclassification.
(3) Unfunded exposure consists of unfunded corporate lending commitments, letters of credit and other contingencies.
(4) Cash on deposit and placements are primarily with the Central Bank of Russia.
(5) Represents dividends received by Citi in its role as custodian for investor clients in Russia. Citi is unable to remit these funds to clients due to restrictions imposed by the Russian government.
(6) The majority of AO Citibank's third-party exposures was funded with domestic deposit liabilities from both corporate and personal banking clients.
(7) Citigroup's CTA loss included in its *AOCI* related to its indirect subsidiary, AO Citibank, is excluded from the above table, because the CTA loss is not held in AO Citibank and would be recognized in Citigroup's earnings upon either the substantial liquidation or a loss of control of AO Citibank. Citi has separately described these risks in "Deconsolidation Risk" below.

During the fourth quarter of 2022, Citi continued to reduce its operations in Russia and Russia-related exposures, resulting in a net decrease in total Russia exposure of $0.4 billion, shown in the table above, as well as a change in the composition of its exposure as mitigation efforts have reduced Citi's third-party credit risk. The sequential decline in exposure was driven by a $1.3 billion decrease due to depreciation of the ruble against the U.S. dollar and a $0.9 billion decrease due to loan repayments and sales, partially offset by a $1.8 billion increase in local currency terms, driven by dividends received by Citi as custodian for investor clients in Russia that Citi is unable to remit due to restrictions imposed by the Russian government.

Citi's continued risk mitigation efforts include *ICG* borrower paydowns and limiting extensions of new credit. *ICG*'s credit exposure also reflected a shift to a higher proportion of stronger credit names, including a higher proportion of subsidiaries of multinational companies that are headquartered outside of Russia, primarily in the U.S. and Europe. The decline in overall exposure was also driven by a reduction in exposures to Russian counterparties not held by AO Citibank.

Citi's net investment in Russia was approximately $1.2 billion as of December 31, 2022 (compared to $1.3 billion as of September 30, 2022). The decrease was primarily driven by a $0.2 billion decrease due to depreciation of the ruble against the U.S. dollar, partially offset by an increase of $0.1 billion in retained earnings. A portion of Citi's net investment was hedged for foreign currency depreciation as of December 31, 2022, using forward foreign exchange contracts executed with international peer banks.

Earnings and Other Impacts on Citi's Businesses

Citi's *ICG*, *PBWM* and *Legacy Franchises* segments and *Corporate/Other* have been impacted by various macroeconomic factors and volatilities, including Russia's invasion of Ukraine and its direct and indirect impact on the European and global economies. For a broader discussion of these factors and volatilities on Citi's businesses, see "Executive Summary" and each business's results of operations above.

As of December 31, 2022, Citigroup's ACL included a $0.3 billion remaining credit reserve for Citi's direct and indirect Russian counterparties (down from $0.5 billion at September 30, 2022).

Citi's Wind-Down of Its Russia Operations

In August 2022, Citi disclosed its decision to wind down its Russia consumer and local commercial banking businesses, including actively pursuing portfolio sales. In connection with the wind-down plan, Citi incurred $22 million (excluding the impact from any portfolio sales) of costs in 2022.

In October 2022, Citi announced that it will be ending nearly all of the institutional banking services it offers in Russia by the end of the first quarter of 2023. Going forward, Citi's only operations in Russia will be those necessary to fulfill its remaining legal and regulatory obligations.

On October 28, 2022, Citi entered into an agreement to sell a portfolio of ruble-denominated personal installment loans, totaling approximately $240 million in outstanding loan balances as of the fourth quarter of 2022, to Uralsib, a Russian commercial bank. Citi closed the sale in December 2022 and incurred a pretax net loss of approximately $12 million as a result. In connection with the portfolio sale, Citi also entered into a referral agreement to settle to Uralsib a portfolio of ruble-denominated credit card loans, subject to customer consents. The outstanding card loans balance was approximately $219 million as of the fourth quarter of 2022. Citi will refer credit card customers, who at the customers' sole discretion will be eligible to refinance their outstanding card loan balances with Uralsib.

At this time, Citi expects to incur estimated costs of approximately $190 million in connection with its consumer and institutional wind-down plans in Russia, primarily through 2024 ($80 million in *ICG* and $110 million in *Legacy Franchises*). For additional information, see "*Institutional Clients Group*" and "*Legacy Franchises*" above.

Deconsolidation Risk

Citi's operations in Russia subject it to various risks, including, among others, foreign currency volatility, including appreciations or devaluations; restrictions arising from retaliatory Russian laws and regulations on the conduct of its business; sanctions or asset freezes; or other deconsolidation events (for additional information, see "Risk Factors—Other Risks" above). Examples of triggers that may result in deconsolidation of AO Citibank include voluntary or forced sale of ownership or loss of control due to actions of relevant governmental authorities, including expropriation (i.e., the entity becomes subject to the complete control of a government, court, administrator, trustee or regulator); revocation of banking license; and loss of ability to elect a board of directors or appoint members of senior management. As of December 31, 2022, Citi continued to consolidate AO Citibank because none of the deconsolidation factors were triggered.

In the event of a loss of control of AO Citibank, Citi would be required to (i) write off the net investment of approximately $1.2 billion (compared to $1.3 billion as of September 30, 2022), (ii) recognize a CTA loss of approximately $1.3 billion through earnings (compared to $1.0 billion as of September 30, 2022) and (iii) recognize a loss of $0.5 billion (compared to $0.3 billion as of September 30, 2022) on intercompany liabilities owed by AO Citibank to other Citi entities outside Russia. In the sole event of a substantial liquidation, as opposed to a loss of control, Citi would be required to recognize the CTA loss of approximately $1.3 billion through earnings and would evaluate its remaining net investment as circumstances evolve.

Citi as Paying Agent for Russian-related Clients

Citi serves or served as paying agent on bonds issued by various entities in Russia, including Russian corporate clients. Citi's role as paying agent is administrative. In this role, Citi acts as an agent of its client, the bond issuer, receiving interest and principal payments from the bond issuer and then making payments to international central securities depositories (e.g., Depository Trust Company, Euroclear, Clearstream). The international central securities depositories (ICSDs) make payments to those participants or account holders (e.g., broker/

dealers) that have clients who are investors in the applicable bonds (i.e., bondholders). As a paying agent, Citi generally does not have information about the identity of the bondholders. Citi may be exposed to risks due to its responsibilities for receiving and processing payments on behalf of its clients as a result of sanctions or other governmental requirements and prohibitions. To mitigate operational and sanctions risks, Citi has established policies, procedures and controls for client relationships and payment processing to help ensure compliance with U.S., U.K., EU and other jurisdictions' sanctions laws.

These processes may require Citi to delay or withhold the processing of payments as a result of sanctions on the bond issuer. Citi is also prevented from making payments to accounts on behalf of bondholders should the ICSDs disclose to Citi the presence of sanctioned bondholders. In both instances, Citi is generally required to segregate, restrict or block the funds until applicable sanctions are lifted or the payment is otherwise authorized under applicable law.

Reputational Risks

Citi has continued its efforts to enhance and protect its reputation with its colleagues, clients, customers, investors, regulators and the public. Citi's response to the war in Ukraine, including any action or inaction, may have a negative impact on Citi's reputation with some or all of these parties.

For example, Citi is exposed to reputational risk as a result of its current presence in Russia and association with Russian individuals or entities, whether subject to sanctions or not, including Citi's inability to support its global clients in Russia, which could adversely affect its broader client relationships and businesses; current involvement in transactions or supporting activities involving Russian assets or interests; failure to correctly interpret and apply laws and regulations, including those related to sanctions; perceived misalignment of Citi's actions to its stated strategy in Russia; and the reputational impact from Citi's activity and engagement with Ukraine or with non-Russian clients exiting their Russia businesses. Citi has considered the potential for reputation risk and taken actions to mitigate such risks. Citi established a Russia Special Review Process with management's Reputation Risk Committee with oversight for significant Russia-related reputation risks and completed a number of reputation risk reviews of matters with a Russian nexus.

While Citi announced its intention to wind down its businesses in Russia, Citi will continue to manage those operations during the wind-down process and will be required to maintain certain limited operations to fulfill its remaining legal and regulatory obligations. Also, sanctions and sanctions compliance are highly complex and may change over time and result in increased operational risk. Failure to fully comply with relevant sanctions or the application of sanctions where they should not be applied may negatively impact Citi's reputation. In addition, Citi currently performs services for, conducts business with or deals in non-sanctioned Russian-owned businesses and Russian assets. This has attracted, and will likely continue to attract, negative attention, despite the previously disclosed plan to wind down nearly all its activities in the country, cessation of new business and client originations, and reduction of other exposures.

Citi's continued presence or divestiture of businesses in Russia could also increase its susceptibility to cyberattacks that could negatively impact its relationships with clients and customers, harm its reputation, increase its compliance costs and adversely affect its business operations and results of operations. For additional information on operational and cyber risks, see "Risk Factors—Operational Risk" above.

Board's Role in Overseeing Related Risks

The Citi Board of Directors (Board) and the Board's Risk Management Committee (RMC) and its other Committees have received and continue to receive regular reports from senior management regarding the war in Ukraine and its impact on Citi's operations in Russia, Ukraine and elsewhere, as well as the war's broader geopolitical, macroeconomic and reputational impacts. In addition to receiving regular briefings from management, the full Board has routinely been invited to attend portions of the RMC meetings for discussions related to the war in Ukraine, including with respect to Citi's risk exposures and stress testing. The reports to the Board and its Committees from senior management who represent the impacted businesses and the EMEA region, Independent Risk Management, Finance, Independent Compliance Risk Management, including those individuals responsible for sanctions compliance, and Human Resources, have included detailed information regarding financial impacts, impacts on capital, cybersecurity, strategic considerations, sanctions compliance, employee assistance and reputational risks, enabling the Board and its Committees to properly exercise their oversight responsibilities. In addition, senior management has also provided updates to Citi's Executive Management Team and the Board, outside of formal meetings, regarding Citi's Russia-related risks, including with respect to cybersecurity matters.

Ukraine

Citi has continued to operate in Ukraine throughout the war through its *ICG* businesses, serving the local subsidiaries of multinationals, along with local financial institutions and the public sector. Citi employs approximately 230 people in Ukraine and their safety is Citi's top priority.

All of Citi's domestic operations in Ukraine are conducted through a subsidiary of Citibank, which uses the Ukrainian hryvnia as its functional currency. Citi's exposures in Ukraine are not significant enough to be included in the "Top 25 Country Exposures" table above. As of December 31, 2022, these exposures amounted to $1.0 billion, unchanged from September 30, 2022, and were exclusively composed of third-party assets held on the Citi Ukraine subsidiary.

Argentina

Citi operates in Argentina through its *ICG* businesses. As of December 31, 2022, Citi's net investment in its Argentine operations was approximately $1.7 billion. Under U.S. GAAP, Citi uses the U.S. dollar as the functional currency for its operations in countries that are deemed highly inflationary. Citi uses Argentina's official market exchange rate to remeasure its net Argentine peso-denominated assets into the U.S. dollar. As of December 31, 2022, the official Argentine peso exchange rate against the U.S. dollar was 177.15.

As previously disclosed, the Central Bank of Argentina has continued to maintain certain capital and currency controls that restrict Citi's ability to access U.S. dollars in Argentina and remit earnings from its Argentine operations. As a result, Citi's net investment in its Argentine operations is likely to continue to increase as Citi generates net income in its Argentine franchise and its earnings cannot be remitted.

Due to the currency controls implemented by the Central Bank of Argentina, certain indirect foreign exchange mechanisms have developed that some Argentine entities may use to obtain U.S. dollars, generally at rates that are significantly higher than Argentina's official exchange rate. Citibank Argentina is precluded from accessing these alternative mechanisms, and these exchange mechanisms cannot be used to remeasure Citi's net monetary assets into the U.S. dollar under U.S. GAAP. However, if Argentina's official exchange rate converges with the approximate rate implied by the indirect foreign exchange mechanisms, Citi could incur a loss on its capital in Argentina. Citi cannot predict future fluctuations in Argentina's official market exchange rate or to what extent Citi may be able to access U.S. dollars at the official exchange rate in the future.

Citi economically hedges the foreign currency risk in its net Argentine peso-denominated assets to the extent possible and prudent using non-deliverable forward (NDF) derivative instruments that are primarily executed outside of Argentina. As of December 31, 2022, the international NDF market had very limited liquidity, resulting in Citi's inability to economically hedge its Argentine peso exposure. Accordingly, and to the extent that Citi does not execute NDF contracts for this unhedged exposure in the future, Citi would record devaluations on its net Argentine peso-denominated assets in earnings, without any benefit from a change in the fair value of derivative positions used to economically hedge the exposure.

Citi continually evaluates its economic exposure to its Argentine counterparties and reserves for changes in credit risk and records mark-to-market adjustments for relevant market risks associated with its Argentine assets. Citi believes it has established an appropriate ACL on its Argentine loans, and appropriate fair value adjustments on Argentine assets and liabilities measured at fair value, for credit and sovereign risks under U.S. GAAP as of December 31, 2022. However, U.S. regulatory agencies may require Citi to record additional reserves in the future, increasing *ICG*'s cost of credit, based on the perceived country risk associated with its Argentine exposures.

For additional information on Citi's emerging markets risks, including those related to its Argentine exposures, see "Risk Factors" above.

FFIEC—Cross-Border Claims on Third Parties and Local Country Assets

Citi's cross-border disclosures are presented below, based on the country exposure bank regulatory reporting guidelines of the Federal Financial Institutions Examination Council (FFIEC). The following summarizes some of the key FFIEC reporting guidelines:

- Amounts are based on the domicile of the ultimate obligor, counterparty, collateral (only including qualifying liquid collateral), issuer or guarantor, as applicable (e.g., a security recorded by a Citi U.S. entity but issued by the U.K. government is considered U.K. exposure; a loan recorded by a Citi Mexico entity to a customer domiciled in Mexico where the underlying collateral is held in Germany is considered German exposure).
- Amounts do not consider the benefit of collateral received for secured financing transactions (i.e., repurchase agreements, reverse repurchase agreements and securities loaned and borrowed) and are reported based on notional amounts.
- Netting of derivative receivables and payables, reported at fair value, is permitted, but only under a legally binding netting agreement with the same specific counterparty, and does not include the benefit of margin received or hedges.
- Credit default swaps (CDS) are included based on the gross notional amount sold and purchased and do not include any offsetting CDS on the same underlying entity.
- Loans are reported without the benefit of hedges.

Given the requirements noted above, Citi's FFIEC cross-border exposures and total outstandings tend to fluctuate, in some cases significantly, from period to period. As an example, because total outstandings under FFIEC guidelines do not include the benefit of margin or hedges, market volatility in interest rates, foreign exchange rates and credit spreads may cause significant fluctuations in the level of total outstandings, all else being equal.

The tables below show each country whose total outstandings exceeded 0.75% of total Citigroup assets:

	December 31, 2022									
	Cross-border claims on third parties and local country assets									
In billions of dollars	Banks (a)	Public (a)	NBFIs[1] (a)	Other (corporate and households) (a)	Trading assets[2] (included in (a))	Short-term claims[2] (included in (a))	Total outstanding[3] (sum of (a))	Commitments and guarantees[4]	Credit derivatives purchased[5]	Credit derivatives sold[5]
United Kingdom	**$ 4.9**	**$ 31.7**	**$ 59.9**	**$ 16.2**	**$ 11.4**	**$ 82.4**	**$ 112.7**	**$ 24.3**	**$ 79.3**	**$ 77.8**
Cayman Islands	**—**	**—**	**99.8**	**9.8**	**6.1**	**70.3**	**109.6**	**18.4**	**0.2**	**0.2**
Japan	**35.4**	**40.0**	**17.2**	**6.9**	**17.0**	**71.4**	**99.5**	**15.6**	**13.6**	**11.9**
Germany	**4.9**	**48.3**	**39.6**	**6.7**	**8.3**	**55.9**	**99.5**	**24.1**	**50.8**	**48.8**
Mexico	**2.9**	**31.1**	**11.4**	**29.0**	**3.9**	**40.8**	**74.4**	**22.0**	**6.4**	**5.2**
France	**9.9**	**10.9**	**35.6**	**7.7**	**10.3**	**52.4**	**64.1**	**68.8**	**66.2**	**62.8**
Singapore	**2.1**	**22.6**	**6.5**	**16.2**	**2.3**	**40.5**	**47.4**	**15.7**	**1.2**	**1.0**
South Korea	**4.6**	**17.7**	**6.4**	**15.3**	**4.2**	**34.8**	**44.0**	**11.2**	**6.4**	**5.6**
Hong Kong	**0.7**	**14.9**	**3.5**	**20.6**	**4.1**	**33.7**	**39.7**	**13.7**	**1.5**	**1.3**
China	**3.1**	**18.8**	**1.9**	**13.2**	**8.3**	**31.2**	**37.0**	**5.8**	**8.9**	**8.6**
Brazil	**2.4**	**14.5**	**2.8**	**14.4**	**5.8**	**25.1**	**34.1**	**3.4**	**5.5**	**5.1**
India	**1.4**	**13.5**	**6.7**	**12.7**	**2.6**	**24.2**	**34.3**	**8.8**	**1.4**	**1.2**
Canada	**6.6**	**13.3**	**7.4**	**4.0**	**4.0**	**23.4**	**31.3**	**11.6**	**6.8**	**6.8**
Australia	**3.0**	**13.2**	**8.7**	**3.4**	**5.7**	**24.2**	**28.3**	**5.0**	**3.5**	**3.1**
Netherlands	**3.9**	**10.6**	**5.8**	**4.6**	**4.0**	**19.1**	**24.9**	**9.2**	**31.8**	**31.0**
Switzerland	**2.1**	**13.7**	**1.1**	**4.7**	**2.0**	**18.5**	**21.6**	**8.8**	**19.4**	**19.2**
Ireland	**0.1**	**3.6**	**13.0**	**4.3**	**2.7**	**19.8**	**21.0**	**6.8**	**2.7**	**2.6**
Taiwan	**0.6**	**5.6**	**1.4**	**12.7**	**2.2**	**16.4**	**20.3**	**12.9**	**—**	**—**

	December 31, 2021									
	Cross-border claims on third parties and local country assets									
In billions of dollars	Banks (a)	Public (a)	NBFIs[1] (a)	Other (corporate and households) (a)	Trading assets[2] (included in (a))	Short-term claims[2] (included in (a))	Total outstanding[3] (sum of (a))	Commitments and guarantees[4]	Credit derivatives purchased[5]	Credit derivatives sold[5]
United Kingdom	$ 7.0	$ 31.1	$ 55.6	$ 19.2	$ 16.5	$ 70.8	$ 112.9	$ 23.0	$ 76.3	$ 70.8
Cayman Islands	—	—	78.8	13.2	7.4	56.3	92.0	9.9	0.4	0.3
Japan	31.0	30.1	12.8	8.7	15.6	54.8	82.6	8.4	13.4	12.1
Germany	4.5	48.9	47.7	9.6	18.5	78.3	110.7	23.2	48.6	44.7
Mexico	2.8	28.4	9.3	25.8	2.7	33.4	66.3	19.7	6.7	6.1
France	9.7	9.6	27.0	9.8	14.0	41.6	56.1	85.3	62.6	55.7
Singapore	1.9	18.3	12.1	17.4	2.7	39.1	49.7	16.3	1.4	1.3
South Korea	3.6	17.9	3.2	21.9	2.0	37.7	46.6	12.7	9.0	8.1
Hong Kong	1.3	12.3	3.9	21.8	4.2	30.2	39.3	13.6	1.7	1.5
Australia	3.9	14.2	5.7	12.8	7.3	22.9	36.6	13.6	4.0	3.9
China	4.2	12.9	3.7	14.7	8.0	26.3	35.5	4.4	9.6	9.0
India	1.2	15.0	4.4	13.1	2.6	23.4	33.7	10.2	1.8	1.4
Taiwan	0.5	7.0	1.7	15.8	4.8	21.1	25.0	14.6	—	0.1
Netherlands	5.9	8.8	3.3	5.7	5.2	16.2	23.7	9.8	30.8	27.6
Brazil	2.0	12.9	2.2	12.5	3.9	20.3	29.6	3.2	6.2	5.6
Italy	2.8	10.9	0.9	1.8	8.1	2.4	16.4	1.6	38.8	37.0
Switzerland	1.4	13.7	0.9	6.0	3.1	20.0	22.0	9.7	18.9	17.6
Canada	6.5	12.2	4.7	4.1	3.8	21.0	27.5	12.9	5.7	5.3

(1) Non-bank financial institutions.
(2) Included in total outstanding.
(3) Total outstanding includes cross-border claims on third parties, as well as local country assets. Cross-border claims on third parties include cross-border loans, securities, deposits with banks and other monetary assets, as well as net revaluation gains on foreign exchange and derivative products.
(4) Commitments (not included in total outstanding) include legally binding cross-border letters of credit and other commitments and contingencies as defined by the FFIEC guidelines. The FFIEC definition of commitments includes commitments to local residents to be funded with local currency liabilities originated within the country.
(5) Credit default swaps (CDS) are not included in total outstanding.

SIGNIFICANT ACCOUNTING POLICIES AND SIGNIFICANT ESTIMATES

This section contains a summary of Citi's most significant accounting policies. Note 1 contains a summary of all of Citigroup's significant accounting policies. These policies, as well as estimates made by management, are integral to the presentation of Citi's results of operations and financial condition. While all of these policies require a certain level of management judgment and estimates, this section highlights and discusses the significant accounting policies that require management to make highly difficult, complex or subjective judgments and estimates at times regarding matters that are inherently uncertain and susceptible to change (see also "Risk Factors—Operational Risks" above). Management has discussed each of these significant accounting policies, the related estimates and its judgments with the Audit Committee of the Citigroup Board of Directors.

Valuations of Financial Instruments

Citigroup holds debt and equity securities, derivatives, retained interests in securitizations, investments in private equity and other financial instruments. A substantial portion of these assets and liabilities is reflected at fair value on Citi's Consolidated Balance Sheet as *Trading account assets*, *Available-for-sale securities* and *Trading account liabilities*.

Citi purchases securities under agreements to resell (reverse repos or resale agreements) and sells securities under agreements to repurchase (repos), a substantial portion of which is carried at fair value. In addition, certain loans, short-term borrowings, long-term debt and deposits, as well as certain securities borrowed and loaned positions that are collateralized with cash, are carried at fair value. Citigroup holds its investments, trading assets and liabilities, and resale and repurchase agreements on Citi's Consolidated Balance Sheet to meet customer needs and to manage liquidity needs, interest rate risks and private equity investing.

When available, Citi generally uses quoted market prices to determine fair value and classifies such items within Level 1 of the fair value hierarchy established under ASC 820-10, *Fair Value Measurement*. If quoted market prices are not available, fair value is based on internally developed valuation models that use, where possible, current market-based or independently sourced market parameters, such as interest rates, currency rates and option volatilities. Such models are often based on a discounted cash flow analysis. In addition, items valued using such internally generated valuation techniques are classified according to the lowest level input or value driver that is significant to the valuation. Thus, an item may be classified under the fair value hierarchy as Level 3 even though there may be some significant inputs that are readily observable.

Citi is required to exercise subjective judgments relating to the applicability and functionality of internal valuation models, the significance of inputs or drivers to the valuation of an instrument and the degree of illiquidity and subsequent lack of observability in certain markets. The fair value of these instruments is reported on Citi's Consolidated Balance Sheet with the changes in fair value recognized in either the Consolidated Statement of Income or in *AOCI*.

Losses on available-for-sale securities whose fair values are less than the amortized cost, where Citi intends to sell the security or could more-likely-than-not be required to sell the security prior to recovery, are recognized in earnings. Where Citi does not intend to sell the security nor could more-likely-than-not be required to sell the security, any portion of the loss that is attributable to credit is recognized as an allowance for credit losses with a corresponding provision for credit losses and the remainder of the loss is recognized in *AOCI*. Such losses are capped at the difference between the fair value and amortized cost of the security.

For equity securities carried at cost or under the measurement alternative, decreases in fair value below the carrying value are recognized as impairment in the Consolidated Statement of Income. Moreover, for certain equity method investments, decreases in fair value are only recognized in earnings in the Consolidated Statement of Income if such decreases are judged to be an other-than-temporary impairment (OTTI). Assessing if the fair value impairment is temporary is also inherently judgmental.

The fair value of financial instruments incorporates the effects of Citi's own credit risk and the market view of counterparty credit risk, the quantification of which is also complex and judgmental. For additional information on Citi's fair value analysis, see Notes 1, 6, 25 and 26.

Citi's Allowance for Credit Losses (ACL)

The table below shows Citi's allowance for credit losses on loans (ACLL) and total ACL as of the fourth quarter of 2022. For information on the drivers of Citi's ACL build in the fourth quarter of 2022, see below. For information on refinement in the ACL estimation approach to introduce multiple macroeconomic scenarios to the quantitative component of the ACL, see Note 1. Also see Note 1 for additional information on Citi's accounting policy on accounting for credit losses under ASC Topic 326, *Financial Instruments—Credit losses; Current Expected Credit Losses (CECL)*.

	Allowance for credit losses (ACL)								
	Balance Dec. 31,	Build (release)					2022 FX/	Balance Dec. 31,	ACLL/EOP loans Dec. 31,
In millions of dollars	2021	1Q22	2Q22	3Q22	4Q22	2022	Other[1]	2022	2022[2]
ICG	$ 2,241	$ 596	$ (76)	$ 75	$ (117)	**$ 478**	**$ (4)**	**$ 2,715**	
Legacy Franchises corporate (Mexico SBMM)	174	5	(3)	(34)	(7)	**(39)**	**5**	**140**	
Total corporate ACLL	$ 2,415	$ 601	$ (79)	$ 41	$ (124)	**$ 439**	**$ 1**	**$ 2,855**	**1.01 %**
U.S. Cards[2]	$ 10,840	$ (1,009)	$ 447	$ 303	$ 814	**$ 555**	**$ (2)**	**$ 11,393**	**7.56 %**
Retail banking and Global Wealth Management	1,181	(53)	191	57	(43)	**152**	**(3)**	**1,330**	
Total *PBWM*	$ 12,021	$ (1,062)	$ 638	$ 360	$ 771	**$ 707**	**$ (5)**	**$ 12,723**	
Legacy Franchises consumer	2,019	(151)	(25)	40	(54)	**(190)**	**(433)**	**1,396**	
Total consumer ACLL	**$ 14,040**	**$ (1,213)**	**$ 613**	**$ 400**	**$ 717**	**$ 517**	**$ (438)**	**$ 14,119**	**3.84 %**
Total ACLL	**$ 16,455**	**$ (612)**	**$ 534**	**$ 441**	**$ 593**	**$ 956**	**$ (437)**	**$ 16,974**	**2.60 %**
Allowance for credit losses on unfunded lending commitments (ACLUC)	1,871	474	(159)	(71)	47	**291**	**(11)**	**2,151**	
Other[3]	148	(6)	27	83	5	**109**	**(14)**	**243**	
Total ACL	**$ 18,474**	**$ (144)**	**$ 402**	**$ 453**	**$ 645**	**$ 1,356**	**$ (462)**	**$ 19,368**	

(1) Includes reclassifications to *Other assets* related to Citi's agreements to sell certain of its consumer banking businesses. See Notes 2 and 15.
(2) As of December 31, 2022, in U.S. Personal Banking, Branded cards ACLL/EOP loans was 6.2% and Retail services ACLL/EOP loans was 10.3%.
(3) Includes ACL on HTM securities and *Other assets.*

Citi's reserves for expected credit losses on funded loans and for unfunded lending commitments, standby letters of credit and financial guarantees are reflected on the Consolidated Balance Sheet in the *Allowance for credit losses on loans* (ACLL) and *Other liabilities* (for Allowance for credit losses on unfunded lending commitments (ACLUC)), respectively. In addition, Citi reserves for expected credit losses on other financial assets carried at amortized cost, including held-to-maturity securities, reverse repurchase agreements, securities borrowed, deposits with banks and other financial receivables. These reserves, together with the ACLL and ACLUC, are referred to as the ACL. Changes in the ACL are reflected as *Provision for credit losses* in the Consolidated Statement of Income for each reporting period. Citi's ability to estimate expected credit losses over the reasonable and supportable (R&S) period is based on the ability to forecast economic activity over an R&S timeframe. The R&S forecast period for consumer and corporate loans is eight quarters.

The ACL is composed of quantitative and qualitative management adjustment components. The quantitative component uses three forward-looking macroeconomic forecast scenarios—base, upside and downside. The qualitative management adjustment component reflects risks and current economic conditions not captured in the quantitative component. Both the quantitative and qualitative components are further discussed below.

Quantitative Component

Citi estimates expected credit losses for its quantitative component using (i) its comprehensive internal data on loss and default history, (ii) internal credit risk ratings, (iii) external credit bureau and rating agencies information and (iv) R&S forecasts of macroeconomic conditions.

For its consumer and corporate portfolios, Citi's expected credit losses are determined primarily by utilizing models that consider the borrowers' probability of default (PD), loss given default (LGD) and exposure at default (EAD). The loss likelihood and severity models used for estimating expected credit losses are sensitive to changes in macroeconomic variables, including housing prices, unemployment and real GDP, and cover a wide range of geographic, industry, product and business segments.

In addition, Citi's models determine expected credit losses based on leading credit indicators, including loan delinquencies, changes in portfolio size, default frequency,

risk ratings and loss recovery rates, as well as other credit trends.

Qualitative Component

The qualitative management adjustment component includes risks not fully captured in the quantitative component, as required by banking supervisory guidance for the ACL, including, but not limited to:

- Concentrations and collateral valuation risk with obligors in the global portfolio
- Emerging macroeconomic risks due to uncertainties related to the war in Ukraine, potential global recession, inflation, interest rates, commodity prices and potential impacts on vulnerable industries and regions
- Normalization of portfolio performance and consumer behavior from record low losses as a result of government stimulus and market liquidity

Citi's qualitative component declined year-over-year, primarily driven by the incorporation of multiple macroeconomic scenarios in the quantitative component and releases of COVID-19–related uncertainty reserves as the portfolio continues to normalize toward pre-pandemic levels and as these risks are captured in the quantitative component of the ACL.

Macroeconomic Variables

Citi considers a multitude of global macroeconomic variables for the base, upside and downside probability-weighted macroeconomic scenario forecasts it uses to estimate the ACL. Citi's forecasts of the U.S. unemployment rate and U.S. real GDP growth rate represent the key macroeconomic variables that most significantly affect its estimate of the ACL.

The tables below show Citi's forecasted quarterly average U.S. unemployment rate and year-over-year U.S. real GDP growth rate used in determining the base macroeconomic forecast for Citi's ACL for each quarterly reporting period from 4Q21 to 4Q22:

	Quarterly average			
U.S. unemployment	**1Q23**	**3Q23**	**1Q24**	**8-quarter average[1]**
Citi forecast at 4Q21	3.7 %	3.7 %	3.7 %	3.8 %
Citi forecast at 1Q22	3.5	3.5	3.6	3.6
Citi forecast at 2Q22	3.6	3.8	3.9	3.7
Citi forecast at 3Q22	3.8	4.2	4.0	4.0
Citi forecast at 4Q22	3.9	4.5	4.6	4.4

(1) Represents the average unemployment rate for the rolling, forward-looking eight quarters in the forecast horizon.

	Year-over-year growth rate[1]		
	Full year		
U.S. real GDP	**2022**	**2023**	**2024**
Citi forecast at 4Q21	4.0 %	2.2 %	1.8 %
Citi forecast at 1Q22	3.3	2.4	2.1
Citi forecast at 2Q22	2.6	1.8	2.0
Citi forecast at 3Q22	1.6	0.6	1.9
Citi forecast at 4Q22	1.9	0.3	1.5

(1) The year-over-year growth rate is the percentage change in the real (inflation adjusted) GDP level.

Under the base macroeconomic forecast as of 4Q22, U.S. real GDP growth is expected to decline during 2023, and the unemployment rate is expected to increase modestly over the forecast horizon, broadly returning to pre-pandemic levels.

Scenario Weighting

Citi's ACL is estimated using three probability-weighted macroeconomic scenarios—base, upside and downside. The macroeconomic scenario weights are estimated using a statistical model, which, among other factors, takes into consideration key macroeconomic drivers of the ACL, severity of the scenario and other macroeconomic uncertainties and risks. Citi evaluates scenario weights on a quarterly basis.

Citi's downside scenario incorporates more adverse macroeconomic assumptions than the base scenario. For example, compared to the base scenario, Citi's downside scenario reflects a more severe recession, including an elevated average U.S. unemployment rate of 6.9% over the eight-quarter R&S period, with a peak difference of 2.9% in the second quarter of 2024. The downside scenario also reflects a year-over-year U.S. real GDP contraction in 2023 of 2.4%, with a peak quarter-over-quarter difference of 3.3% in the second quarter of 2023.

Citi's ACL is sensitive to the various macroeconomic scenarios that drive the quantitative component of expected credit losses due to changes in the length and severity of forecasted economic variables or events in the respective scenarios. To demonstrate this sensitivity, Citi applied 100% weight to the downside scenario as of December 31, 2022 to reflect the most severe economic deterioration forecast in the multiple macroeconomic scenarios. Citi's downside scenario incorporates more adverse macroeconomic assumptions than the weighted scenario assumptions; therefore, applying a 100% downside scenario weight would result in a hypothetical increase in the ACL of approximately $4.2 billion related to lending exposures, except for loans individually evaluated for credit losses.

This analysis does not incorporate any impacts or changes to the qualitative component of the ACL. These factors could decrease the outcome of the sensitivity analysis based on historical experience and current conditions at the time of the assessment. Given the uncertainty inherent in macroeconomic forecasting, Citi continues to believe that its ACL estimate based on a three probability-weighted macroeconomic scenario approach combined with the qualitative component remains appropriate as of December 31, 2022.

4Q22 Changes in the ACL

As further discussed below, in the fourth quarter of 2022, Citi had an ACL build of $0.7 billion for its consumer portfolios and a release of $0.1 billion for its corporate portfolios, for a net ACL build of $0.6 billion. The build was primarily driven by cards loan growth in consumer portfolios and a deterioration in macroeconomic assumptions (see "Macroeconomic Variables" above), partially offset by reductions in Russia exposures (see "Managing Global Risk—Other Risks—Russia" above). Based on its latest macroeconomic forecast, Citi believes its analysis of the ACL reflects the forward view of the economic environment as of December 31, 2022. See Note 15 for additional information.

Consumer

Citi's consumer ACLL is largely driven by U.S. Cards in U.S. Personal Banking. As discussed above, Citi's total consumer ACLL build was $0.7 billion in the fourth quarter of 2022, primarily driven by U.S. Cards loan growth and a deterioration in macroeconomic assumptions, which increased the ACLL balance to $14.1 billion, or 3.84% of total funded consumer loans.

For U.S. Cards, the level of reserves relative to total funded loans increased to 7.56% as of December 31, 2022, compared to 7.53% at September 30, 2022. For the remaining consumer exposures, the level of reserves relative to total funded loans was 1.3% at December 31, 2022, unchanged from September 30, 2022.

Corporate

Citi had a corporate ACLL release of $0.1 billion in the fourth quarter of 2022. The release was primarily driven by the reduction of direct exposures in Russia, partially offset by the deterioration of macroeconomic assumptions. Including FX/Other, the ACLL reserve balance decreased $93 million to $2.9 billion, or 1.01% of total funded corporate loans.

ACLUC

Citi had an ACLUC build of $47 million in the fourth quarter of 2022, which increased the ACLUC reserve balance, included in *Other liabilities*, to $2.2 billion. The build was primarily driven by a deterioration in macroeconomic assumptions.

ACL on Other Financial Assets

Citi had an ACL build on other financial assets carried at amortized cost of $5 million in the fourth quarter of 2022. Including FX/Other, the ACL reserve balance decreased $13 million to $0.2 billion, included in *Other assets.* See Note 15 for additional information.

ACLL and Non-accrual Ratios

At December 31, 2022, the ratio of the ACLL to total funded loans was 2.60% (3.84% for consumer loans and 1.01% for corporate loans) compared to 2.54% at September 30, 2022 (3.74% for consumer loans and 1.04% for corporate loans).

Citi's total non-accrual loans were $2.4 billion at December 31, 2022, down $447 million from September 30, 2022. Consumer non-accrual loans decreased $84 million to $1.3 billion at December 31, 2022, from $1.4 billion at September 30, 2022, while corporate non-accrual loans decreased $363 million to $1.1 billion at December 31, 2022, from $1.5 billion at September 30, 2022. In addition, the ratio of non-accrual loans to total loans was 0.39% and 0.36% for corporate and consumer loans, respectively, at December 31, 2022 (for additional information on non-accrual loans, see "Additional Consumer and Corporate Credit Details—Non-Accrual Loans and Assets and Renegotiated Loans" above).

Regulatory Capital Impact

Citi elected the modified CECL transition provision for regulatory capital purposes provided by the U.S. banking agencies' final rule. Accordingly, the Day One regulatory capital effects resulting from the adoption of CECL, as well as the ongoing adjustments for 25% of the change in CECL-based allowances in each quarter between January 1, 2020 and December 31, 2021, started to be phased in on January 1, 2022 and will be fully reflected in Citi's regulatory capital as of January 1, 2025.

See Notes 1 and 15 for a further description of the ACL and related accounts.

Goodwill

Citi tests goodwill for impairment annually and conducts interim assessments between annual tests if an event occurs or circumstances change that would more-likely-than-not reduce the fair value of a reporting unit below its carrying amount. These events or circumstances include, among other things, a significant adverse change in the business climate, a decision to sell or dispose of all or a significant portion of a reporting unit or a sustained decrease in Citi's stock price.

Citi had historically performed its annual goodwill impairment test as of July 1 each year. During the quarter ended September 30, 2022, the Company voluntarily changed its annual impairment assessment date from July 1 to October 1. Based on interim impairment tests performed between the previous annual test on July 1, 2021 and the annual test to be performed on October 1, 2022, no more than 12 months have elapsed between goodwill impairment tests of any of Citi's reporting units. The change in measurement date represents a change in method of applying an accounting principle. This change is preferable because it better aligns the Company's goodwill impairment testing procedures with its annual planning process and with its fiscal year-end. Citi continues to monitor each reporting unit for triggering events for purposes of goodwill impairment testing. The change in accounting principle did not result in any delay, acceleration or avoidance of an impairment charge. During the fourth quarter of 2022, the annual test was performed, which resulted in no goodwill impairment as described in Note 16.

As of December 31, 2022, Citigroup's activities were conducted through the *Institutional Clients Group*, *Personal Banking and Wealth Management* and *Legacy Franchises* operating segments and *Corporate/Other*. Goodwill impairment testing is performed at the level below the business segment (referred to as a reporting unit).

Citi utilizes allocated equity as a proxy for the carrying value of its reporting units for purposes of goodwill impairment testing. The allocated equity in the reporting units is determined based on the capital the business would require

if it were operating as a standalone entity, incorporating sufficient capital to be in compliance with both current and expected regulatory capital requirements, including capital for specifically identified goodwill and intangible assets. The capital allocated to the reporting units is incorporated into the annual budget process, which is approved by Citi's Board of Directors.

Goodwill impairment testing involves management judgment, requiring an assessment of whether the carrying value of a reporting unit can be supported by its fair value, using widely accepted valuation techniques, such as the market approach (earnings multiples and/or transaction multiples) and/or the income approach (discounted cash flow (DCF) method). In applying these methodologies, Citi utilizes a number of factors, including actual operating results, future business plans, economic projections and market data. Where applicable, bids from buyers are also utilized to determine fair value.

Similar to 2021, Citi engaged an independent valuation specialist in 2022 to assist in Citi's valuation of all the reporting units, primarily employing both the income and market approach to determine the fair value of the reporting units. Bids from buyers were also used, where available. The resulting fair values were relatively consistent and appropriate weighting was given to outputs from the income and market approach valuations. The income approach utilized discount rates that Citi believes adequately reflected the risk and uncertainty in the financial markets in the internally generated cash flow projections.

The income approach employs a capital asset pricing model in estimating the discount rate. Since none of the Company's reporting units are publicly traded, individual reporting unit fair value determinations cannot be directly correlated to Citigroup's common stock price. The sum of the fair values of the reporting units exceeded the overall market capitalization of Citi as of October 1, 2022. However, Citi believes that it is not meaningful to reconcile the sum of the fair values of the Company's reporting units to its market capitalization due to several factors. The market capitalization of Citigroup reflects the execution risk in a transaction involving Citigroup due to its size. However, the individual reporting units' fair values are not subject to the same level of execution risk nor a business model that is as international. In addition, the market capitalization of Citigroup does not include consideration of the individual reporting unit's control premium.

As discussed in Note 3, effective January 1, 2022, as part of its strategic refresh, Citi made changes to its management structure, which resulted in changes in its operating segments and reporting units to reflect how the CEO, who is the chief operating decision maker, manages the Company, including allocating resources and measuring performance. Goodwill balances were reallocated across the new reporting units based on their relative fair values using the valuation performed as of the effective date of the reorganization. Further, the goodwill balances associated with certain Asia Consumer businesses within the *Legacy Franchises* operating segment were reclassified to HFS as of March 31, 2022. See Note 2 for a discussion of Citi's divestiture activities.

The reorganization of Citi's management structure and the announced sales of businesses within the *Legacy Franchises* operating segment were identified as triggering events for purposes of goodwill impairment testing. Consistent with the requirements of ASC 350, interim goodwill impairment tests were performed that resulted in an impairment of $535 million to the Asia Consumer reporting unit within the *Legacy Franchises* operating segment, due to the implementation of Citi's revised operating segments and reporting units, as well as the timing of mutual execution of sale agreements for certain of the Asia consumer banking businesses. This impairment was recorded in the first quarter of 2022 as an operating expense.

During the second quarter of 2022, Citi's Banking reporting unit within the *ICG* operating segment was negatively impacted by the industry-wide decline in investment banking activity and macroeconomic challenges and uncertainties. These conditions resulted in a corresponding decline in the operating results of the Banking reporting unit as of June 30, 2022, and were identified as a triggering event for purposes of goodwill impairment testing. Consistent with the requirements of ASC 350, an interim goodwill impairment test was performed that resulted in no impairment of the Banking reporting unit within the *ICG* operating segment.

During the third quarter of 2022, Citi's Banking reporting unit within the *ICG* operating segment continued to be negatively impacted by the industry-wide decline in investment banking activity amid ongoing macroeconomic challenges and uncertainties. The presence of these conditions was identified as a triggering event for the purposes of goodwill impairment testing. Consistent with the requirements of ASC 350, an interim goodwill impairment test was performed that resulted in no impairment of the Banking reporting unit.

Also, during the third quarter of 2022, Citi performed an interim goodwill impairment test on the Mexico Consumer/SBMM reporting unit as of July 1, 2022 to satisfy the requirement that no more than 12 months elapse between the tests for all reporting units. The test resulted in no impairment as the fair value of the Mexico Consumer/SBMM reporting unit was greater than its carrying value.

During the fourth quarter of 2022, Citi performed its annual goodwill impairment test as of October 1, 2022, which resulted in no impairment. The result of the impairment test showed that the fair value of Citi's reporting units exceeded their carrying value for all reporting units. The fair value of two reporting units (Banking and Mexico Consumer/SBMM) ranged from 102% to 106% of their carrying values. The carrying values of the Banking and Mexico Consumer/SBMM reporting units included approximately $1.5 billion and $1 billion of goodwill, respectively. The fair values of Citi's other reporting units as a percentage of their carrying values ranged from approximately 111% to 277%.

While the inherent risk related to uncertainty is embedded in the key assumptions used in the valuations of the reporting units, the economic and business environments continue to evolve as Citi's management implements its strategic refresh. If management's future estimates of key economic and market assumptions were to differ from its current assumptions, Citi could potentially experience material goodwill impairment

charges in the future. See Notes 1 and 16 for additional information on goodwill, including the changes in the goodwill balance year-over-year and the segments' goodwill balances as of December 31, 2022.

Litigation Accruals

See the discussion in Note 29 for information regarding Citi's policies on establishing accruals for litigation and regulatory contingencies.

Income Taxes

Overview

Citi is subject to the income tax laws of the U.S., its states and local municipalities and the non-U.S. jurisdictions in which Citi operates. These tax laws are complex and are subject to differing interpretations by the taxpayer and the relevant governmental taxing authorities. Disputes over interpretations of the tax laws may be subject to review and adjudication by the court systems of the various tax jurisdictions or may be settled with the taxing authority upon audit.

In establishing a provision for income tax expense, Citi must make judgments and interpretations about the application of these inherently complex tax laws. Citi must also make estimates about when in the future certain items will affect taxable income in the various tax jurisdictions, both domestic and foreign. Deferred taxes are recorded for the future consequences of events that have been recognized in the financial statements or tax returns, based upon enacted tax laws and rates. Deferred tax assets (DTAs) are recognized subject to management's judgment that realization is more-likely-than-not. For example, if it is more-likely-than-not that a carry-forward would expire unused, Citi would set up a valuation allowance (VA) against that DTA. Citi has established valuation allowances as described below.

As a result of the Tax Cuts and Jobs Act (Tax Reform), beginning in 2018, Citi is taxed on income generated by its U.S. operations at a federal tax rate of 21%. The effect on Citi's state tax rate is dependent upon how and when the individual states that have not yet addressed the federal tax law changes choose to adopt the various new provisions of the U.S. Internal Revenue Code.

Citi's non-U.S. branches and subsidiaries are subject to tax at their local tax rates. Non-U.S. branches also continue to be subject to U.S. taxation. The impact of this on Citi's earnings depends on the level of branch pretax income, the local branch tax rate and allocations of overall domestic loss (ODL) and expenses for U.S. tax purposes to branch earnings. Citi expects no residual U.S. tax on such earnings. With respect to non-U.S. subsidiaries, dividends from these subsidiaries are excluded from U.S. taxation. While the majority of Citi's non-U.S. subsidiary earnings are classified as Global Intangible Low Taxed Income (GILTI), Citi expects no material residual U.S. tax on such earnings based on its non-U.S. subsidiaries' local tax rates, which exceed, on average, the GILTI tax rate. Finally, Citi does not expect the Base Erosion Anti-Abuse Tax (BEAT) to affect its tax provision.

On January 4, 2022, final foreign tax credit (FTC) regulations were published in the Federal Register. These regulations eliminate the creditability of foreign taxes paid in certain situations. These include countries that do not align with U.S. tax principles in significant part and for services performed outside the recipient country. The impact on Citi's 2022 effective tax rate was not material.

The Inflation Reduction Act, signed into law on August 16, 2022, had no impact on Citi's 2022 results. The Act includes a new corporate alternative minimum tax (AMT) and a 1% excise tax on stock buybacks, both effective January 1, 2023. The corporate AMT is a 15% minimum tax on financial statement income after adjusting for foreign taxes paid. Corporate AMT paid in one year is creditable against regular corporate tax liability in future years. Citi does not expect to pay material amounts of corporate AMT given its profitability and tax profile.

The 1% excise tax is a non-deductible tax on the fair market value of stock repurchased in the taxable year, reduced by the fair market value of any stock issued in the same year, and is accounted for in equity.

Deferred Tax Assets and Valuation Allowances (VA)

At December 31, 2022, Citi had net DTAs of $27.7 billion. In the fourth quarter of 2022, Citi's DTAs increased by $0.6 billion, primarily as a result of losses in *Other comprehensive income*. On a full-year basis, Citi's DTAs increased by $2.9 billion from $24.8 billion at December 31, 2021.

Of Citi's total net DTAs of $27.7 billion as of December 31, 2022, $10.9 billion, primarily related to tax carry-forwards, was deducted in calculating Citi's regulatory capital. Net DTAs arising from temporary differences are deducted from regulatory capital if in excess of the 10%/15% limitations (see "Capital Resources" above). For the quarter and year ended December 31, 2022, Citi had $0.3 billion of disallowed temporary difference DTAs (included in the $10.9 billion above). The remaining $16.8 billion of net DTAs as of December 31, 2022 was not deducted in calculating regulatory capital pursuant to Basel III standards, and was appropriately risk weighted under those rules.

Citi's total VA at December 31, 2022 was $2.4 billion, a decrease of $1.8 billion from $4.2 billion at December 31, 2021. The decrease was primarily driven by a release of the remaining general basket FTC VA and expirations in the FTC branch basket. Citi's VA of $2.4 billion is composed of $0.9 billion on its FTC branch basket carry-forwards, $1.0 billion on its U.S. residual DTA related to its non-U.S. branches, $0.4 billion on local non-U.S. DTAs and $0.1 billion on state net operating loss carry-forwards.

As stated above with regard to the impact of non-U.S. branches on Citi's earnings, the level of branch pretax income, the local branch tax rate and the allocations of ODL and expenses for U.S. tax purposes to the branch basket are the main factors in determining the branch VA. The allocated ODL was enhanced by significant taxable income generated in the current year.

Citi's VA against FTC carry-forwards in its general basket was fully reversed in 2022 from $0.8 billion in 2021, primarily as a result of the effect of higher interest rates on the projections of future interest income. See Note 9.

Recognized FTCs comprised approximately $1.9 billion of Citi's DTAs as of December 31, 2022, compared to

approximately $2.8 billion as of December 31, 2021. The decrease in FTCs year-over-year was primarily due to current-year usage, net of the VA release. The FTC carry-forward period represents the most time-sensitive component of Citi's DTAs.

Citi had an ODL of approximately $8 billion at December 31, 2022, which allows it to elect a percentage between 50% and 100% of future years' domestic source income to be reclassified as foreign source income. (See Note 9 for a description of the ODL.)

The majority of Citi's U.S. federal net operating loss carry-forward and all of its New York State and New York City net operating loss carry-forwards are subject to a carry-forward period of 20 years. This provides enough time to fully utilize the net DTAs pertaining to these existing net operating loss carry-forwards. This is due to Citi's forecast of sufficient U.S. taxable income and the continued taxation of Citi's non-U.S. income by New York State and the City of New York.

Although realization is not assured, Citi believes that the realization of its recognized net DTAs of $27.7 billion at December 31, 2022 is more-likely-than-not, based upon management's expectations of future taxable income in the jurisdictions in which the DTAs arise, as well as available tax planning strategies (as defined in ASC Topic 740, *Income Taxes*). Citi has concluded that it has the necessary positive evidence to support the realization of its net DTAs after taking its VAs into consideration.

See Note 9 for additional information on Citi's income taxes, including its income tax provision, tax assets and liabilities and a tabular summary of Citi's net DTAs balance as of December 31, 2022 (including the FTCs and applicable expiration dates of the FTCs). For information on Citi's ability to use its DTAs, see "Risk Factors—Strategic Risks" above and Note 9.

Accounting Changes

See Note 1 for a discussion of changes in accounting standards.

DISCLOSURE CONTROLS AND PROCEDURES

Citi's disclosure controls and procedures are designed to ensure that information required to be disclosed under the Securities Exchange Act of 1934, as amended, is recorded, processed, summarized and reported within the time periods specified in the SEC's rules and forms, including without limitation that information required to be disclosed by Citi in its SEC filings is accumulated and communicated to management, including the Chief Executive Officer (CEO) and Chief Financial Officer (CFO), as appropriate, to allow for timely decisions regarding required disclosure.

Citi's Disclosure Committee assists the CEO and CFO in their responsibilities to design, establish, maintain and evaluate the effectiveness of Citi's disclosure controls and procedures. The Disclosure Committee is responsible for, among other things, the oversight, maintenance and implementation of the disclosure controls and procedures, subject to the supervision and oversight of the CEO and CFO.

Citi's management, with the participation of its CEO and CFO, has evaluated the effectiveness of Citigroup's disclosure controls and procedures (as defined in Rule 13a-15(e) under the Securities Exchange Act of 1934) as of December 31, 2022. Based on that evaluation, the CEO and CFO have concluded that at that date Citigroup's disclosure controls and procedures were effective.

MANAGEMENT'S ANNUAL REPORT ON INTERNAL CONTROL OVER FINANCIAL REPORTING

Citi's management is responsible for establishing and maintaining adequate internal control over financial reporting. Citi's internal control over financial reporting is designed to provide reasonable assurance regarding the reliability of its financial reporting and the preparation of financial statements for external reporting purposes in accordance with U.S. generally accepted accounting principles. Citi's internal control over financial reporting includes those policies and procedures that (i) pertain to the maintenance of records that in reasonable detail accurately and fairly reflect the transactions and dispositions of Citi's assets, (ii) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles and that Citi's receipts and expenditures are made only in accordance with authorizations of Citi's management and directors and (iii) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use or disposition of Citi's assets that could have a material effect on its financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect all misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions or that the degree of compliance with the policies or procedures may deteriorate.

Citi's management assessed the effectiveness of Citigroup's internal control over financial reporting as of December 31, 2022 based on the criteria set forth by the Committee of Sponsoring Organizations of the Treadway Commission (COSO) in *Internal Control—Integrated Framework (2013)*. Based on this assessment, management believes that, as of December 31, 2022, Citi's internal control over financial reporting was effective. In addition, there were no changes in Citi's internal control over financial reporting during the fiscal quarter ended December 31, 2022 that materially affected, or are reasonably likely to materially affect, Citi's internal control over financial reporting.

The effectiveness of Citi's internal control over financial reporting as of December 31, 2022 has been audited by KPMG LLP, Citi's independent registered public accounting firm, as stated in their report below, which expressed an unqualified opinion on the effectiveness of Citi's internal control over financial reporting as of December 31, 2022.

FORWARD-LOOKING STATEMENTS

Certain statements in this report, including but not limited to statements included within the Management's Discussion and Analysis of Financial Condition and Results of Operations, are "forward-looking statements" within the meaning of the Private Securities Litigation Reform Act of 1995. In addition, Citigroup also may make forward-looking statements in its other documents filed with or furnished to the SEC, and its management may make forward-looking statements orally to analysts, investors, representatives of the media and others.

Generally, forward-looking statements are not based on historical facts but instead represent Citigroup's and its management's beliefs regarding future events. Such statements may be identified by words such as believe, expect, anticipate, intend, estimate, may increase, may fluctuate, target and illustrative, and similar expressions or future or conditional verbs such as will, should, may, would and could.

Such statements are based on management's current expectations and are subject to risks, uncertainties and changes in circumstances. Actual results of operations and financial conditions including capital and liquidity may differ materially from those included in these statements due to a variety of factors, including without limitation (i) the precautionary statements included within the "Executive Summary" and each individual business's discussion and analysis of its results of operations and (ii) the factors listed and described under "Risk Factors" above.

Any forward-looking statements made by or on behalf of Citigroup speak only as to the date they are made, and Citi does not undertake to update forward-looking statements to reflect the impact of circumstances or events that arise after the forward-looking statements were made.

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Stockholders and Board of Directors
Citigroup Inc.:

Opinions on the Consolidated Financial Statements and Internal Control Over Financial Reporting
We have audited the accompanying consolidated balance sheets of Citigroup Inc. and subsidiaries (the Company) as of December 31, 2022 and 2021, the related consolidated statements of income, comprehensive income, changes in stockholders' equity, and cash flows for each of the years in the three-year period ended December 31, 2022, and the related notes (collectively, the consolidated financial statements). We also have audited the Company's internal control over financial reporting as of December 31, 2022, based on criteria established in *Internal Control – Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission.

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of the Company as of December 31, 2022 and 2021, and the results of its operations and its cash flows for each of the years in the three-year period ended December 31, 2022, in conformity with U.S. generally accepted accounting principles. Also in our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2022 based on criteria established in *Internal Control – Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission.

Basis for Opinions
The Company's management is responsible for these consolidated financial statements, for maintaining effective internal control over financial reporting, and for its assessment of the effectiveness of internal control over financial reporting, included in the accompanying management's annual report on internal controls over financial reporting. Our responsibility is to express an opinion on the Company's consolidated financial statements and an opinion on the Company's internal control over financial reporting based on our audits. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) (PCAOB) and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audits to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement, whether due to error or fraud, and whether effective internal control over financial reporting was maintained in all material respects.

Our audits of the consolidated financial statements included performing procedures to assess the risks of material misstatement of the consolidated financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the consolidated financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements. Our audit of internal control over financial reporting included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, and testing and evaluating the design and operating effectiveness of internal control based on the assessed risk. Our audits also included performing such other procedures as we considered necessary in the circumstances. We believe that our audits provide a reasonable basis for our opinions.

Definition and Limitations of Internal Control Over Financial Reporting
A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

Critical Audit Matters
The critical audit matters communicated below are matters arising from the current period audit of the consolidated financial statements that were communicated or required to be communicated to the audit committee and that: (1) relate to accounts or disclosures that are material to the consolidated financial statements and (2) involved our especially

challenging, subjective, or complex judgments. The communication of critical audit matters does not alter in any way our opinion on the consolidated financial statements, taken as a whole, and we are not, by communicating the critical audit matters below, providing separate opinions on the critical audit matters or on the accounts or disclosures to which they relate.

Assessment of the fair value of certain Level 3 assets and liabilities measured on a recurring basis

As described in Notes 1, 6, 25 and 26 to the consolidated financial statements, the Company's net assets and liabilities recorded at fair value on a recurring basis were $840.9 billion and $360.1 billion, respectively at December 31, 2022. The Company estimated the fair value of Level 3 assets and liabilities measured on a recurring basis ($15.8 billion and $46.5 billion, respectively at December 31, 2022) utilizing various valuation techniques with one or more significant inputs or significant value drivers being unobservable including, but not limited to, complex internal valuation models, alternative pricing procedures or comparables analysis and discounted cash flows.

We identified the assessment of the measurement of fair value for certain Level 3 assets and liabilities recorded at fair value on a recurring basis as a critical audit matter. A high degree of effort, including specialized skills and knowledge, and subjective and complex auditor judgment was involved in the assessment of the Level 3 fair values due to measurement uncertainty. Specifically, the assessment encompassed the evaluation of the fair value methodology, including methods, models and significant assumptions and inputs used to estimate fair value. Significant assumptions include proxy data, forecast data, the extrapolation and interpolation of proxy data, forecast data, and historic data as well as certain model assumptions. The assessment also included an evaluation of the conceptual soundness and performance of the valuation models.

The following are the primary procedures we performed to address this critical audit matter. We involved valuation professionals with specialized skills and knowledge who assisted in evaluating the design and testing the operating effectiveness of certain internal controls related to the Company's Level 3 fair value measurements including controls over:

- valuation methodologies, including significant inputs and assumptions
- independent price verification
- evaluating that significant model assumptions and inputs reflected those which a market participant would use to determine an exit price in the current market environment
- the valuation models used were mathematically accurate and appropriate to value the financial instruments and
- relevant information used within the Company's models that was reasonably available was considered in the fair value determination.

Assessment of the allowance for credit losses collectively evaluated for impairment

As described in Notes 1 and 15 to the consolidated financial statements, the Company's allowance for credit losses was $19.1 billion as of December 31, 2022, which includes the allowance related to loans and unfunded lending commitments collectively evaluated for impairment (the collective ACLL). The expected credit losses for the quantitative component of the collective ACLL is the product of multiplying the probability of default (PD), loss given default (LGD), and exposure at default (EAD) for consumer and corporate loans. For consumer U.S. credit cards, the Company uses the payment rate approach over the life of the loan, which leverages payment rate curves, to determine the payments that should be applied to liquidate the end-of-period balance in the estimation of EAD. For unconditionally cancelable accounts, reserves are based on the expected life of the balance as of the evaluation date and do not include any undrawn commitments that are unconditionally cancelable. The credit loss factors applied are determined based on three macroeconomic scenarios (base, downside and upside) multiplied by their respective scenario probability weights, that take into consideration both internal and external forecasted macroeconomic variables, the most significant of which are U.S. unemployment and U.S. real gross domestic product (GDP). Additionally, for consumer U.S. credit card loans, these models consider leading credit indicators including loan delinquencies, as well as economic factors. For corporate loans, these models consider the credit quality as measured by risk ratings and economic factors. The qualitative component considers idiosyncratic events and the uncertainty of forward-looking economic scenarios.

We identified the assessment of the collective ACLL, specifically for consumer U.S. credit cards and corporate portfolios as a critical audit matter. Auditing the assessment involved significant measurement uncertainty requiring complex auditor judgment, and specialized skills and knowledge as well as experience in the industry. Our assessment encompassed the evaluation of the various components of the collective ACLL methodology, including the methods and models used to estimate the PD, LGD, and EAD and certain key assumptions and inputs for the Company's quantitative and qualitative components. Key assumptions and inputs for consumer loans included loan delinquencies, certain credit indicators, reasonable and supportable forecasts, expected life as well as economic factors, including unemployment rates, GDP, and housing prices which are considered in the model. For corporate loans, key assumptions and inputs included risk ratings, reasonable and supportable forecast, credit conversion factor for unfunded lending commitments, and economic factors, including GDP and unemployment rate considered in the model. Key assumptions and inputs for the qualitative component for consumer U.S. credit card loans include the expected normalization in portfolio performance and consumer behavior, after lower losses observed as a result of government stimulus and market liquidity. Key

assumptions and inputs for the qualitative component for corporate loan portfolios include uncertainty around the war in Ukraine and global recession, considering macroeconomic and market factors, including inflation, interest rates and commodity prices and their impacts on industries and sectors that are considered more vulnerable. The assessment also included an evaluation of the conceptual soundness and performance of the PD, LGD, and EAD models. In addition, auditor judgment was required to evaluate the sufficiency of audit evidence obtained.

The following are the primary procedures we performed to address this critical audit matter. We evaluated the design and tested the operating effectiveness of certain internal controls related to the Company's measurement of the collective ACLL estimate, including controls over the:

- approval of the collective ACLL methodologies
- determination of the key assumptions and inputs used to estimate the quantitative and qualitative components of the collective ACLL
- performance monitoring of the PD, LGD, and EAD models.

We evaluated the Company's process to develop the collective ACLL estimate by testing certain sources of data and assumptions that the Company used and considered the relevance and reliability of such data and assumptions. In addition, we involved credit risk professionals with specialized skills and knowledge, who assisted in:

- reviewing the Company's collective ACLL methodologies and key assumptions for compliance with U.S. generally accepted accounting principles
- assessing the conceptual soundness and performance testing of the PD, LGD, and EAD models by inspecting the model documentation to determine whether the models are suitable for their intended use
- evaluating judgments made by the Company relative to the development and performance monitoring testing of the PD, LGD, and EAD models by comparing them to relevant Company-specific metrics
- assessing the conceptual soundness and performance testing of the macroeconomic scenario weights model by inspecting the model documentation to determine whether the model is suitable for its intended use
- assessing the economic forecast scenarios through comparison to publicly available forecasts
- evaluating the methodologies used to develop certain economic forecast scenarios by comparing it to relevant industry practices
- testing corporate loan risk ratings for a selection of borrowers by evaluating the financial performance of the borrower, sources of repayment, and any relevant guarantees or underlying collateral
- evaluating the methodologies used in determining the qualitative components and the effect of that component on the collective ACLL compared with relevant credit risk factors and consistency with credit trends.

We also assessed the sufficiency of the audit evidence obtained related to the collective ACLL by evaluating the:

- cumulative results of the audit procedures
- qualitative aspects of the Company's accounting practices
- potential bias in the accounting estimates.

Evaluation of goodwill in the ICG Banking and PBWM US PB reporting units

As discussed in Notes 1 and 16 to the consolidated financial statements, the goodwill balance as of December 31, 2022 was $19.7 billion, of which $9.7 billion related to reporting units within the Personal Banking and Wealth Management (PBWM) segment, $9.0 billion related to reporting units within the Institutional Clients Group (ICG) segment, and $1.0 billion related to reporting units within the Legacy Franchises segment. The Company performs goodwill impairment testing on an annual basis and whenever events or changes in circumstances indicate that the carrying value of a reporting unit likely exceeds its fair value. This involves estimating the fair value of the reporting units using both discounted cash flow analyses and a market multiples approach.

We identified the evaluation of the goodwill impairment analysis for the ICG Banking and PBWM United States Personal Banking reporting units, one of the three reporting units within the ICG segment and one of the two reporting units in the PBWM segment, as a critical audit matter. The estimated fair value of the ICG Banking and PBWM United States Personal Banking reporting units marginally exceeded their carrying values, indicating a higher risk due to measurement uncertainty that the goodwill may be impaired and, therefore, involved a high degree of subjective auditor judgment. Specifically, the assessment encompassed the evaluation of the key assumptions used in estimating the fair value of the ICG Banking and PBWM United States Personal Banking reporting units, which include the long-term growth rate, discount rate, exit multiple assumptions, certain forecasted macroeconomic assumptions used to inform the forecasted income by reporting unit, and forecasted revenues and operating expenses by reporting unit used in the discounted cash flow analyses.

The following are the primary procedures we performed to address this critical audit matter. We evaluated the design and tested the operating effectiveness of certain internal controls related to the Company's determination of the estimated fair value of the ICG Banking and PBWM United States Personal Banking reporting units, including controls related to management's process for assessing the appropriateness of:

- certain assumptions including the long-term growth rate, discount rate and exit multiple assumptions used in the discounted cash flow analyses

- certain forecasted macroeconomic assumptions used to inform the forecasted income by reporting unit
- forecasted revenues and operating expenses by reporting unit.

We compared the Company's historical forecasts to actual results at a consolidated level to assess the Company's ability to accurately forecast key metrics such as revenues and operating expenses. We also compared prior year actuals to the expected trends for revenues and operating expenses at the reporting unit level to assess the Company's ability to achieve their forecasts. We compared the Company's fourth quarter 2022 forecasts to actual fourth quarter 2022 results at the reporting unit level to assess the Company's ability to accurately forecast. We evaluated the reasonableness of the Company's forecasts by comparing to analyst reports.

In addition, we involved a valuation professional with specialized skills and knowledge, who assisted in:

- developing an independent range of long-term growth rate assumptions by reviewing publicly available data and comparable industries and comparing it to the Company's assumption
- evaluating the discount rate by assessing the methodology used by management and developing an independent assumption for the discount rate
- developing an independent range of the exit multiple assumptions using publicly available data for comparable entities and comparing it to the Company's assumption utilized in the discounted cash flow analysis
- developing an independent estimate of the fair value of ICG Banking and PBWM United States Personal Banking reporting units using the income and market multiple approaches and comparing the results to the Company's fair value estimate
- assessing the reasonableness of the market capitalization reconciliation.

/s/ KPMG LLP

We have served as the Company's auditor since 1969.

New York, New York
February 24, 2023

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CONSOLIDATED FINANCIAL STATEMENTS
CONSOLIDATED STATEMENT OF INCOME

Citigroup Inc. and Subsidiaries

In millions of dollars, except per share amounts	Years ended December 31, 2022	2021	2020
Revenues			
Interest revenue	**$ 74,408**	$ 50,475	$ 58,089
Interest expense	**25,740**	7,981	13,338
Net interest income	**$ 48,668**	$ 42,494	$ 44,751
Commissions and fees	**$ 9,175**	$ 13,672	$ 11,385
Principal transactions	**14,159**	10,154	13,885
Administration and other fiduciary fees	**3,784**	3,943	3,472
Realized gains on sales of investments, net	**67**	665	1,756
Impairment losses on investments:			
Impairment losses on investments and other assets	**(499)**	(206)	(165)
Provision for credit losses on AFS debt securities[1]	**5**	(3)	(3)
Net impairment losses recognized in earnings	**$ (494)**	$ (209)	$ (168)
Other revenue	**$ (21)**	$ 1,165	$ 420
Total non-interest revenues	**$ 26,670**	$ 29,390	$ 30,750
Total revenues, net of interest expense	**$ 75,338**	$ 71,884	$ 75,501
Provisions for credit losses and for benefits and claims			
Provision for credit losses on loans	**$ 4,745**	$ (3,103)	$ 15,922
Provision for credit losses on held-to-maturity (HTM) debt securities	**33**	(3)	7
Provision for credit losses on other assets	**76**	—	7
Policyholder benefits and claims	**94**	116	113
Provision for credit losses on unfunded lending commitments	**291**	(788)	1,446
Total provisions for credit losses and for benefits and claims[2]	**$ 5,239**	$ (3,778)	$ 17,495
Operating expenses			
Compensation and benefits	**$ 26,655**	$ 25,134	$ 22,214
Premises and equipment	**2,320**	2,314	2,333
Technology/communication	**8,587**	7,828	7,383
Advertising and marketing	**1,556**	1,490	1,217
Other operating	**12,174**	11,427	11,227
Total operating expenses	**$ 51,292**	$ 48,193	$ 44,374
Income from continuing operations before income taxes	**$ 18,807**	$ 27,469	$ 13,632
Provision for income taxes	**3,642**	5,451	2,525
Income from continuing operations	**$ 15,165**	$ 22,018	$ 11,107
Discontinued operations			
Income (loss) from discontinued operations	**$ (272)**	$ 7	$ (20)
Benefit for income taxes	**(41)**	—	—
Income (loss) from discontinued operations, net of taxes	**$ (231)**	$ 7	$ (20)
Net income before attribution of noncontrolling interests	**$ 14,934**	$ 22,025	$ 11,087
Noncontrolling interests	**89**	73	40
Citigroup's net income	**$ 14,845**	$ 21,952	$ 11,047
Basic earnings per share[3]			
Income from continuing operations	**$ 7.16**	$ 10.21	$ 4.75
Loss from discontinued operations, net of taxes	**(0.12)**	—	(0.01)
Net income	**$ 7.04**	$ 10.21	$ 4.74
Weighted average common shares outstanding *(in millions)*	**1,946.7**	2,033.0	2,085.8
Diluted earnings per share[3]			
Income from continuing operations	**$ 7.11**	$ 10.14	$ 4.73
Loss from discontinued operations, net of taxes	**(0.12)**	—	(0.01)
Net income	**$ 7.00**	$ 10.14	$ 4.72
Adjusted weighted average diluted common shares outstanding *(in millions)*	**1,964.3**	2,049.4	2,099.0

(1) In accordance with ASC 326, which requires the provision for credit losses on AFS securities to be included in revenue.
(2) This total excludes the provision for credit losses on AFS securities, which is disclosed separately above.
(3) Due to rounding, earnings per share on continuing operations and discontinued operations may not sum to earnings per share on net income.

The Notes to the Consolidated Financial Statements are an integral part of these Consolidated Financial Statements.

CONSOLIDATED STATEMENT OF COMPREHENSIVE INCOME

Citigroup Inc. and Subsidiaries

	Years ended December 31,		
In millions of dollars	**2022**	2021	2020
Citigroup's net income	**$ 14,845**	$ 21,952	$ 11,047
Add: Citigroup's other comprehensive income (loss)[1]			
Net change in unrealized gains and losses on debt securities, net of taxes[2]	**$ (5,384)**	$ (3,934)	$ 3,585
Net change in debt valuation adjustment (DVA), net of taxes[3]	**2,029**	232	(475)
Net change in cash flow hedges, net of taxes	**(2,623)**	(1,492)	1,470
Benefit plans liability adjustment, net of taxes[4]	**97**	1,012	(55)
Net change in CTA, net of taxes and hedges	**(2,471)**	(2,525)	(250)
Net change in excluded component of fair value hedges, net of taxes	**55**	—	(15)
Citigroup's total other comprehensive income (loss)	**$ (8,297)**	$ (6,707)	$ 4,260
Citigroup's total comprehensive income	**$ 6,548**	$ 15,245	$ 15,307
Add: Other comprehensive income (loss) attributable to noncontrolling interests	**$ (58)**	$ (99)	$ 26
Add: Net income attributable to noncontrolling interests	**89**	73	40
Total comprehensive income	**$ 6,579**	$ 15,219	$ 15,373

(1) See Note 20.
(2) See Note 1.
(3) See Note 25.
(4) See Note 8.

The Notes to the Consolidated Financial Statements are an integral part of these Consolidated Financial Statements.

CONSOLIDATED BALANCE SHEET *Citigroup Inc. and Subsidiaries*

In millions of dollars	December 31, 2022	2021
Assets		
Cash and due from banks (including segregated cash and other deposits)	**$ 30,577**	$ 27,515
Deposits with banks, net of allowance	**311,448**	234,518
Securities borrowed and purchased under agreements to resell (including $239,527 and $216,466 as of December 31, 2022 and 2021, respectively, at fair value), net of allowance	**365,401**	327,288
Brokerage receivables, net of allowance	**54,192**	54,340
Trading account assets (including $133,535 and $133,828 pledged to creditors at December 31, 2022 and 2021, respectively)	**334,114**	331,945
Investments:		
Available-for-sale debt securities (including $10,933 and $9,226 pledged to creditors as of December 31, 2022 and 2021, respectively), net of allowance	**249,679**	288,522
Held-to-maturity debt securities (fair value of which is $243,648 and $216,038 as of December 31, 2022 and 2021, respectively) (includes $— and $1,460 pledged to creditors as of December 31, 2022 and 2021, respectively), net of allowance	**268,863**	216,963
Equity securities (including $895 and $1,032 as of December 31, 2022 and 2021, respectively, at fair value)	**8,040**	7,337
Total investments	**$ 526,582**	$ 512,822
Loans:		
Consumer (including $237 and $12 as of December 31, 2022 and 2021, respectively, at fair value)	**368,067**	376,534
Corporate (including $5,123 and $6,070 as of December 31, 2022 and 2021, respectively, at fair value)	**289,154**	291,233
Loans, net of unearned income	**$ 657,221**	$ 667,767
Allowance for credit losses on loans (ACLL)	**(16,974)**	(16,455)
Total loans, net	**$ 640,247**	$ 651,312
Goodwill	**19,691**	21,299
Intangible assets (including MSRs of $665 and $404 as of December 31, 2022 and 2021, respectively, at fair value)	**4,428**	4,495
Premises and equipment, net of depreciation and amortization	**26,253**	24,328
Other assets (including $10,658 and $12,342 as of December 31, 2022 and 2021, respectively, at fair value), net of allowance	**103,743**	101,551
Total assets	**$ 2,416,676**	$ 2,291,413

Statement continues on the next page.

In millions of dollars, except shares and per share amounts	December 31, 2022	2021
Liabilities		
Deposits (including $1,875 and $1,666 as of December 31, 2022 and 2021, respectively, at fair value)	**$ 1,365,954**	$ 1,317,230
Securities loaned and sold under agreements to repurchase (including $70,886 and $56,694 as of December 31, 2022 and 2021, respectively, at fair value)	**202,444**	191,285
Brokerage payables (including $4,439 and $3,575 as of December 31, 2022 and 2021, respectively, at fair value)	**69,218**	61,430
Trading account liabilities	**170,647**	161,529
Short-term borrowings (including $6,222 and $7,358 as of December 31, 2022 and 2021, respectively, at fair value)	**47,096**	27,973
Long-term debt (including $105,995 and $82,609 as of December 31, 2022 and 2021, respectively, at fair value)	**271,606**	254,374
Other liabilities	**87,873**	74,920
Total liabilities	**$ 2,214,838**	$ 2,088,741
Stockholders' equity		
Preferred stock ($1.00 par value; authorized shares: 30 million), issued shares: **759,800 as of December 31, 2022** and 759,800 as of December 31, 2021, at aggregate liquidation value	**$ 18,995**	$ 18,995
Common stock ($0.01 par value; authorized shares: 6 billion), issued shares: **3,099,669,424 as of December 31, 2022** and 3,099,651,835 as of December 31, 2021	**31**	31
Additional paid-in capital	**108,458**	108,003
Retained earnings	**194,734**	184,948
Treasury stock, at cost: **1,162,682,999 shares as of December 31, 2022** and 1,115,296,641 shares as of December 31, 2021	**(73,967)**	(71,240)
Accumulated other comprehensive income (loss) (*AOCI*)	**(47,062)**	(38,765)
Total Citigroup stockholders' equity	**$ 201,189**	$ 201,972
Noncontrolling interests	**649**	700
Total equity	**$ 201,838**	$ 202,672
Total liabilities and equity	**$ 2,416,676**	$ 2,291,413

The Notes to the Consolidated Financial Statements are an integral part of these Consolidated Financial Statements.

CONSOLIDATED STATEMENT OF CHANGES IN STOCKHOLDERS' EQUITY

Citigroup Inc. and Subsidiaries

	Years ended December 31,					
	Amounts			Shares		
In millions of dollars, except shares in thousands	**2022**	2021	2020	**2022**	2021	2020
Preferred stock at aggregate liquidation value						
Balance, beginning of year	**$ 18,995**	$ 19,480	$ 17,980	**760**	779	719
Issuance of new preferred stock	**—**	3,300	3,000	**—**	132	120
Redemption of preferred stock	**—**	(3,785)	(1,500)	**—**	(151)	(60)
Balance, end of year	**$ 18,995**	$ 18,995	$ 19,480	**760**	760	779
Common stock and additional paid-in capital (APIC)						
Balance, beginning of year	**$ 108,034**	$ 107,877	$ 107,871	**3,099,652**	3,099,633	3,099,603
Employee benefit plans	**455**	85	5	**17**	19	30
Preferred stock issuance costs (new issuances, net of reclassifications to retained earnings for redemptions)	**—**	25	(4)	**—**	—	—
Other	**—**	47	5	**—**	—	—
Balance, end of year	**$ 108,489**	$ 108,034	$ 107,877	**3,099,669**	3,099,652	3,099,633
Retained earnings						
Balance, beginning of year	**$ 184,948**	$ 168,272	$ 165,369			
Adjustments to opening balance, net of taxes[1]						
Financial instruments—credit losses (CECL adoption)	**—**	—	(3,076)			
Variable post-charge-off third-party collection costs	**—**	—	330			
Adjusted balance, beginning of year	**$ 184,948**	$ 168,272	$ 162,623			
Citigroup's net income	**14,845**	21,952	11,047			
Common dividends[2]	**(4,028)**	(4,196)	(4,299)			
Preferred dividends	**(1,032)**	(1,040)	(1,095)			
Other (primarily reclassifications from APIC for preferred issuance costs on redemptions)	**1**	(40)	(4)			
Balance, end of year	**$ 194,734**	$ 184,948	$ 168,272			
Treasury stock, at cost						
Balance, beginning of year	**$ (71,240)**	$ (64,129)	$ (61,660)	**(1,115,297)**	(1,017,544)	(985,480)
Employee benefit plans[3]	**523**	489	456	**8,190**	7,745	8,676
Treasury stock acquired[4]	**(3,250)**	(7,600)	(2,925)	**(55,576)**	(105,498)	(40,740)
Balance, end of year	**$ (73,967)**	$ (71,240)	$ (64,129)	**(1,162,683)**	(1,115,297)	(1,017,544)
Citigroup's accumulated other comprehensive income (loss)						
Balance, beginning of year	**$ (38,765)**	$ (32,058)	$ (36,318)			
Citigroup's total other comprehensive income (loss)	**(8,297)**	(6,707)	4,260			
Balance, end of year	**$ (47,062)**	$ (38,765)	$ (32,058)			
Total Citigroup common stockholders' equity	**$ 182,194**	$ 182,977	$ 179,962	**1,936,986**	1,984,355	2,082,089
Total Citigroup stockholders' equity	**$ 201,189**	$ 201,972	$ 199,442			
Noncontrolling interests						
Balance, beginning of year	**$ 700**	$ 758	$ 704			
Transactions between Citigroup and the noncontrolling-interest shareholders	**(34)**	(10)	(4)			
Net income attributable to noncontrolling-interest shareholders	**89**	73	40			
Distributions paid to noncontrolling-interest shareholders	**(51)**	(10)	(2)			
Other comprehensive income (loss) attributable to noncontrolling-interest shareholders	**(58)**	(99)	26			
Other	**3**	(12)	(6)			
Net change in noncontrolling interests	**$ (51)**	$ (58)	$ 54			
Balance, end of year	**$ 649**	$ 700	$ 758			
Total equity	**$ 201,838**	$ 202,672	$ 200,200			

(1) See Note 1 for additional details.

(2) Common dividends declared were $0.51 per share in the first, second, third and fourth quarters of 2022, 2021 and 2020.

(3) Includes treasury stock related to (i) certain activity on employee stock option program exercises where the employee delivers existing shares to cover the option exercise, or (ii) under Citi's employee restricted or deferred stock programs where shares are withheld to satisfy tax requirements.
(4) Primarily consists of open market purchases under Citi's Board of Directors-approved common stock repurchase program.

The Notes to the Consolidated Financial Statements are an integral part of these Consolidated Financial Statements.

CONSOLIDATED STATEMENT OF CASH FLOWS

Citigroup Inc. and Subsidiaries

In millions of dollars	Years ended December 31, 2022	2021	2020
Cash flows from operating activities of continuing operations			
Net income before attribution of noncontrolling interests	**$ 14,934**	$ 22,025	$ 11,087
Net income attributable to noncontrolling interests	**89**	73	40
Citigroup's net income	**$ 14,845**	$ 21,952	$ 11,047
Income (loss) from discontinued operations, net of taxes	**(231)**	7	(20)
Income from continuing operations—excluding noncontrolling interests	**$ 15,076**	$ 21,945	$ 11,067
Adjustments to reconcile net income to net cash provided by (used in) operating activities of continuing operations			
Net loss (gain) on sale of significant disposals[1]	**(762)**	700	—
Depreciation and amortization	**4,262**	3,964	3,937
Deferred income taxes	**(1,141)**	1,413	(2,333)
Provisions for credit losses on loans and unfunded lending commitments	**5,036**	(3,891)	17,368
Realized gains from sales of investments	**(67)**	(665)	(1,756)
Impairment losses on investments and other assets	**499**	206	165
Goodwill impairment	**535**	—	—
Change in trading account assets	**(2,273)**	43,059	(98,997)
Change in trading account liabilities	**9,118**	(6,498)	48,133
Change in brokerage receivables net of brokerage payables	**7,936**	1,412	(3,066)
Change in loans held-for-sale (HFS)	**4,421**	(3,809)	1,202
Change in other assets	**(4,992)**	(2,139)	(1,012)
Change in other liabilities	**5,343**	6,839	558
Other, net[2]	**(17,922)**	(15,446)	1,246
Total adjustments	**$ 9,993**	$ 25,145	$ (34,555)
Net cash provided by (used in) operating activities of continuing operations[2]	**$ 25,069**	$ 47,090	$ (23,488)
Cash flows from investing activities of continuing operations			
Change in securities borrowed and purchased under agreements to resell	**$ (38,113)**	$ (32,576)	$ (43,390)
Change in loans	**(16,591)**	(1,173)	14,249
Proceeds from sales and securitizations of loans	**4,709**	2,918	1,495
Proceeds from divestitures[1]	**5,741**	—	—
Available-for-sale (AFS) debt securities[3]			
Purchases of investments[2]	**(218,747)**	(205,980)	(306,801)
Proceeds from sales of investments	**79,687**	125,895	144,035
Proceeds from maturities of investments	**140,934**	120,936	110,941
Held-to-maturity (HTM) debt securities[3]			
Purchases of investments	**(42,903)**	(136,450)	(25,586)
Proceeds from maturities of investments	**12,188**	21,164	15,215
Capital expenditures on premises and equipment and capitalized software	**(5,632)**	(4,119)	(3,446)
Proceeds from sales of premises and equipment, subsidiaries and affiliates and repossessed assets	**63**	190	50
Other, net[2]	**(791)**	(1,551)	793
Net cash used in investing activities of continuing operations[2]	**$ (79,455)**	$ (110,746)	$ (92,445)
Cash flows from financing activities of continuing operations			
Dividends paid	**$ (5,003)**	$ (5,198)	$ (5,352)
Issuance of preferred stock	**—**	3,300	2,995
Redemption of preferred stock	**—**	(3,785)	(1,500)
Treasury stock acquired	**(3,250)**	(7,601)	(2,925)
Stock tendered for payment of withholding taxes	**(344)**	(337)	(411)

CONSOLIDATED STATEMENT OF CASH FLOWS
(Continued)

Citigroup Inc. and Subsidiaries

	Years ended December 31,		
In millions of dollars	**2022**	2021	2020
Change in securities loaned and sold under agreements to repurchase	**$ 11,159**	$ (8,240)	$ 33,186
Issuance of long-term debt	**104,748**	70,658	76,458
Payments and redemptions of long-term debt	**(57,085)**	(74,950)	(63,402)
Change in deposits	**68,415**	44,966	210,081
Change in short-term borrowings	**19,123**	(1,541)	(15,535)
Net cash provided by financing activities of continuing operations	**$ 137,763**	$ 17,272	$ 233,595
Effect of exchange rate changes on cash and due from banks	**$ (3,385)**	$ (1,198)	$ (1,966)
Change in cash, due from banks and deposits with banks	**79,992**	(47,582)	115,696
Cash, due from banks and deposits with banks at beginning of year	**262,033**	309,615	193,919
Cash, due from banks and deposits with banks at end of year	**$ 342,025**	$ 262,033	$ 309,615
Cash and due from banks (including segregated cash and other deposits)	**$ 30,577**	$ 27,515	$ 26,349
Deposits with banks, net of allowance	**311,448**	234,518	283,266
Cash, due from banks and deposits with banks at end of year	**$ 342,025**	$ 262,033	$ 309,615
Supplemental disclosure of cash flow information for continuing operations			
Cash paid during the year for income taxes	**$ 3,733**	$ 4,028	$ 4,797
Cash paid during the year for interest	**22,615**	7,143	12,094
Non-cash investing activities[1][4]			
Transfer of investment securities from AFS to HTM	**$ 21,688**	$ —	$ —
Decrease in net loans associated with divestitures reclassified to HFS	**16,956**	9,945	—
Decrease in goodwill associated with divestitures reclassified to HFS	**876**	—	—
Transfers to loans HFS (*Other assets*) from loans	**5,582**	7,414	2,614
Non-cash financing activities[1]			
Decrease in long-term debt associated with divestitures reclassified to HFS	**$ —**	$ 479	$ —
Decrease in deposits associated with divestitures reclassified to HFS	**19,691**	8,407	—

(1) See Note 2 for further information on significant disposals.
(2) See "Statement of Cash Flows" in Note 1.
(3) Citi has revised the Consolidated Statement of Cash Flows to present purchases of investments, sales of investments and proceeds from maturities of investments separately between AFS debt securities and HTM debt securities. Citi had no sales of HTM debt securities during the periods presented.
(4) Operating and finance lease right-of-use assets and lease liabilities represent non-cash investing and financing activities, respectively, and are not included in the non-cash investing activities presented here. See Note 28 for more information and balances as of December 31, 2022 and 2021, respectively.

The Notes to the Consolidated Financial Statements are an integral part of these Consolidated Financial Statements.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

1. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

Throughout these Notes, "Citigroup," "Citi" and the "Company" refer to Citigroup Inc. and its consolidated subsidiaries.

Certain reclassifications and updates have been made to the prior periods' financial statements and notes to conform to the current period's presentation.

Principles of Consolidation

The Consolidated Financial Statements include the accounts of Citigroup and its subsidiaries prepared in accordance with U.S. generally accepted accounting principles (GAAP). The Company consolidates subsidiaries in which it holds, directly or indirectly, more than 50% of the voting rights or where it exercises control. Entities in which the Company holds 20% to 50% of the voting rights and/or has the ability to exercise significant influence, other than investments of designated venture capital subsidiaries or investments accounted for at fair value under the fair value option, are accounted for under the equity method, and the pro rata share of their income (loss) is included in *Other revenue*. Income from investments in less-than-20%-owned companies is recognized when dividends are received. As discussed in more detail in Note 22, Citigroup also consolidates entities deemed to be variable interest entities when Citigroup is determined to be the primary beneficiary. Gains and losses on the disposition of branches, subsidiaries, affiliates, buildings and other investments are included in *Other revenue*.

Citibank

Citibank, N.A. (Citibank) is a commercial bank and indirect wholly owned subsidiary of Citigroup. Citibank's principal offerings include investment banking, commercial banking, cash management, trade finance and e-commerce; private banking products and services; consumer finance, credit cards, and mortgage lending; and retail banking products and services.

Variable Interest Entities (VIEs)

An entity is a variable interest entity (VIE) if it meets either of the criteria outlined in Accounting Standards Codification (ASC) Topic 810, *Consolidation*, which are (i) the entity has equity that is insufficient to permit the entity to finance its activities without additional subordinated financial support from other parties, or (ii) the entity has equity investors that cannot make significant decisions about the entity's operations or that do not absorb their proportionate share of the entity's expected losses or expected returns.

The Company consolidates a VIE when it has both the power to direct the activities that most significantly impact the VIE's economic performance and a right to receive benefits or the obligation to absorb losses of the entity that could be potentially significant to the VIE (that is, Citi is the primary beneficiary). In addition to variable interests held in consolidated VIEs, the Company has variable interests in other VIEs that are not consolidated because the Company is not the primary beneficiary.

All unconsolidated VIEs are monitored by the Company to assess whether any events have occurred to cause its primary beneficiary status to change.

All entities not deemed to be VIEs with which the Company has involvement are evaluated for consolidation under other subtopics of ASC 810. See Note 22 for more detailed information.

Foreign Currency Translation

Assets and liabilities of Citi's foreign operations are translated from their respective functional currencies into U.S. dollars using period-end spot foreign exchange rates. The effects of those translation adjustments are reported in *Accumulated other comprehensive income (loss) (AOCI)*, a component of stockholders' equity, net of any related hedge and tax effects, until realized upon sale or substantial liquidation of the foreign entity, at which point such amounts are reclassified into earnings. Revenues and expenses of Citi's foreign operations are translated monthly from their respective functional currencies into U.S. dollars at amounts that approximate weighted average exchange rates.

For transactions that are denominated in a currency other than the functional currency, including transactions denominated in the local currencies of foreign operations that use the U.S. dollar as their functional currency, the effects of changes in exchange rates are primarily included in *Principal transactions*, along with the related effects of any economic hedges. Instruments used to hedge foreign currency exposures include foreign currency forward, option and swap contracts and, in certain instances, designated issues of non-U.S.-dollar debt. Foreign operations in countries with highly inflationary economies designate the U.S. dollar as their functional currency, with the effects of changes in exchange rates primarily included in *Other revenue*.

Investment Securities

Investments include debt and equity securities. Debt securities include bonds, notes and redeemable preferred stocks, as well as certain loan-backed and structured securities that are subject to prepayment risk. Equity securities include common and nonredeemable preferred stock.

Debt Securities

- Debt securities classified as "held-to-maturity" (HTM) are securities that the Company has both the ability and the intent to hold until maturity and are carried at amortized cost. Interest income on such securities is included in *Interest revenue*.
- Debt securities classified as "available-for-sale" (AFS) are carried at fair value with changes in fair value reported in *Accumulated other comprehensive income (loss)*, a component of stockholders' equity, net of applicable income taxes and hedges. Interest income on such securities is included in *Interest revenue*.

For investments in debt securities classified as HTM or AFS, the accrual of interest income is suspended for investments that are in default or for which it is likely that future interest payments will not be made as scheduled.

Investment securities not measured at fair value through earnings include (i) debt securities held in HTM or AFS, (ii) equity securities accounted for under the Measurement Alternative or equity method, (iii) Federal Reserve Bank and Federal Home Loan Bank stock and (iv) certain exchange memberships. These securities are subject to evaluation for impairment as described in Note 15 for HTM securities and in Note 13 for AFS, Measurement Alternative and equity method investments. Realized gains and losses on sales of investments are included in earnings, primarily on a specific identification basis.

The Company uses a number of valuation techniques for investments carried at fair value, which are described in Note 25.

Equity Securities

- Marketable equity securities are measured at fair value with changes in fair value recognized in earnings.
- Non-marketable equity securities are measured at fair value with changes in fair value recognized in earnings unless (i) the measurement alternative is elected or (ii) the investment represents Federal Reserve Bank and Federal Home Loan Bank stock or certain exchange seats that continue to be carried at cost. Non-marketable equity securities under the measurement alternative are carried at cost less impairment (if any), plus or minus changes resulting from observed prices for orderly transactions for the identical or a similar investment of the same issuer.
- Certain investments that would otherwise have been accounted for using the equity method are carried at fair value with changes in fair value recognized in earnings, since the Company elected to apply fair value accounting.

Trading Account Assets and Liabilities

Trading account assets include debt and marketable equity securities, derivatives in a receivable position, residual interests in securitizations and physical commodities inventory. In addition, as described in Note 26, certain assets that Citigroup has elected to carry at fair value under the fair value option, such as loans and purchased guarantees, are also included in *Trading account assets*.

Trading account liabilities include securities sold, not yet purchased (short positions) and derivatives in a net payable position, as well as certain liabilities that Citigroup has elected to carry at fair value (as described in Note 26).

Other than physical commodities inventory, all trading account assets and liabilities are carried at fair value. Revenues generated from trading assets and trading liabilities are generally reported in *Principal transactions* and include realized gains and losses as well as unrealized gains and losses resulting from changes in the fair value of such instruments. Interest income on trading assets is recorded in *Interest revenue* reduced by interest expense on trading liabilities.

Physical commodities inventory is carried at the lower of cost or market with related losses reported in *Principal transactions*, except when included in a hedging relationship. Realized gains and losses on sales of commodities inventory are included in *Principal transactions*. Investments in unallocated precious metals accounts (gold, silver, platinum and palladium) are accounted for as hybrid instruments containing a debt host contract and an embedded non-financial derivative instrument indexed to the price of the relevant precious metal. The embedded derivative instrument and debt host contract are carried at fair value under the fair value option, as described in Note 26.

Derivatives used for trading purposes include interest rate, currency, equity, credit and commodity swap agreements, options, caps and floors, warrants, and financial and commodity futures and forward contracts. Derivative asset and liability positions are presented net by counterparty on the Consolidated Balance Sheet when a valid master netting agreement exists and the other conditions set out in ASC Topic 210-20, *Balance Sheet—Offsetting*, are met. See Note 23.

The Company uses a number of techniques to determine the fair value of trading assets and liabilities, which are described in Note 25.

Securities Borrowed and Securities Loaned

Securities borrowing and lending transactions do not constitute a sale of the underlying securities for accounting purposes and are treated as collateralized financing transactions. Such transactions are recorded at the amount of proceeds advanced or received plus accrued interest. As described in Note 26, the Company has elected to apply fair value accounting to a number of securities borrowing and lending transactions. Fees received or paid for all securities borrowing and lending transactions are recorded in *Interest revenue* or *Interest expense* at the contractually specified rate.

Where the conditions of ASC 210-20-45-1, *Balance Sheet—Offsetting: Right of Setoff Conditions*, are met, securities borrowing and lending transactions are presented net on the Consolidated Balance Sheet.

The Company monitors the fair value of securities borrowed or loaned on a daily basis and obtains or posts additional collateral in order to maintain contractual margin protection.

As described in Note 25, the Company uses a discounted cash flow technique to determine the fair value of securities lending and borrowing transactions.

Repurchase and Resale Agreements

Securities sold under agreements to repurchase (repos) and securities purchased under agreements to resell (reverse repos) do not constitute a sale (or purchase) of the underlying securities for accounting purposes and are treated as collateralized financing transactions. As described in Note 26, the Company has elected to apply fair value accounting to certain portions of such transactions, with changes in fair value reported in earnings. Any transactions for which fair value accounting has not been elected are recorded at the amount of cash advanced or received plus accrued interest. Irrespective of whether the Company has elected fair value accounting, interest paid or received on all repo and reverse

repo transactions is recorded in *Interest expense* or *Interest revenue* at the contractually specified rate.

Where the conditions of ASC 210-20-45-11, *Balance Sheet—Offsetting: Repurchase and Reverse Repurchase Agreements*, are met, repos and reverse repos are presented net on the Consolidated Balance Sheet.

The Company's policy is to take possession of securities purchased under reverse repurchase agreements. The Company monitors the fair value of securities subject to repurchase or resale on a daily basis and obtains or posts additional collateral in order to maintain contractual margin protection.

As described in Note 25, the Company uses a discounted cash flow technique to determine the fair value of repo and reverse repo transactions.

Loans

Loans are reported at their outstanding principal balances net of any unearned income and unamortized deferred fees and costs, except for credit card receivable balances, which include accrued interest and fees. Loan origination fees and certain direct origination costs are generally deferred and recognized as adjustments to income over the lives of the related loans.

As described in Note 26, Citi has elected fair value accounting for certain loans. Such loans are carried at fair value with changes in fair value reported in earnings. Interest income on such loans is recorded in *Interest revenue* at the contractually specified rate.

Loans that are held-for-investment are classified as *Loans, net of unearned income* on the Consolidated Balance Sheet, and the related cash flows are included within the cash flows from the investing activities category in the Consolidated Statement of Cash Flows on the line *Change in loans*. However, when the initial intent for holding a loan has changed from held-for-investment to held-for-sale (HFS), the loan is reclassified to HFS, but the related cash flows continue to be reported in cash flows from investing activities in the Consolidated Statement of Cash Flows on the line *Proceeds from sales and securitizations of loans*.

Consumer Loans

Consumer loans represent loans and leases managed primarily by the *Personal Banking and Wealth Management* and *Legacy Franchises* businesses (except Mexico SBMM loans).

Consumer Non-accrual and Re-aging Policies

As a general rule, interest accrual ceases for installment and real estate (both open- and closed-end) loans when payments are 90 days contractually past due. For credit cards and other unsecured revolving loans, however, Citi generally accrues interest until payments are 180 days past due. As a result of OCC guidance, home equity loans in regulated bank entities are classified as non-accrual if the related residential first mortgage is 90 days or more past due. Also as a result of OCC guidance, mortgage loans in regulated bank entities are classified as non-accrual within 60 days of notification that the borrower has filed for bankruptcy, with the exception of Federal Housing Administration (FHA)-insured loans.

Loans that have been modified to grant a concession to a borrower in financial difficulty may not be accruing interest at the time of the modification. The policy for returning such modified loans to accrual status varies by product and/or region. In most cases, a minimum number of payments (ranging from one to six) is required, while in other cases the loan is never returned to accrual status. For regulated bank entities, such modified loans are returned to accrual status if a credit evaluation at the time of, or subsequent to, the modification indicates the borrower is able to meet the restructured terms, and the borrower is current and has demonstrated a reasonable period of sustained payment performance (minimum six months of consecutive payments).

For U.S. consumer loans, generally one of the conditions to qualify for modification (other than for loan modifications made through the CARES Act relief provisions or banking agency guidance for pandemic-related issues) is that a minimum number of payments (typically ranging from one to three) must be made. Upon modification, the loan is re-aged to current status. However, re-aging practices for certain open-ended consumer loans, such as credit cards, are governed by Federal Financial Institutions Examination Council (FFIEC) guidelines. For open-ended consumer loans subject to FFIEC guidelines, one of the conditions for the loan to be re-aged to current status is that at least three consecutive minimum monthly payments, or the equivalent amount, must be received. In addition, under FFIEC guidelines, the number of times that such a loan can be re-aged is subject to limitations (generally once in 12 months and twice in five years). Furthermore, FHA and Department of Veterans Affairs (VA) loans may only be modified under those respective agencies' guidelines, and payments are not always required in order to re-age a modified loan to current.

Consumer Charge-Off Policies

Citi's charge-off policies follow the general guidelines below:

- Unsecured installment loans are charged off at 120 days contractually past due.
- Unsecured revolving loans and credit card loans are charged off at 180 days contractually past due.
- Loans secured with non-real estate collateral are written down to the estimated value of the collateral, less costs to sell, at 120 days contractually past due.
- Real estate-secured loans are written down to the estimated value of the property, less costs to sell, at 180 days contractually past due.
- Real estate-secured loans are charged off no later than 180 days contractually past due if a decision has been made not to foreclose on the loans.
- Unsecured loans in bankruptcy are charged off within 60 days of notification of filing by the bankruptcy court or in accordance with Citi's charge-off policy, whichever occurs earlier.
- Real estate-secured loans in bankruptcy, other than FHA-insured loans, are written down to the estimated value of the property, less costs to sell, within 60 days of notification that the borrower has filed for bankruptcy or in accordance with Citi's charge-off policy, whichever is earlier.

Corporate Loans

Corporate loans represent loans and leases managed by *Institutional Clients Group (ICG)* and the Mexico SBMM component of *Legacy Franchises*. Corporate loans are identified as impaired and placed on a cash (non-accrual) basis when it is determined, based on actual experience and a forward-looking assessment of the collectability of the loan in full, that the payment of interest or principal is doubtful or when interest or principal is 90 days past due, except when the loan is well collateralized and in the process of collection. Any interest accrued on impaired corporate loans and leases is reversed at 90 days past due and charged against current earnings, and interest is thereafter included in earnings only to the extent actually received in cash. When there is doubt regarding the ultimate collectability of principal, all cash receipts are thereafter applied to reduce the recorded investment in the loan.

Impaired corporate loans and leases are written down to the extent that principal is deemed to be uncollectible. Impaired collateral-dependent loans and leases, where repayment is expected to be provided solely by the sale of the underlying collateral and there are no other available and reliable sources of repayment, are carried at the lower of amortized cost or collateral value. Cash-basis loans are returned to accrual status when all contractual principal and interest amounts are reasonably assured of repayment and there is a sustained period of repayment performance in accordance with the contractual terms.

Loans Held-for-Sale

Corporate and consumer loans that have been identified for sale are classified as loans HFS and included in *Other assets*. The practice of Citi's U.S. prime mortgage business has been to sell substantially all of its conforming loans. As such, U.S. prime mortgage conforming loans are classified as HFS and the fair value option is elected at origination, with changes in fair value recorded in *Other revenue*. With the exception of those loans for which the fair value option has been elected, HFS loans are accounted for at the lower of cost or market value, with any write-downs or subsequent recoveries charged to *Other revenue*. The related cash flows are classified in the Consolidated Statement of Cash Flows in the cash flows from operating activities category on the line *Change in loans HFS*. Gains and losses on loans HFS are generally presented in *Other revenue*. Gains on sales of fully or partially charged-off loans are presented as gross credit recoveries in the *Provision for credit losses* up to the amount of prior charge-offs.

Allowances for Credit Losses (ACL)

Commencing January 1, 2020, Citi adopted ASC 326, *Financial Instruments—Credit Losses*, using the methodologies described below.

The current expected credit losses (CECL) methodology is based on relevant information about past events, including historical experience, current conditions and reasonable and supportable (R&S) forecasts that affect the collectability of the reported financial asset balances. If the asset's life extends beyond the R&S forecast period, then historical experience is considered over the remaining life of the assets in the ACL. The resulting ACL is adjusted in each subsequent reporting period through *Provisions for credit losses* in the Consolidated Statement of Income to reflect changes in history, current conditions and forecasts as well as changes in asset positions and portfolios. ASC 326 defines the ACL as a valuation account that is deducted from the amortized cost of a financial asset to present the net amount that management expects to collect on the financial asset over its expected life. All financial assets carried at amortized cost are in the scope of ASC 326, while assets measured at fair value are excluded. See Note 13 for a discussion of impairment on available-for-sale (AFS) securities.

Increases and decreases to the allowances are recorded in *Provisions for credit losses*. The CECL methodology utilizes a lifetime expected credit loss (ECL) measurement objective for the recognition of credit losses for held-for-investment (HFI) loans, held-to-maturity (HTM) debt securities, receivables and other financial assets measured at amortized cost at the time the financial asset is originated or acquired. Within the life of a loan or other financial asset, the methodology generally results in the earlier recognition of the provision for credit losses and the related ACL than under the prior probable incurred loss model.

Estimation of ECLs requires Citi to make assumptions regarding the likelihood and severity of credit loss events and their impact on expected cash flows, which drive the probability of default (PD), loss given default (LGD) and exposure at default (EAD) models and, where Citi discounts the ECL, using discounting techniques for certain products.

Citi considers a multitude of global macroeconomic variables for the base, upside and downside probability-weighted macroeconomic scenario forecasts it uses to estimate the ACL. Citi's forecasts of the U.S. unemployment rate and U.S. real GDP growth rate represent the key macroeconomic variables that most significantly affect its estimate of the ACL. Under the base macroeconomic forecast as of 4Q22, U.S. real GDP growth is expected to decline during 2023, and the unemployment rate is expected to increase modestly over the forecast horizon, broadly returning to pre-pandemic levels.

The macroeconomic scenario weights are estimated using a statistical model, which, among other factors, takes into consideration key macroeconomic drivers of the ACL, severity of the scenario and other macroeconomic uncertainties and risks. Citi evaluates scenario weights on a quarterly basis.

Citi's downside scenario incorporates more adverse macroeconomic assumptions than the base scenario. For example, compared to the base scenario, Citi's downside scenario reflects a more severe recession, including an elevated average U.S. unemployment rate of 6.9% over the eight-quarter R&S period, with a peak difference of 2.9% in the second quarter of 2024. The downside scenario also reflects a year-over-year U.S. real GDP contraction in 2023 of 2.4%, with a peak quarter-over-quarter difference of 3.3% in the second quarter of 2023.

The following are the main factors and interpretations that Citi considers when estimating the ACL under the CECL methodology:

- CECL reserves are estimated over the contractual term of the financial asset, which is adjusted for expected prepayments. Expected extensions are generally not considered unless the option to extend the loan cannot be canceled unilaterally by Citi. Modifications are also not considered, unless Citi has a reasonable expectation that it will execute a troubled debt restructuring (TDR).
- Credit enhancements that are not freestanding (such as those that are included in the original terms of the contract or those executed in conjunction with the lending transaction) are considered loss mitigants for purposes of CECL reserve estimation.
- For unconditionally cancelable accounts (generally credit cards), reserves are based on the expected life of the balance as of the evaluation date (assuming no further charges) and do not include any undrawn commitments that are unconditionally cancelable. Reserves are included for undrawn commitments for accounts that are not unconditionally cancelable (such as letters of credit and corporate loan commitments, home equity lines of credit (HELOCs), undrawn mortgage loan commitments and financial guarantees).
- CECL models are designed to be economically sensitive. They utilize the macroeconomic forecasts provided by Citi's enterprise scenario group that are approved by senior management. Analysis is performed and documented to determine the necessary qualitative management adjustment (QMA) to capture idiosyncratic events and model uncertainty.
- The portion of the forecast that reflects the enterprise scenario group's R&S period indicates the maximum length of time its models can produce a R&S macroeconomic forecast, after which mean reversion reflecting historical loss experience is used for the remaining life of the loan to estimate expected credit losses. For the loss forecast, businesses consume the macroeconomic forecast as determined to be appropriate and justifiable.

Citi's ability to forecast credit losses over the R&S period is based on the ability to forecast economic activity over a reasonable and supportable time window. The R&S period reflects the overall ability to have a reasonable and supportable forecast of credit loss based on economic forecasts.

- The loss models consume all or a portion of the R&S economic forecast and then revert to historical loss experience. The R&S forecast period for consumer and corporate loans is eight quarters.
- The ACL incorporates provisions for accrued interest on products that are not subject to a non-accrual and timely write-off policy (e.g., credit cards, etc.).
- The reserves for TDRs are calculated using a method that considers discounted cash flows and appropriate macroeconomic forecast data for the exposure type. For TDR loans that are collateral dependent, the ACL is based on the fair value of the collateral.
- Citi uses the most recent available information to inform its macroeconomic forecasts, allowing sufficient time for analysis of the results and corresponding approvals. Key variables are reviewed for significant changes through year end and changes to portfolio positions are reflected in the ACL.
- Reserves are calculated at an appropriately granular level and on a pooled basis where financial assets share risk characteristics. At a minimum, reserves are calculated at a portfolio level (product and country). Where a financial asset does not share risk characteristics with any of the pools, it is evaluated for credit losses individually.

Quantitative and Qualitative Components of the ACL

The loss likelihood and severity models use both internal and external information and are sensitive to forecasts of different macroeconomic conditions. For the quantitative component, Citi uses multiple macroeconomic scenarios and associated probabilities to estimate the ECL. Estimates of these ECLs are based upon (i) Citigroup's internal system of credit risk ratings, (ii) historical default and loss data, including comprehensive internal history and rating agency information regarding default rates and internal data on the severity of losses in the event of default, and (iii) a R&S forecast of future macroeconomic conditions. ECL is determined primarily by utilizing models for the borrowers' PD, LGD and EAD. Adjustments may be made to this data, including (i) statistically calculated estimates to cover the historical fluctuation of the default rates over the credit cycle, the historical variability of loss severity among defaulted loans and the degree to which there are large obligor concentrations in the global portfolio, and (ii) adjustments made for specifically known items, such as current environmental factors and credit trends.

Any adjustments needed to the modeled expected losses in the quantitative calculations are addressed through a qualitative adjustment. The qualitative adjustment considers, among other things: certain portfolio characteristics and concentrations; collateral coverage; model limitations; idiosyncratic events; and other relevant criteria under banking supervisory guidance for the ACL. The qualitative adjustment also reflects the estimated impact of the pandemic on the economic forecasts and the impact on credit loss estimates. The total ACL is composed of the quantitative and qualitative components. Citi's qualitative component declined year-over-year, primarily driven by the incorporation of multiple macroeconomic scenarios in the quantitative component and releases of COVID-19–related uncertainty reserves as the portfolio continues to normalize toward pre-pandemic levels and as these risks are captured in the quantitative component of the ACL. See "Accounting Changes" below for information about how the calculation of the quantitative component of the ACL changed in 2022.

Consumer Loans

For consumer loans, most portfolios including North America cards, mortgages and personal installment loans (PILs) are covered by the PD, LGD and EAD loss forecasting models. Some smaller international portfolios are covered by econometric models where the gross credit loss (GCL) rate is forecasted. The modeling of all retail products is performed by examining risk drivers for a given portfolio; these drivers relate to exposures with similar credit risk characteristics and consider past events, current conditions and R&S forecasts. Under the PD x LGD x EAD approach, GCLs and recoveries are captured on an undiscounted basis. Citi incorporates expected recoveries on loans into its reserve estimate, including expected recoveries on assets previously written off.

CECL defines the exposure's expected life as the remaining contractual maturity including any expected prepayments. Subsequent changes to the contractual terms that are the result of a re-underwriting are not included in the loan's expected CECL life.

Citi does not establish reserves for the uncollectible accrued interest on non-revolving consumer products, such as mortgages and installment loans, which are subject to a non-accrual and timely write-off policy at 90 days past due. As such, only the principal balance is subject to the CECL reserve methodology and interest does not attract a further reserve. Deferred origination costs and fees related to new credit card account originations are amortized within a 12-month period, and an ACL is provided for components in the scope of the ASC.

Separate valuation allowances are determined for impaired smaller-balance homogeneous loans whose terms have been modified in a TDR. Long-term modification programs, and short-term (less than 12 months) modifications that provide concessions (such as interest rate reductions) to borrowers in financial difficulty, are reported as TDRs. In addition, loan modifications that involve a trial period are reported as TDRs at the start of the trial period. The ACL for TDRs is determined using a discounted cash flow (DCF) approach. When a DCF approach is used, the initial allowance for ECLs is calculated as the expected contractual cash flows discounted at the loan's original effective interest rate. DCF techniques are applied for consumer loans only if they are classified as TDR loan exposures.

For credit cards, Citi uses the payment rate approach, which leverages payment rate curves, to determine the payments that should be applied to liquidate the end-of-period balance (CECL balance) in the estimation of EAD. The payment rate approach uses customer payment behavior (payment rate) to establish the portion of the CECL balance that will be paid each month. These payment rates are defined as the percentage of principal payments received in the respective month divided by the prior month's billed principal balance. The liquidation (CECL payment) amount for each forecast period is determined by multiplying the CECL balance by that period's forecasted payment rate. The cumulative sum of these payments less the CECL balance produces the balance liquidation curve. Citi does not apply a non-accrual policy to credit card receivables; rather, they are subject to full charge-off at 180 days past due or bankruptcy. As such, the entire customer balance up until write-off, including accrued interest and fees, is subject to the CECL reserve methodology.

Corporate Loans, HTM Securities and Other assets

Citi records allowances for credit losses on all financial assets carried at amortized cost that are in the scope of CECL, including corporate loans classified as HFI, HTM debt securities and *Other assets*. Discounting techniques are applied for corporate loans classified as HFI and HTM securities and non-accrual/TDR loan exposures. All cash flows are fully discounted to the reporting date. The ACL includes Citi's estimate of all credit losses expected to be incurred over the estimated full contractual life of the financial asset. The contractual life of the financial asset does not include expected extensions, renewals or modifications, except for instances where the Company reasonably expects to extend the tenor of the financial asset pursuant to a future TDR. Where Citi has an unconditional option to extend the contractual term, Citi does not consider the potential extension in determining the contractual term; however, where the borrower has the sole right to exercise the extension option without Citi's approval, Citi does consider the potential extension in determining the contractual term. The decrease in credit losses under CECL at the date of adoption on January 1, 2020, compared with the prior incurred loss methodology, was largely due to more precise contractual maturities that resulted in shorter remaining tenors, the incorporation of recoveries and use of more specific historical loss data based on an increase in portfolio segmentation across industries and geographies.

The Company primarily bases its ACL on models that assess the likelihood and severity of credit events and their impact on cash flows under R&S forecasted economic scenarios. Allowances consider the probability of the borrower's default, the loss the Company would incur upon default and the borrower's exposure at default. Such models discount the present value of all future cash flows, using the asset's effective interest rate (EIR). Citi applies a more simplified approach based on historical loss rates to certain exposures recorded in *Other assets* and certain loan exposures in the private bank within *Consumer loans*.

The Company considers the risk of nonpayment to be zero for U.S. Treasuries and U.S. government-sponsored agency guaranteed mortgage-backed securities (MBS) and, as such, Citi does not have an ACL for these securities. For all other HTM debt securities, ECLs are estimated using PD models and discounting techniques, which incorporate assumptions regarding the likelihood and severity of credit losses. For structured securities, specific models use relevant assumptions for the underlying collateral type. A discounting approach is applied to HTM direct obligations of a single issuer, similar to that used for corporate HFI loans.

Other Financial Assets with Zero Expected Credit Losses

For certain financial assets, zero expected credit losses will be recognized where the expectation of nonpayment of the amortized cost basis is zero, based on there being no history of loss and the nature of the receivables.

Secured Financing Transactions

Most of Citi's reverse repurchase agreements, securities borrowing arrangements and margin loans require that the borrower continually adjust the amount of the collateral securing Citi's interest, primarily resulting from changes in the fair value of such collateral. In such arrangements, ACLs are recorded based only on the amount by which the asset's amortized cost basis exceeds the fair value of the collateral. No ACLs are recorded where the fair value of the collateral is equal to or exceeds the asset's amortized cost basis, as Citi does not expect to incur credit losses on such well-collateralized exposures. For certain margin loans presented in *Loans* on the Consolidated Balance Sheet, ACLL is estimated using the same approach as corporate loans.

Accrued Interest

CECL permits entities to make an accounting policy election not to reserve for interest, if the entity has a policy in place that will result in timely reversal or write-off of interest. However, when a non-accrual or timely charge-off policy is not applied, an ACL is recognized on accrued interest at 90 days past due. For HTM debt securities, Citi established a non-accrual policy that results in timely write-off of accrued interest. For corporate loans, where a timely charge-off policy is used, Citi has elected to recognize an ACL on accrued interest receivable. The LGD models for corporate loans include an adjustment for estimated accrued interest.

Reasonably Expected TDRs

For corporate loans, the reasonable expectation of the TDR concept requires that the contractual life over which ECLs are estimated be extended when a TDR that results in a tenor extension is reasonably expected. Reasonably expected TDRs are included in the life of the asset. A discounting technique or collateral-dependent practical expedient is used for non-accrual and TDR loan exposures that do not share risk characteristics with other loans and are individually assessed. Loans modified in accordance with the CARES Act and bank regulatory guidance are not classified as TDRs.

Purchased Credit-Deteriorated (PCD) Assets

ASC 326 requires entities that have acquired financial assets (such as loans and HTM securities) with an intent to hold, to evaluate whether those assets have experienced a more-than-insignificant deterioration in credit quality since origination. These assets are subject to specialized accounting at initial recognition under CECL. Subsequent measurement of PCD assets will remain consistent with other purchased or originated assets, i.e., non-PCD assets. CECL introduces the notion of PCD assets, which replaces purchased credit impaired (PCI) accounting under prior U.S. GAAP.

CECL requires the estimation of credit losses to be performed on a pool basis unless a PCD asset does not share characteristics with any pool. If certain PCD assets do not meet the conditions for aggregation, those PCD assets should be accounted for separately. This determination must be made at the date the PCD asset is purchased. In estimating ECLs from day 2 onward, pools can potentially be reassembled based upon similar risk characteristics. When PCD assets are pooled, Citi determines the amount of the initial ACL at the pool level. The amount of the initial ACL for a PCD asset represents the portion of the total discount at acquisition that relates to credit and is recognized as a "gross-up" of the purchase price to arrive at the PCD asset's (or pool's) amortized cost. Any difference between the unpaid principal balance and the amortized cost is considered to be related to non-credit factors and results in a discount or premium, which is amortized to interest income over the life of the individual asset (or pool). Direct expenses incurred related to the acquisition of PCD assets and other assets and liabilities in a business combination are expensed as incurred. Subsequent accounting for acquired PCD assets is the same as the accounting for originated assets; changes in the allowance are recorded in *Provisions for credit losses*.

Consumer

Citi does not purchase whole portfolios of PCD assets in its retail businesses. However, there may be a small portion of a purchased portfolio that is identified as PCD at the purchase date. Interest income recognition does not vary between PCD and non-PCD assets. A consumer financial asset is considered to be more-than-insignificantly credit deteriorated if it is more than 30 days past due at the purchase date.

Corporate

Citi generally classifies wholesale loans and debt securities classified as HTM or AFS as PCD when both of the following criteria are met: (i) the purchase price discount is at least 10% of par and (ii) the purchase date is more than 90 days after the origination or issuance date. Citi classifies HTM beneficial interests rated AA- and lower obtained at origination from certain securitization transactions as PCD when there is a significant difference (i.e., 10% or greater) between contractual cash flows, adjusted for prepayments, and expected cash flows at the date of recognition.

Reserve Estimates and Policies

Management provides reserves for an estimate of lifetime ECLs in the funded loan portfolio on the Consolidated Balance Sheet in the form of an ACL. These reserves are established in accordance with Citigroup's credit reserve policies, as approved by the Audit Committee of the Citigroup Board of Directors. Citi's Chief Risk Officer and Chief Financial Officer review the adequacy of the credit loss reserves each quarter with risk management and finance representatives for each applicable business area. Applicable business areas include those having classifiably managed portfolios, where internal credit risk ratings are assigned (primarily *ICG*) and delinquency-managed portfolios (primarily *PBWM*) or modified consumer loans, where concessions were granted due to the borrowers' financial difficulties. The aforementioned representatives for these business areas present recommended reserve balances for their funded and unfunded lending portfolios along with supporting quantitative and qualitative data discussed below.

Estimated Credit Losses for Portfolios of Performing Exposures

Risk management and finance representatives who cover business areas with delinquency-managed portfolios

containing smaller-balance homogeneous loans present their recommended reserve balances based on leading credit indicators, including loan delinquencies and changes in portfolio size as well as economic trends, including current and future housing prices, unemployment, length of time in foreclosure, costs to sell and GDP. This methodology is applied separately for each product within each geographic region in which these portfolios exist. This evaluation process is subject to numerous estimates and judgments.

Risk management and finance representatives who cover business areas with classifiably managed portfolios present their recommended reserve balances based on the frequency of default, risk ratings, loss recovery rates, size and diversity of individual large credits, and ability of borrowers with foreign currency obligations to obtain the foreign currency necessary for orderly debt servicing. Changes in these estimates could have a direct impact on the credit costs in any period and could result in a change in the allowance.

Allowance for Unfunded Lending Commitments

Credit loss reserves are recognized on all off-balance sheet commitments that are not unconditionally cancelable. Corporate loan EAD models include an incremental usage factor (or credit conversion factor) to estimate ECLs on amounts undrawn at the reporting date. Off-balance sheet commitments include unfunded exposures, revolving facilities, securities underwriting commitments, letters of credit, HELOCs and financial guarantees (excluding performance guarantees). This reserve is classified on the Consolidated Balance Sheet in *Other liabilities*. Changes to the allowance for unfunded lending commitments are recorded in *Provision for credit losses on unfunded lending commitments*.

Mortgage Servicing Rights (MSRs)

Mortgage servicing rights (MSRs) are recognized as intangible assets when purchased or when the Company sells or securitizes loans acquired through purchase or origination and retains the right to service the loans. Mortgage servicing rights are accounted for at fair value, with changes in value recorded in *Other revenue* in the Company's Consolidated Statement of Income.

For additional information on the Company's MSRs, see Notes 16 and 21.

Goodwill

Goodwill represents the excess of acquisition cost over the fair value of net tangible and intangible assets acquired in a business combination. Goodwill is subject to annual impairment testing and interim assessments between annual tests if an event occurs or circumstances change that would more-likely-than-not reduce the fair value of a reporting unit below its carrying amount.

Under ASC Topic 350, *Intangibles—Goodwill and Other* and upon the adoption of ASU No. 2017-04 on January 1, 2020, the Company has an option to assess qualitative factors to determine if it is necessary to perform the goodwill impairment test. If, after assessing the totality of events or circumstances, the Company determines that it is not more-likely-than-not that the fair value of a reporting unit is less than its carrying amount, no further testing is necessary. If, however, the Company determines that it is more-likely-than-not that the fair value of a reporting unit is less than its carrying amount, then the Company must perform the quantitative test.

The Company has an unconditional option to bypass the qualitative assessment for any reporting unit in any reporting period and proceed directly to the quantitative test.

The quantitative test requires a comparison of the fair value of the individual reporting unit to its carrying value, including goodwill. If the fair value of the reporting unit is in excess of the carrying value, the related goodwill is considered not impaired and no further analysis is necessary. If the carrying value of the reporting unit exceeds the fair value, an impairment loss is recognized in an amount equal to that excess, limited to the total amount of goodwill allocated to that reporting unit.

Upon any business disposition, goodwill is allocated to, and derecognized with, the disposed business based on the ratio of the fair value of the disposed business to the fair value of the reporting unit.

Additional information on Citi's goodwill impairment testing can be found in Note 16.

Intangible Assets

Intangible assets—including core deposit intangibles, present value of future profits, purchased credit card relationships, credit card contract-related intangibles, other customer relationships and other intangible assets, but excluding MSRs—are amortized over their estimated useful lives. Credit card contract-related intangibles include fixed and unconditional costs incurred to renew or extend the contract with a card partner. In estimating the useful life of a credit card contract-related intangible, the Company considers the probability of contract renewal or extension to determine the period that the asset is expected to contribute future cash flows. Intangible assets that are deemed to have indefinite useful lives, primarily trade names, are not amortized and are subject to annual impairment tests. An impairment exists if the carrying value of the indefinite-lived intangible asset exceeds its fair value. For other intangible assets subject to amortization, an impairment is recognized if the carrying amount is not recoverable and exceeds the fair value of the intangible asset.

Premises and Equipment

Premises and equipment includes lease right-of-use assets, property and equipment (including purchased and developed software), net of depreciation and amortization. Substantially all lease right-of-use assets are amortized on a straight-line basis over the lease term, and substantially all property and equipment is depreciated or amortized on a straight-line basis over the useful life of the asset.

Other Assets and Other Liabilities

Other assets include, among other items, loans HFS, deferred tax assets, equity method investments, interest and fees receivable, repossessed assets, other receivables, and assets from businesses classified as HFS that are reclassified from other balance sheet line items. *Other liabilities* include, among other items, accrued expenses, lease liabilities, deferred tax liabilities, reserves for legal claims and legal fee accruals,

taxes, unfunded lending commitments, repositioning reserves, other payables, and liabilities from businesses classified as HFS that are reclassified from other balance sheet line items. Legal fee accruals are recognized as incurred.

Other Real Estate Owned and Repossessed Assets
Real estate or other assets received through foreclosure or repossession are generally reported in *Other assets*, net of a valuation allowance for selling costs and subsequent declines in fair value.

Securitizations
There are two key accounting determinations that must be made relating to securitizations. Citi first makes a determination as to whether the securitization entity must be consolidated. Second, it determines whether the transfer of financial assets to the entity is considered a sale under GAAP. If the securitization entity is a VIE, the Company consolidates the VIE if it is the primary beneficiary (as discussed in "Variable Interest Entities" above). For all other securitization entities determined not to be VIEs in which Citigroup participates, consolidation is based on which party has voting control of the entity, giving consideration to removal and liquidation rights in certain partnership structures. Only securitization entities controlled by Citigroup are consolidated.

Interests in the securitized and sold assets may be retained in the form of subordinated or senior interest-only strips, subordinated tranches, spread accounts and servicing rights. In credit card securitizations, the Company retains a seller's interest in the credit card receivables transferred to the trusts, which is not in securitized form. In the case of consolidated securitization entities, including the credit card trusts, these retained interests are not reported on Citi's Consolidated Balance Sheet. The securitized loans remain on the balance sheet. Substantially all of the consumer loans sold or securitized through non-consolidated trusts by Citigroup are U.S. prime residential mortgage loans. Retained interests in non-consolidated mortgage securitization trusts are classified as *Trading account assets*, except for MSRs, which are included in *Intangible assets* on Citigroup's Consolidated Balance Sheet.

Debt
Short-term borrowings and *Long-term debt* are accounted for at amortized cost, except where the Company has elected to report the debt instruments (including certain structured notes) at fair value, or debt that is in a fair value hedging relationship. Premiums, discounts and issuance costs on long-term debt accounted for at amortized cost are amortized over the contractual term using the effective interest method.

Transfers of Financial Assets
For a transfer of financial assets to be considered a sale, (i) the assets must be legally isolated from the Company, even in bankruptcy or other receivership, (ii) the purchaser must have the right to pledge or sell the assets transferred (or, if the purchaser is an entity whose sole purpose is to engage in securitization and asset-backed financing activities through the issuance of beneficial interests and that entity is constrained from pledging the assets it receives, each beneficial interest holder must have the right to sell or pledge their beneficial interests) and (iii) the Company may not have an option or obligation to reacquire the assets.

If these sale requirements are met, the assets are removed from the Company's Consolidated Balance Sheet. If the conditions for sale are not met, the transfer is considered to be a secured borrowing, the assets remain on the Consolidated Balance Sheet and the sale proceeds are recognized as the Company's liability. A legal opinion on a sale generally is obtained for complex transactions or where the Company has continuing involvement with assets transferred or with the securitization entity. For a transfer to be eligible for sale accounting, that opinion must state that the asset transfer would be considered a sale and that the assets transferred would not be consolidated with the Company's other assets in the event of the Company's insolvency.

For a transfer of a portion of a financial asset to be considered a sale, the portion transferred must meet the definition of a participating interest. A participating interest must represent a pro rata ownership in an entire financial asset; all cash flows must be divided proportionately, with the same priority of payment; no participating interest in the transferred asset may be subordinated to the interest of another participating interest holder; and no party may have the right to pledge or exchange the entire financial asset unless all participating interest holders agree. Otherwise, the transfer is accounted for as a secured borrowing.

See Note 22 for further discussion.

Risk Management Activities—Derivatives Used for Hedging Purposes
The Company manages its exposures to market movements outside of its trading activities by modifying the asset and liability mix, either directly or through the use of derivative financial products, including interest rate swaps, futures, forwards, purchased options and commodities, as well as foreign-exchange contracts. These end-user derivatives are carried at fair value in *Trading account assets* and *Trading account liabilities*.

See Note 23 for a further discussion of the Company's hedging and derivative activities.

Instrument-Specific Credit Risk
Citi presents separately in *AOCI* the portion of the total change in the fair value of a liability resulting from a change in the instrument-specific credit risk, when the entity has elected to measure the liability at fair value in accordance with the fair value option for financial instruments. Accordingly, the change in fair value of liabilities for which the fair value option was elected, related to changes in Citigroup's own credit spreads, is presented in *AOCI*.

Employee Benefits Expense
Employee benefits expense includes current service costs of pension and other postretirement benefit plans (which are accrued on a current basis), contributions and unrestricted awards under other employee plans, the amortization of restricted stock awards and costs of other employee benefits. For its most significant pension and postretirement benefit plans (Significant Plans), Citigroup measures and discloses

plan obligations, plan assets and periodic plan expense quarterly, instead of annually. The effect of remeasuring the Significant Plan obligations and assets by updating plan actuarial assumptions on a quarterly basis is reflected in *Accumulated other comprehensive income (loss)* and periodic plan expense. All other plans (All Other Plans) are remeasured annually. Benefits earned during the year are reported in *Compensation and benefits expenses* and all other components of the net annual benefit cost are reported in *Other operating expenses* in the Consolidated Statement of Income. See Note 8.

Stock-Based Compensation

The Company recognizes compensation expense related to stock awards over the requisite service period, generally based on the instruments' grant-date fair value, reduced by actual forfeitures as they occur. Compensation cost related to awards granted to employees who meet certain age plus years-of-service requirements (retirement-eligible employees) is accrued in the year prior to the grant date, in the same manner as the accrual for cash incentive compensation. Certain stock awards with performance conditions or certain clawback provisions are subject to variable accounting, pursuant to which the associated compensation expense fluctuates with changes in Citigroup's common stock price. See Note 7.

Income Taxes

The Company is subject to the income tax laws of the U.S. and its states and municipalities, as well as the non-U.S. jurisdictions in which it operates. These tax laws are complex and may be subject to different interpretations by the taxpayer and the relevant governmental taxing authorities. In establishing a provision for income tax expense, the Company must make judgments and interpretations about these tax laws. The Company must also make estimates about when in the future certain items will affect taxable income in the various tax jurisdictions, both domestic and foreign.

Disputes over interpretations of the tax laws may be subject to review and adjudication by the court systems of the various tax jurisdictions or, may be settled with the taxing authority upon examination or audit. The Company treats interest and penalties on income taxes as a component of *Income tax expense*.

Deferred taxes are recorded for the future consequences of events that have been recognized in financial statements or tax returns, based upon enacted tax laws and rates. Deferred tax assets are recognized subject to management's judgment about whether realization is more-likely-than-not. ASC 740, *Income Taxes*, sets out a consistent framework to determine the appropriate level of tax reserves to maintain for uncertain tax positions. This interpretation uses a two-step approach wherein a tax benefit is recognized if a position is more-likely-than-not to be sustained. The amount of the benefit is then measured to be the highest tax benefit that is more than 50% likely to be realized. ASC 740 also sets out disclosure requirements to enhance transparency of an entity's tax reserves.

See Note 9 for a further description of the Company's tax provision and related income tax assets and liabilities.

Commissions, Underwriting and Principal Transactions

Commissions and fees revenues are recognized in income when earned. Underwriting revenues are recognized in income typically at the closing of the transaction. *Principal transactions* revenues are recognized in income on a trade-date basis. See Note 5 for a description of the Company's revenue recognition policies for *Commissions and fees*, and Note 6 for details of *Principal transactions* revenue.

Earnings per Share

Earnings per share (EPS) is calculated using the two-class method. Under the two-class method, all earnings (distributed and undistributed) are allocated to common stock and participating securities. Undistributed earnings are calculated after deducting preferred stock dividends, any issuance cost incurred at the time of issuance of redeemed preferred stock and dividends paid and accrued to common stocks and RSU/DSA share awards. Citi grants restricted and deferred share awards under its shares-based compensation programs, which entitle recipients to receive nonforfeitable dividends during the vesting period on a basis equivalent to dividends paid to holders of the Company's common stock. These unvested awards meet the definition of participating securities based on their respective rights to receive nonforfeitable dividends, and they are treated as a separate class of securities and are not included in computing basic EPS.

Diluted EPS incorporates the potential impact of contingently issuable shares, stock options and awards which require future service as a condition of delivery of the underlying common stock. Anti-dilutive options and warrants are disregarded in the EPS calculations. Diluted EPS is calculated under both the two-class and treasury stock methods, and the more dilutive amount is reported. Participating securities are not included as incremental shares in computing diluted EPS.

Use of Estimates

Management must make estimates and assumptions that affect the Consolidated Financial Statements and the related Notes. Such estimates are used in connection with certain fair value measurements. See Note 25 for further discussions on estimates used in the determination of fair value. Moreover, estimates are significant in determining the amounts of other-than-temporary impairments, impairments of goodwill and other intangible assets, provisions for probable losses that may arise from credit-related exposures, probable and estimable losses related to litigation and regulatory proceedings, and income taxes. While management makes its best judgment, actual amounts or results could differ from those estimates.

Cash Equivalents and Restricted Cash Flows

Cash equivalents are defined as those amounts included in *Cash and due from banks* and *Deposits with banks*. Certain cash balances are restricted by regulatory or contractual requirements. See Note 27 for additional information on restricted cash.

Related Party Transactions
The Company has related party transactions with certain of its subsidiaries and affiliates. These transactions, which are primarily short-term in nature, include cash accounts, collateralized financing transactions, margin accounts, derivative transactions, charges for operational support and the borrowing and lending of funds, and are entered into in the ordinary course of business.

ACCOUNTING CHANGES

Reference Rate Reform
On December 21, 2022, the Financial Accounting Standards Board (FASB) issued ASU No. 2022-06, *Reference Rate Reform (Topic 848): Deferral of the Sunset Date of Topic 848*, which extends the period of time preparers can utilize the reference rate reform relief guidance. In 2020, the FASB issued ASU No. 2020-04, *Reference Rate Reform (Topic 848): Facilitation of the Effects of Reference Rate Reform on Financial Reporting*, which provides optional guidance to ease the potential burden in accounting for (or recognizing the effects of) reference rate reform on financial reporting. In 2021, the U.K. Financial Conduct Authority (FCA) delayed the intended cessation date of certain tenors of USD LIBOR to June 30, 2023. To ensure the relief in Topic 848 covers the period of time during which a significant number of modifications may take place, the ASU defers the sunset date of Topic 848 from December 31, 2022 to December 31, 2024. The extension allows Citi to transition its remaining contracts and maintain hedge accounting. The ASU was adopted by Citi upon issuance and did not impact financial results in 2022.

Voluntary Change in Goodwill Impairment Assessment Date
During 2022, the Company voluntarily changed its annual goodwill impairment assessment date from July 1 to October 1. See Note 16 for additional information.

Multiple Macroeconomic Scenarios-Based ACL Approach
During the second quarter of 2022, Citi refined its ACL methodology to utilize multiple macroeconomic scenarios to estimate its allowance for credit losses. The ACL was previously estimated using a combination of a single base-case forecast scenario as part of its quantitative component and a component of its qualitative management adjustment that reflects economic uncertainty from downside macroeconomic scenarios. As a result of this change, Citi now explicitly incorporates multiple macroeconomic scenarios—base, upside, and downside—and associated probabilities in the quantitative component when estimating its ACL, while still retaining certain of its qualitative management adjustments.

This refinement represents a "change in accounting estimate" under ASC Topic 250, *Accounting Changes and Error Corrections*, with prospective application beginning in the period of change. This change in accounting estimate resulted in a decrease of approximately $0.3 billion in the allowance for credit losses in the second quarter of 2022, partially offsetting an increase of $0.8 billion in the allowance for credit losses due to the increased macroeconomic uncertainty and other factors in the second quarter of 2022.

Accounting for Deposit Insurance Expenses
During the fourth quarter of 2021, Citi changed its presentation of the deposit insurance costs paid to the Federal Deposit Insurance Corporation (FDIC) and similar foreign regulators. These costs were previously presented within *Interest expense* and, as a result of this change, are now presented within *Other operating expenses*. Citi concluded that this presentation was preferable in Citi's circumstances, as it better reflected the nature of these deposit insurance costs in that these costs do not directly represent interest payments to creditors, but are similar in nature to other payments to regulatory agencies that are accounted for as operating expenses.

This change in income statement presentation represents a "change in accounting principle" under ASC Topic 250, *Accounting Changes and Error Corrections*, with retrospective application to the earliest period presented. This change in accounting principle resulted in a reclassification of $1,207 million, $1,203 million and $781 million of deposit insurance expenses from *Interest expense* to *Other operating expenses*, for the years ended December 31, 2021, 2020 and 2019, respectively. This change had no impact on Citi's net income or the total deposit insurance expense incurred by Citi.

Accounting for Financial Instruments—Credit Losses

Overview
In June 2016, the FASB issued ASU No. 2016-13, *Financial Instruments—Credit Losses (Topic 326)*. The ASU introduced a new credit loss methodology, the CECL methodology, which requires earlier recognition of credit losses while also providing additional disclosure about credit risk. Citi adopted the ASU as of January 1, 2020, which, as discussed below, resulted in an increase in Citi's *Allowance for credit losses* and a decrease to opening *Retained earnings*, net of deferred income taxes, at January 1, 2020.

The CECL methodology utilizes a lifetime "expected credit loss" measurement objective for the recognition of credit losses for loans, HTM debt securities, receivables and other financial assets measured at amortized cost at the time the financial asset is originated or acquired. The ACL is adjusted each period for changes in lifetime expected credit losses. The CECL methodology represents a significant change from prior U.S. GAAP and replaced the prior multiple existing impairment methods, which generally required that a loss be incurred before it was recognized. Within the life cycle of a loan or other financial asset, the methodology generally results in the earlier recognition of the provision for credit losses and the related ACL than prior U.S. GAAP. For available-for-sale debt securities where fair value is less than cost that Citi intends to hold or more-likely-than-not will not be required to sell, credit-related impairment, if any, is recognized through an ACL and adjusted each period for changes in credit risk.

January 1, 2020 CECL Transition (Day 1) Impact
The CECL methodology's impact on expected credit losses, among other things, reflects Citi's view of the current state of the economy, forecasted macroeconomic conditions and quality of Citi's portfolios. At the January 1, 2020 date of

adoption, based on forecasts of macroeconomic conditions and exposures at that time, the aggregate impact to Citi was an approximate $4.1 billion, or an approximate 29%, pretax increase in the *Allowance for credit losses*, along with a $3.1 billion after-tax decrease in *Retained earnings* and a deferred tax asset increase of $1.0 billion. This transition impact reflects (i) a $4.9 billion build to the *Allowance for credit losses* for Citi's consumer exposures, primarily driven by the impact on credit card receivables of longer estimated tenors under the CECL lifetime expected credit loss methodology (loss coverage of approximately 23 months) compared to shorter estimated tenors under the probable loss methodology under prior U.S. GAAP (loss coverage of approximately 14 months), net of recoveries, and (ii) a release of $0.8 billion of reserves primarily related to Citi's corporate net loan loss exposures, largely due to more precise contractual maturities that result in shorter remaining tenors, incorporation of recoveries and use of more specific historical loss data based on an increase in portfolio segmentation across industries and geographies.

Accounting for Variable Post-Charge-Off Third-Party Collection Costs

During the second quarter of 2020, Citi changed its accounting for variable post-charge-off third-party collection costs, whereby these costs were accounted for as an increase in expenses as incurred rather than a reduction in expected credit recoveries. Citi concluded that such a change in the method of accounting is preferable in Citi's circumstances as it better reflects the nature of these collection costs. That is, these costs do not represent reduced payments from borrowers and are similar to Citi's other executory third-party vendor contracts that are accounted for as operating expenses as incurred. As a result of this change, Citi had a consumer ACL release of $426 million in the second quarter of 2020 for its U.S. cards portfolios and $122 million in the third quarter of 2020 for its international portfolios.

In the fourth quarter of 2020, Citi revised the second quarter of 2020 accounting conclusion from a "change in accounting estimate effected by a change in accounting principle" to a "change in accounting principle," which required an adjustment to opening retained earnings rather than net income, with retrospective application to the earliest period presented. Citi considered the guidance in ASC Topic 250, *Accounting Changes and Error Corrections*; ASC Topic 270, *Interim Reporting*; ASC Topic 250-S99-1, *Assessing Materiality*; and ASC Topic 250-S99-23, *Accounting Changes Not Retroactively Applied Due to Immateriality, Considering the Effects of Prior Year Misstatements when Quantifying Misstatements in Current Year Financial Statements*. Citi believes that the effects of the revisions were not material to any previously reported quarterly or annual period. As a result, Citi's full-year and quarterly results were revised to reflect this change as if it were effective as of January 1, 2020 (impacts to 2018 and 2019 were de minimis). Accordingly, Citi recorded an increase to its beginning retained earnings on January 1, 2020 of $330 million and a decrease of $443 million to its ACL. Further, Citi recorded a decrease of $18 million to its provisions for credit losses on loans in the first quarter of 2020 and an increase of $339 million and $122 million to its provisions for credit losses on loans in the second and third quarters of 2020, respectively. In addition, Citi's operating expenses increased by $49 million and $45 million, with a corresponding decrease in net credit losses, in the first and second quarters of 2020, respectively. As a result of these changes, Citi's net income for the year ended December 31, 2020 was $330 million lower, or $0.16 per share lower, than under the previous presentation as a change in accounting estimate effected by a change in accounting principle.

Statement of Cash Flows

In the fourth quarter of 2022, Citi identified that certain 2021 and 2020 cash flows related to purchases of short-term negotiable certificates of deposit (NCD) and maturities of long-term NCDs were misclassified between purchases and maturities of AFS securities within investing activities and cash flows from operating activities, based on its accounting policy during those periods. As such, Citi revised its 2021 and 2020 cash flows within its 2022 Consolidated Statement of Cash Flows, as follows:

	2021			2020		
In millions of dollars	As reported	Revision	As revised	As reported	Revision	As revised
Other, net	$ (1,287)	$ (16,115)	$ (17,402)	$ 4,113	$ (2,897)	$ 1,216
Impact to cash from (used in) operating activities		(16,115)			(2,897)	
AFS purchases	(222,095)	16,115	(205,980)	(307,771)	970	(306,801)
AFS maturities	120,936	—	120,936	109,014	1,927	110,941
Impact to cash from (used in) investing activities		16,115			2,897	

After the revision, there were ($2) billion and ($30) million of net NCD cash flows presented within operating activities for 2021 and 2020, respectively. Citi evaluated the effect of the revision, both qualitatively and quantitatively, and concluded that the impact of the revision was not material.

Subsequently, in the fourth quarter of 2022, Citi voluntarily changed its policy to instead present all short-term NCD cash flows in cash flows from investing activities within *Other, net*. Although immaterial, Citi has adjusted both 2021 and 2020 cash flows within the 2022 Consolidated Statement of Cash Flows in accordance with this change in presentation. After considering the impact of the revision described above, the impact of the change in presentation resulted in immaterial increases in cash flows from operating activities and corresponding decreases in cash flows from investing activities of $2 billion and $30 million in 2021 and 2020, respectively.

FUTURE ACCOUNTING CHANGES

TDRs and Vintage Disclosures

In March 2022, the FASB issued ASU No. 2022-02, *Financial Instruments—Credit Losses (Topic 326): Troubled Debt Restructurings and Vintage Disclosures*. Citi adopted the ASU on January 1, 2023. The ASU eliminates the accounting and disclosure requirements for TDRs, including the requirement to measure the ACLL for TDRs using a discounted cash flow (DCF) approach. Citi adopted the guidance on the recognition and measurement of TDRs under the modified retrospective approach. Upon adoption, Citi discontinued the use of a DCF approach for consumer loans formerly considered TDRs. Beginning January 1, 2023, Citi measured the ACLL for all consumer loans under approaches that do not incorporate discounting, primarily utilizing models that consider the borrowers' probability of default, loss given default and exposure at default. This change resulted in a decrease to the ACLL and deferred tax assets of approximately $350 million and $100 million, respectively, and an increase to retained earnings and other assets of approximately $300 million and $50 million, respectively, on January 1, 2023. The ACLL for corporate loans was unaffected because the measurement approach used for corporate loans is not in the scope of this ASU.

The ASU also requires disclosure of modifications of loans to borrowers experiencing financial difficulty if the modification involves principal forgiveness, an interest rate reduction, an other-than-insignificant payment delay, a term extension or a combination of those types of modifications. In addition, the ASU requires the disclosure of current-period gross write-offs by year of loan origination (vintage). The amendments related to disclosures are required to be applied prospectively beginning as of the date of adoption. Citi will present the new disclosures for periods beginning on and after January 1, 2023.

Fair Value Hedging—Portfolio Layer Method

In March 2022, the FASB issued ASU No. 2022-01, *Derivatives and Hedging (Topic 815): Fair Value Hedging—Portfolio Layer Method*, intended to better align hedge accounting with an organization's risk management strategies. Specifically, the guidance expands the current single-layer method to allow multiple hedge layers of a single closed portfolio of qualifying assets, which include both prepayable and non-prepayable assets. Upon the adoption of the guidance, entities may elect to reclassify securities held-to-maturity to the available-for-sale category provided that the reclassified securities are designated in a portfolio hedge. Coincident with the adoption of this ASU, on January 1, 2023, Citi transferred HTM mortgage-backed securities with an amortized cost and fair value of approximately $3.3 billion and $3.4 billion, respectively, into AFS as permitted under the guidance, and hedged them under the portfolio layer method.

Fair Value Measurement of Equity Securities Subject to Contractual Sale Restrictions

In June 2022, the FASB issued ASU No. 2022-3, *Fair Value Measurement (Topic 820): Fair Value Measurement of Equity Securities Subject to Contractual Sale Restrictions*. The ASU was issued to address diversity in practice whereby certain entities included the impact of contractual restrictions when valuing equity securities, and it clarifies that a contractual restriction on the sale of an equity security should not be considered part of the unit of account of the equity security and, therefore, should not be considered in measuring fair value. The ASU also includes requirements for entities to disclose the fair value of equity securities subject to contractual sale restrictions, the nature and remaining duration of the restrictions and the circumstances that could cause a lapse in the restrictions.

The ASU is to be adopted on a prospective basis and will be effective for Citi on January 1, 2024, although early adoption is permitted. Adoption of the accounting standard is not expected to have an impact on Citi's operating results or financial position, as the Company excludes such restrictions when valuing equity securities.

Long-Duration Insurance Contracts

In August 2018, the FASB issued ASU No. 2018-12, *Financial Services—Insurance: Targeted Improvements to the Accounting for Long-Duration Contracts*, which changes the existing recognition, measurement, presentation and disclosures for long-duration contracts issued by an insurance entity. Specifically, the guidance (i) improves the timeliness of recognizing changes in the liability for future policy benefits and prescribes the rate used to discount future cash flows for long-duration insurance contracts, (ii) simplifies and improves the accounting for certain market-based options or guarantees associated with deposit (or account balance) contracts, (iii) simplifies the amortization of deferred acquisition costs and (iv) introduces additional quantitative and qualitative disclosures. Citi has certain insurance subsidiaries, primarily in Mexico, that issue long-duration insurance contracts such as traditional life insurance policies and life-contingent annuity contracts that are impacted by the requirements of ASU 2018-12.

The effective date of ASU 2018-12 was deferred for all insurance entities by ASU 2019-09, *Finance Services—Insurance: Effective Date* (issued in October 2019) and by ASU 2020-11, *Financial Services—Insurance: Effective Date and Early Application* (issued in November 2020). Citi adopted the targeted improvements in ASU 2018-12 on January 1, 2023. There was no material impact to Citi's financial position upon adoption, and Citi expects no material impact to its results of operations as a result of adopting the amendments.

2. DISCONTINUED OPERATIONS, SIGNIFICANT DISPOSALS AND OTHER BUSINESS EXITS

Summary of Discontinued Operations

The Company's results from *Discontinued operations* consisted of residual activities related to the sales of the Egg Banking plc credit card business in 2011 and the German retail banking business in 2008. All *Discontinued operations* results are recorded within *Corporate/Other*.

The following table summarizes financial information for all *Discontinued operations*:

In millions of dollars	**2022**	2021	2020
Total revenues, net of interest expense	**$ (260)**	$ —	$ —
Income (loss) from discontinued operations	**$ (272)**	$ 7	$ (20)
Benefit for income taxes	**(41)**	—	—
Income (loss) from discontinued operations, net of taxes	**$ (231)**	$ 7	$ (20)

During 2022, the Company settled certain liabilities related to its legacy consumer operation in the U.K. (the legacy operation), including an indemnification liability related to its sale of the Egg Banking business in 2011, which led to the substantial liquidation of the legacy operation. As a result, a CTA loss (net of hedges) in *AOCI* of approximately $400 million pretax ($345 million after-tax) related to the legacy operation was released to earnings in 2022. Out of the total CTA release, a $260 million pretax loss ($221 million after-tax loss) was attributable to the Egg Banking business noted above, reported in *Discontinued operations* and, therefore, the corresponding CTA release was also reported in *Discontinued operations* during 2022. The remaining CTA release of a $140 million pretax loss ($124 million after-tax loss) related to Legacy Holdings Assets was reported as part of *Continuing operations* within *Legacy Franchises*.

While the legacy operation was divested in multiple sales over the years, each transaction did not result in substantial liquidation given that Citi retained certain liabilities noted above, which were gradually settled over time until reaching the point of substantial liquidation during 2022, triggering the release of the CTA loss to earnings.

Cash flows from *Discontinued operations* were not material for any period presented.

Significant Disposals

As of December 31, 2022, Citi had entered into sale agreements for nine consumer banking businesses within *Legacy Franchises*. Australia closed in the second quarter of 2022, the Philippines closed in the third quarter of 2022, and Bahrain, Malaysia and Thailand each closed in the fourth quarter of 2022. Entry of sale agreements for the other four consumer banking businesses has resulted in the reclassification to HFS on the Consolidated Balance Sheet of approximately $20 billion in assets within *Other assets*, including approximately $12 billion of loans (net of allowance of $164 million), and approximately $17 billion in liabilities within *Other liabilities*, including approximately $16 billion in deposits. Of the nine sale agreements, the five below were identified as significant disposals as of December 31, 2022. The Taiwan and India sales have yet to close and are subject to regulatory approvals and other closing conditions, as are the potential sales of the Poland and Mexico consumer banking businesses.

			December 31, 2022									
In millions of dollars			Assets						Liabilities			
Consumer banking business in	**Sale agreement date**	**Expected close**	**Cash and deposits with banks**	**Loans[1]**	**Goodwill**	**Other assets, advances to/from subsidiaries**	**Other assets**	**Total assets**	**Deposits**	**Long-term debt**	**Other liabilities**	**Total liabilities**
Australia[2]	8/9/21	closed 6/1/2022	$ —	$ —	$ —	$ —	$ —	$ —	$ —	$ —	$ —	$ —
Philippines[3]	12/23/21	closed 8/1/2022	—	—	—	—	—	—	—	—	—	—
Thailand[4]	1/14/22	closed 11/1/2022	$ —	$ —	$ —	$ —	$ —	$ —	$ —	$ —	$ —	$ —
Taiwan[5]	1/28/22	second half 2023	**123**	**7,865**	**202**	**4,758**	**198**	**13,146**	**10,049**	**—**	**237**	**10,286**
India[5]	3/30/22	first half 2023	**25**	**3,423**	**329**	**1,924**	**114**	**5,815**	**5,266**	**—**	**204**	**5,470**

	Income (loss) before taxes[6]		
In millions of dollars	**2022**	2021	2020
Australia[2]	**$ 193**	$ 306	$ 181
Philippines[3]	**72**	145	42
Thailand[4]	**122**	139	93
Taiwan	**140**	282	311
India	**194**	213	117

(1) Loans, net of allowance as of December 31, 2022 includes $64 million and $37 million for Taiwan and India, respectively.

(2) On June 1, 2022, Citi completed the sale of its Australia consumer banking business, which was part of *Legacy Franchises*. The business had approximately $9.4 billion in assets, including $9.3 billion of loans (net of allowance of $140 million) and excluding goodwill. The total amount of liabilities was $7.3 billion including $6.8 billion in deposits. The transaction generated a pretax loss on sale of approximately $760 million ($640 million after-tax), subject to closing adjustments, recorded in *Other revenue*. The loss on sale primarily reflected the impact of an approximate pretax $620 million CTA loss (net of hedges) ($470 million after-tax) already reflected in the *AOCI* component of equity. The sale closed on June 1, 2022, and the CTA-related balance was removed from *AOCI*, resulting in a neutral CTA impact to Citi's CET1 Capital. The income before taxes shown in the above table for Australia reflects Citi's ownership through June 1, 2022.

(3) On August 1, 2022, Citi completed the sale of its Philippines consumer banking business, which was part of *Legacy Franchises*. The business had approximately $1.8 billion in assets, including $1.2 billion of loans (net of allowance of $80 million) and excluding goodwill. The total amount of liabilities was $1.3 billion, including $1.2 billion in deposits. The sale resulted in a pretax gain on sale of approximately $618 million ($290 million after-tax), subject to closing adjustments, recorded in *Other revenue*. The income before taxes shown in the above table for the Philippines reflects Citi's ownership through August 1, 2022.

(4) On November 1, 2022, Citi completed the sale of its Thailand consumer banking business, which was part of *Legacy Franchises*. The business had approximately $2.7 billion in assets, including $2.4 billion of loans (net of allowance of $67 million) and excluding goodwill. The total amount of liabilities was $1.0 billion, including $0.8 billion in deposits. The sale resulted in a pretax gain on sale of approximately $209 million ($115 million after-tax), subject to closing adjustments, recorded in *Other revenue*. The income before taxes shown in the above table for Thailand reflects Citi's ownership through November 1, 2022.

(5) These sales are expected to result in an after-tax gain upon closing.

(6) Income before taxes for the period in which the individually significant component was classified as HFS for all prior periods presented. For Australia, excludes the pretax loss on sale. For the Philippines and Thailand, excludes the pretax gain on sale.

Citi did not have any other significant disposals as of December 31, 2022.

For a description of the Company's significant disposal transactions in prior periods and financial impact, see Note 2 to the Consolidated Financial Statements in Citi's 2021 Form 10-K.

Other Business Exits

Wind-Down of Korea Consumer Banking Business

On October 25, 2021, Citi disclosed its decision to wind down and close its Korea consumer banking business, which is reported in the *Legacy Franchises* operating segment. In connection with the announcement, Citibank Korea Inc. (CKI) commenced a voluntary early termination program (Korea VERP). Due to the voluntary nature of this termination program, no liabilities for termination benefits are recorded until CKI makes formal offers to employees that are then irrevocably accepted by those employees. Related charges are recorded as *Compensation and benefits*.

During the first quarter of 2022, Citi recorded an additional pretax charge of $31 million, composed of gross charges connected to the Korea VERP.

The following table summarizes the reserve charges related to the Korea VERP and other initiatives reported in the *Legacy Franchises* operating segment and *Corporate/Other*:

In millions of dollars		**Employee termination costs**
Total Citigroup (pretax)		
Original charges in fourth quarter 2021	$	1,052
Utilization		(1)
Foreign exchange		3
Balance at December 31, 2021	$	1,054
Additional charges in first quarter 2022	$	31
Utilization		(347)
Foreign exchange		(24)
Balance at March 31, 2022	$	714
Additional charges (releases)	$	(3)
Utilization		(670)
Foreign exchange		(41)
Balance at June 30, 2022	$	—
Additional charges (releases)	**$**	—
Utilization		—
Foreign exchange		—
Balance at September 30, 2022	**$**	**—**

The total estimated cash charges for the wind-down are $1.1 billion, most of which were recognized in 2021.

See Note 8 for details on the pension impact of the Korea wind-down.

Wind-Down of Russia Consumer and Institutional Banking Businesses

On August 25, 2022, Citi announced its decision to wind down its consumer banking and local commercial banking operations in Russia. As part of the wind-down, Citi is also actively pursuing sales of certain Russian consumer banking portfolios.

On October 14, 2022, Citi disclosed that it will be ending nearly all of the institutional banking services it offers in Russia by the end of the first quarter of 2023. Going forward, Citi's only operations in Russia will be those necessary to fulfill its remaining legal and regulatory obligations.

On December 12, 2022, Citi completed the sale of a portfolio of ruble-denominated personal installment loans, totaling approximately $240 million in outstanding loan balances, to Uralsib, a Russian commercial bank, resulting in a pretax net loss of approximately $12 million. The net loss on sale of the loan portfolio included a $32 million adjustment to record the loans at lower of cost or fair value recognized in *Other revenue.* In addition, the sale of the loans resulted in a release in the allowance for credit losses on loans of approximately $20 million recognized in the *Provision for credit losses on loans*.

In connection with the portfolio sale, Citi also entered into a referral agreement to transfer to Uralsib a portfolio of ruble-denominated credit card loans, subject to customer consents. The outstanding card loans balance was approximately $219 million as of the fourth quarter of 2022. Citi will refer credit card customers, who at the customers' sole discretion will be eligible to refinance their outstanding card loan balances with Uralsib.

During 2022, Citi recorded a pretax charge of approximately $28 million as *Compensation and benefits* composed of severance costs reported in the *Legacy Franchises* operating segment and *Institutional Clients Group*.

In connection with the wind-down plans of the Russia consumer and institutional banking businesses, Citi expects to incur approximately $190 million in costs, primarily through 2024, largely driven by restructuring, vendor termination fees and other related charges. These costs do not include the impact of any potential portfolio sales.

3. OPERATING SEGMENTS

Effective January 1, 2022, Citi changed its management structure resulting in changes in its operating segments and reporting units to reflect how the CEO, who is the chief operating decision maker, manages the Company, including allocating resources and measuring performance. Citi reorganized its reporting into three operating segments: *Institutional Clients Group (ICG)*, *Personal Banking and Wealth Management (PBWM)* and *Legacy Franchises*, with *Corporate/Other* including activities not assigned to a specific operating segment, as well as discontinued operations. The prior-period balances reflect reclassifications to conform the presentation in those periods to the current operating segment structure. Citi's consolidated results were not impacted by the changes discussed above and remain unchanged for all periods presented.

ICG consists of Services, Markets and Banking, providing corporate, institutional and public sector clients around the world with a full range of wholesale banking products and services.

PBWM consists of U.S. Personal Banking and Global Wealth Management (Global Wealth), providing traditional banking services and credit cards to retail and small business customers in the U.S., and financial services to clients from affluent to ultra-high-net-worth through banking, lending, mortgages, investment, custody and trust product offerings in 20 countries, including the U.S., Mexico and the four wealth management centers: Singapore, Hong Kong, the UAE and London.

Legacy Franchises consists of Asia Consumer and Mexico Consumer/SBMM businesses that Citi intends to exit, and its remaining Legacy Holdings Assets.

Corporate/Other includes activities not assigned to the operating segments, including certain unallocated costs of global functions, other corporate expenses and net treasury results, offsets to certain line-item reclassifications and eliminations, and unallocated taxes, as well as discontinued operations.

Revenues and expenses directly associated with each respective business segment or component are included in determining respective operating results. Other revenues and expenses that are not directly attributable to a particular business segment or component are generally allocated from *Corporate/Other* based on respective net revenues, non-interest expenses or other relevant measures.

As a result of revenues and expenses from transactions with other operating segments or component being treated as transactions with external parties for purposes of segment disclosures, the Company includes intersegment eliminations within *Corporate/Other* to reconcile the business segment results to Citi's consolidated results.

The accounting policies of these operating segments are the same as those disclosed in Note 1.

The following table presents certain information regarding the Company's continuing operations by operating segment and *Corporate/Other*:

In millions of dollars, except identifiable assets, average loans and average deposits in billions	ICG			PBWM			Legacy Franchises			Corporate/Other			Total Citi		
	2022	2021	2020	**2022**	2021	2020	**2022**	2021	2020	**2022**	2021	2020	**2022**	2021	2020
Net interest income	**$17,911**	$14,999	$15,750	**$22,656**	$20,646	$22,326	**$5,691**	$6,250	$6,973	**$2,410**	$ 599	$ (298)	**$48,668**	$42,494	$44,751
Non-interest revenue	**23,295**	24,837	25,343	**1,561**	2,681	2,814	**2,781**	2,001	2,481	**(967)**	(129)	112	**26,670**	29,390	30,750
Total revenues, net of interest expense[1]	**$41,206**	$39,836	$41,093	**$24,217**	$23,327	$25,140	**$8,472**	$8,251	$9,454	**$1,443**	$ 470	$ (186)	**$75,338**	$71,884	$75,501
Operating expense	**26,299**	23,949	22,336	**16,258**	14,610	13,599	**7,782**	8,259	6,890	**953**	1,375	1,549	**51,292**	48,193	44,374
Provisions for credit losses	**911**	(2,490)	4,869	**3,754**	(1,224)	9,885	**571**	(62)	2,739	**3**	(2)	2	**5,239**	(3,778)	17,495
Income (loss) from continuing operations before taxes	**$13,996**	$18,377	$13,888	**$ 4,205**	$ 9,941	$ 1,656	**$ 119**	$ 54	$ (175)	**$ 487**	$ (903)	$(1,737)	**$18,807**	$27,469	$13,632
Provision (benefits) for income taxes	**3,258**	4,069	3,077	**886**	2,207	334	**128**	63	(33)	**(630)**	(888)	(853)	**3,642**	5,451	2,525
Income (loss) from continuing operations	**$10,738**	$14,308	$10,811	**$ 3,319**	$ 7,734	$ 1,322	**$ (9)**	$ (9)	$ (142)	**$1,117**	$ (15)	$ (884)	**$15,165**	$22,018	$11,107
Identifiable assets at December 31[2]	**$ 1,730**	$ 1,613	$ 1,592	**$ 494**	$ 464	$ 453	**$ 97**	$ 125	$ 131	**$ 96**	$ 89	$ 84	**$ 2,417**	$ 2,291	$ 2,260
Average loans	**291**	287	298	**321**	307	304	**41**	74	83	**—**	—	—	**653**	668	685
Average deposits	**830**	828	780	**435**	417	358	**52**	82	81	**16**	8	11	**1,333**	1,335	1,230

(1) Includes total Citi revenues, net of interest expense (excluding *Corporate/Other*), in North America of $34.4 billion, $34.4 billion and $37.1 billion; in EMEA of $14.9 billion, $13.4 billion and $13.4 billion; in Latin America of $9.9 billion, $9.2 billion and $9.4 billion; and in Asia of $14.7 billion, $14.4 billion and $15.8 billion in 2022, 2021 and 2020, respectively. These regional numbers exclude *Corporate/Other*, which largely reflects U.S. activities.

(2) Includes total Citi identifiable assets (excluding *Corporate/Other*), in North America of $776 billion, $709 billion and $741 billion; in EMEA of $773 billion, $742 billion and $684 billion; in Latin America of $184 billion, $179 billion and $180 billion; and in Asia of $588 billion, $572 billion and $572 billion in 2022, 2021 and 2020, respectively. These regional numbers exclude *Corporate/Other*, which largely reflects U.S. activities. The Company's long-lived assets for the periods presented are not considered to be significant in relation to its total assets. The majority of Citi's long-lived assets are located in the U.S.

4. INTEREST REVENUE AND EXPENSE

Interest revenue and *Interest expense* consisted of the following:

In millions of dollars	**2022**	2021	2020
Interest revenue			
Consumer loans	**$ 28,391**	$ 26,408	$ 27,763
Corporate loans	**12,851**	9,032	12,422
Loan interest, including fees	**$ 41,242**	$ 35,440	$ 40,185
Deposits with banks	**4,515**	577	928
Securities borrowed and purchased under agreements to resell	**7,154**	1,052	2,283
Investments, including dividends	**11,214**	7,388	7,989
Trading account assets[1]	**7,418**	5,365	6,125
Other interest-bearing assets[2]	**2,865**	653	579
Total interest revenue	**$ 74,408**	$ 50,475	$ 58,089
Interest expense			
Deposits	**$ 11,559**	$ 2,896	$ 5,334
Securities loaned and sold under agreements to repurchase	**4,455**	1,012	2,077
Trading account liabilities[1]	**1,437**	482	628
Short-term borrowings and other interest-bearing liabilities[3]	**2,488**	121	630
Long-term debt	**5,801**	3,470	4,669
Total interest expense	**$ 25,740**	$ 7,981	$ 13,338
Net interest income	**$ 48,668**	$ 42,494	$ 44,751
Provision (benefit) for credit losses on loans	**4,745**	(3,103)	15,922
Net interest income after provision for credit losses on loans	**$ 43,923**	$ 45,597	$ 28,829

(1) Interest expense on *Trading account liabilities* of *ICG* is reported as a reduction of *Interest revenue. Interest revenue* and *Interest expense* on cash collateral positions are reported in interest on *Trading account assets* and *Trading account liabilities*, respectively.
(2) Includes assets from businesses held-for-sale (see Note 2) and *Brokerage receivables*.
(3) Includes liabilities from businesses held-for-sale (see Note 2) and *Brokerage payables*.

5. COMMISSIONS AND FEES; ADMINISTRATION AND OTHER FIDUCIARY FEES

Commissions and Fees

The primary components of *Commissions and fees* revenue are investment banking fees, brokerage commissions, credit card and bank card income and deposit-related fees.

Investment banking fees are substantially composed of underwriting and advisory revenues. Such fees are recognized at the point in time when Citigroup's performance under the terms of a contractual arrangement is completed, which is typically at the closing of a transaction. Reimbursed expenses related to these transactions are recorded as revenue and are included within investment banking fees. In certain instances for advisory contracts, Citi will receive amounts in advance of the deal's closing. In these instances, the amounts received will be recognized as a liability and not recognized in revenue until the transaction closes. For the periods presented, the contract liability amount was negligible.

Out-of-pocket expenses associated with underwriting activity are deferred and recognized at the time the related revenue is recognized, while out-of-pocket expenses associated with advisory arrangements are expensed as incurred. In general, expenses incurred related to investment banking transactions, whether consummated or not, are recorded in *Other operating expenses*. The Company has determined that it acts as principal in the majority of these transactions and therefore presents expenses gross within *Other operating expenses*.

Brokerage commissions primarily include commissions and fees from the following: executing transactions for clients on exchanges and over-the-counter markets; sales of mutual funds and other annuity products; and assisting clients in clearing transactions, providing brokerage services and other such activities. Brokerage commissions are recognized in *Commissions and fees* at the point in time the associated service is fulfilled, generally on the trade execution date. Sales of certain investment products include a portion of variable consideration associated with the underlying product. In these instances, a portion of the revenue associated with the sale of the product is not recognized until the variable consideration becomes fixed and determinable. The Company recognized $538 million, $639 million and $495 million of revenue related to such variable consideration for the years ended December 31, 2022, 2021 and 2020, respectively. These amounts primarily relate to performance obligations satisfied in prior periods.

Credit card and bank card income is primarily composed of interchange fees, which are earned by card issuers based on purchase sales, and certain card fees, including annual fees. Costs related to customer reward programs and certain payments to partners (primarily based on program sales, profitability and customer acquisitions) are recorded as a reduction of credit card and bank card income. Citi's credit card programs have certain partner sharing agreements that vary by partner. These partner sharing agreements are subject to contractually based performance thresholds that, if met, would require Citi to make ongoing payments to the partner. The threshold is based on the profitability of a program and is generally calculated based on predefined program revenues less predefined program expenses. In most of Citi's partner sharing agreements, program expenses include net credit losses, which, to the extent that the increase in net credit losses reduces Citi's liability for the partners' share for a given program year, would generally result in lower payments to partners in total for that year and vice versa. Further, in some instances, other partner payments are based on program sales and new account acquisitions. Interchange revenues are recognized as earned on a daily basis when Citi's performance obligation to transmit funds to the payment networks has been satisfied. Annual card fees, net of origination costs, are deferred and amortized on a straight-line basis over a 12-month period. Costs related to card reward programs are recognized when the rewards are earned by the cardholders. Payments to partners are recognized when incurred.

Deposit-related fees consist of service charges on deposit accounts and fees earned from performing cash management activities and other deposit account services. Such fees are recognized in the period in which the related service is provided.

Transactional service fees primarily consist of fees charged for processing services such as cash management, global payments, clearing, international funds transfer and other trade services. Such fees are recognized as/when the associated service is satisfied, which normally occurs at the point in time the service is requested by the customer and provided by Citi.

Insurance distribution revenue consists of commissions earned from third-party insurance companies for marketing and selling insurance policies on behalf of such entities. Such commissions are recognized in *Commissions and fees* at the point in time the associated service is fulfilled, generally when the insurance policy is sold to the policyholder. Sales of certain insurance products include a portion of variable consideration associated with the underlying product. In these instances, a portion of the revenue associated with the sale of the policy is not recognized until the variable consideration becomes fixed and determinable. The Company recognized $201 million, $260 million and $290 million of revenue related to such variable consideration for the years ended December 31, 2022, 2021 and 2020, respectively. These amounts primarily relate to performance obligations satisfied in prior periods.

Insurance premiums consist of premium income from insurance policies that Citi has underwritten and sold to policyholders.

The following table presents *Commissions and fees* revenue:

In millions of dollars	**2022**				2021				2020			
	ICG	**PBWM**	**LF**	**Total**	ICG	PBWM	LF	Total	ICG	PBWM	LF	Total
Investment banking	**$ 3,084**	**$ —**	**$ —**	**$ 3,084**	$ 6,007	$ —	$ —	$ 6,007	$ 4,483	$ —	$ —	$ 4,483
Brokerage commissions	**1,570**	**767**	**209**	**2,546**	1,770	1,035	431	3,236	1,700	874	386	2,960
Credit and bank card income												
Interchange fees	**1,207**	**9,452**	**846**	**11,505**	817	8,119	885	9,821	704	6,526	774	8,004
Card-related loan fees	**44**	**256**	**289**	**589**	27	292	376	695	22	241	386	649
Card rewards and partner payments[1]	**(625)**	**(11,133)**	**(578)**	**(12,336)**	(405)	(9,296)	(534)	(10,235)	(380)	(7,688)	(605)	(8,673)
Deposit-related fees[2]	**1,061**	**157**	**56**	**1,274**	1,034	196	101	1,331	936	255	143	1,334
Transactional service fees	**1,057**	**17**	**95**	**1,169**	968	22	108	1,098	857	20	97	974
Corporate finance[3]	**454**	**4**	**—**	**458**	705	4	—	709	453	4	—	457
Insurance distribution revenue	**—**	**217**	**129**	**346**	—	309	164	473	—	318	185	503
Insurance premiums	**—**	**4**	**87**	**91**	—	10	84	94	—	6	119	125
Loan servicing	**39**	**48**	**16**	**103**	43	38	17	98	80	28	29	137
Other	**20**	**185**	141	**346**	20	186	139	345	15	300	117	432
Total commissions and fees[4]	**$ 7,911**	**$ (26)**	**$ 1,290**	**$ 9,175**	$ 10,986	$ 915	$ 1,771	$ 13,672	$ 8,870	$ 884	$ 1,631	$ 11,385

(1) Citi's consumer credit card programs have certain partner sharing agreements that vary by partner. These agreements are subject to contractually based performance thresholds that, if met, would require Citi to make ongoing payments to the partner. The threshold is based on the profitability of a program and is generally calculated based on predefined program revenues less predefined program expenses. In most of Citi's partner sharing agreements, program expenses include net credit losses and, to the extent that an increase in net credit losses reduces Citi's liability for the partners' share for a given program year, would generally result in lower payments to partners in total for that year and vice versa. Further, in some instances, other partner payments are based on program sales and new account acquisitions.

(2) Includes overdraft fees of $59 million (prior to the elimination of overdraft fees in June 2022), $107 million and $100 million for the years ended December 31, 2022, 2021 and 2020, respectively. Overdraft fees are accounted for under ASC 310. Citi eliminated overdraft fees, returned item fees and overdraft protection fees beginning in June 2022.

(3) Consists primarily of fees earned from structuring and underwriting loan syndications or related financing activity. This activity is accounted for under ASC 310.

(4) *Commissions and fees* include $(11,008) million, $(8,516) million and $(7,160) million not accounted for under ASC 606, *Revenue from Contracts with Customers*, for the years ended December 31, 2022, 2021 and 2020, respectively. Amounts reported in *Commissions and fees* accounted for under other guidance primarily include card-related loan fees, card reward programs and certain partner payments, corporate finance fees, insurance premiums and loan servicing fees.

LF *Legacy Franchises*

Administration and Other Fiduciary Fees

Administration and other fiduciary fees revenue is primarily composed of custody fees and fiduciary fees.

The custody product is composed of numerous services related to the administration, safekeeping and reporting for both U.S. and non-U.S. denominated securities. The services offered to clients include trade settlement, safekeeping, income collection, corporate action notification, record-keeping and reporting, tax reporting and cash management. These services are provided for a wide range of securities, including but not limited to equities, municipal and corporate bonds, mortgage- and asset-backed securities, money market instruments, U.S. Treasuries and agencies, derivative instruments, mutual funds, alternative investments and precious metals. Custody fees are recognized as or when the associated promised service is satisfied, which normally occurs at the point in time the service is requested by the customer and provided by Citi.

Fiduciary fees consist of trust services and investment management services. As an escrow agent, Citi receives, safekeeps, services and manages clients' escrowed assets, such as cash, securities, property (including intellectual property), contracts or other collateral. Citi performs its escrow agent duties by safekeeping the assets during the specified time period agreed upon by all parties and therefore earns its revenue evenly during the contract duration.

Investment management services consist of managing assets on behalf of Citi's retail and institutional clients. Revenue from these services primarily consists of asset-based fees for advisory accounts, which are based on the market value of the client's assets and recognized monthly, when the market value is fixed. In some instances, the Company contracts with third-party advisors and with third-party custodians. The Company has determined that it acts as principal in the majority of these transactions and therefore presents the amounts paid to third parties gross within *Other operating expenses*.

The following table presents *Administration and other fiduciary fees* revenue:

	2022				2021				2020			
In millions of dollars	**ICG**	**PBWM**	**LF**	**Total**	ICG	PBWM	LF	Total	ICG	PBWM	LF	Total
Custody fees[1]	**$ 1,781**	**$ 87**	**$ 9**	**$ 1,877**	$ 1,793	$ 91	$ 14	$ 1,898	$ 1,557	$ 80	$ 20	$ 1,657
Fiduciary fees	**284**	**752**	**314**	**1,350**	250	778	436	1,464	234	623	417	1,274
Guarantee fees	**508**	**43**	**6**	**557**	528	45	8	581	495	38	8	541
Total administration and other fiduciary fees[2]	**$ 2,573**	**$ 882**	**$ 329**	**$ 3,784**	$ 2,571	$ 914	$ 458	$ 3,943	$ 2,286	$ 741	$ 445	$ 3,472

(1) *ICG* in 2020 includes $38 million related to *Corporate/Other.*

(2) *Administration and other fiduciary fees* include $557 million, $581 million and $541 million for the years ended December 31, 2022, 2021 and 2020, respectively, that are not accounted for under ASC 606, *Revenue from Contracts with Customers.* These generally include guarantee fees.

LF *Legacy Franchises*

6. PRINCIPAL TRANSACTIONS

Principal transactions revenue consists of realized and unrealized gains and losses from trading activities. Trading activities include revenues from fixed income, equities, credit and commodities products and foreign exchange transactions that are managed on a portfolio basis and characterized below based on the primary risk managed by each trading desk (as such, the trading desks can be periodically reorganized and thus the risk categories). Not included in the table below is the impact of net interest income related to trading activities, which is an integral part of trading activities' profitability (see Note 4 for information about net interest income related to trading activities). Principal transactions include CVA (credit valuation adjustments) and FVA (funding valuation adjustments) on over-the-counter derivatives, and gains (losses) on certain economic hedges on loans in *ICG*. These adjustments are discussed further in Note 25.

In certain transactions, Citi incurs fees and presents these fees paid to third parties in operating expenses.

The following table presents *Principal transactions* revenue:

In millions of dollars	**2022**	2021	2020
Interest rate risks[1]	**$ 3,940**	$ 1,993	$ 4,668
Foreign exchange risks[2]	**6,593**	4,668	4,923
Equity risks[3]	**1,858**	2,197	1,431
Commodity and other risks[4]	**1,801**	1,123	1,140
Credit products and risks[5]	**(33)**	173	1,723
Total	**$ 14,159**	$ 10,154	$ 13,885

(1) Includes revenues from government securities and corporate debt, municipal securities, mortgage securities and other debt instruments. Also includes spot and forward trading of currencies and exchange-traded and over-the-counter (OTC) currency options, options on fixed income securities, interest rate swaps, currency swaps, swap options, caps and floors, financial futures, OTC options and forward contracts on fixed income securities.
(2) Includes revenues from foreign exchange spot, forward, option and swap contracts, as well as foreign currency translation (FX translation) gains and losses.
(3) Includes revenues from common, preferred and convertible preferred stock, convertible corporate debt, equity-linked notes and exchange-traded and OTC equity options and warrants.
(4) Primarily includes revenues from crude oil, refined oil products, natural gas and other commodities trades.
(5) Includes revenues from structured credit products.

7. INCENTIVE PLANS

Discretionary Annual Incentive Awards

Citigroup grants immediate cash bonus payments and various forms of immediate and deferred awards as part of its discretionary annual incentive award program involving a large segment of Citigroup's employees worldwide.

Discretionary annual incentive awards are generally awarded in the first quarter of the year based on the previous year's performance. Awards valued at less than U.S. $75,000 (or the local currency equivalent) are generally paid entirely in the form of an immediate cash bonus. Pursuant to Citigroup policy and/or regulatory requirements, certain employees are subject to mandatory deferrals of incentive pay and generally receive 15%–60% of their awards in the form of deferred stock or deferred cash stock units. Discretionary annual incentive awards to certain employees in the EU are subject to deferral requirements regardless of the total award value, with at least 50% of the immediate incentive delivered in the form of a stock payment award subject to a restriction on sale or transfer (generally, for 12 months).

For incentive awards granted in 2022, Citigroup changed the annual deferred compensation structure from granting deferred cash awards for certain regulated employees to deferred stock awards. Certain employees located in countries that have regulations or tax advantages for offering deferred cash or deferred cash stock units received those types of awards as a part of their annual incentive compensation rather than deferred stock.

Subject to certain exceptions (principally, for retirement-eligible employees), continuous employment within Citigroup is required to vest in deferred annual incentive awards. Post employment vesting by retirement-eligible employees and participants who meet other conditions is generally conditioned upon their compliance with certain restrictions during the remaining vesting period.

Generally, the deferred awards vest in equal annual installments over three- or four-year periods. Vested stock awards are delivered in shares of common stock. Deferred cash awards are payable in cash and, except as prohibited by applicable regulatory guidance, earn a fixed notional rate of interest that is paid only if and when the underlying principal award amount vests. Deferred cash stock unit awards are payable in cash at the vesting value of the underlying stock. Generally, in the EU, vested shares are subject to a restriction on sale or transfer after vesting, and vested deferred cash awards and deferred cash stock units are subject to hold back (generally, for 6 or 12 months based on the award type).

Stock awards, deferred cash stock units and deferred cash awards are subject to one or more cancellation and clawback provisions that apply in certain circumstances, including gross misconduct.

Outstanding (Unvested) Stock Awards

A summary of the status of unvested stock awards granted as discretionary annual incentive or sign-on and replacement awards is presented below:

Unvested stock awards	Shares	Weighted-average grant date fair value per share
Unvested at December 31, 2021	31,644,684	$ 66.22
Granted[(1)]	25,729,643	65.07
Canceled	(2,007,260)	65.94
Vested[(2)]	(13,458,860)	67.17
Unvested at December 31, 2022	**41,908,207**	**$ 65.23**

(1) The weighted-average fair value of the shares granted during 2021 and 2020 was $62.10 and $76.68, respectively.

(2) The weighted-average fair value of the shares vesting during 2022 was approximately $64.13 per share on the vesting date, compared to $67.17 on the grant date.

Total unrecognized compensation cost related to unvested stock awards was $862 million at December 31, 2022. The cost is expected to be recognized over a weighted-average period of 1.7 years.

Performance Share Units

Executive officers were awarded performance share units (PSUs) every February from 2019 to 2022, for performance in the year prior to the award date based on two performance metrics. For PSUs awarded in 2019 and 2020, those metrics were return on tangible common equity and earnings per share. For PSUs awards in 2021 and 2022, the metrics were return on tangible common equity and tangible book value per share. In each year, the metrics were equally weighted.

For all award years, if the total shareholder return is negative over the three-year performance period, executives may earn no more than 100% of the target PSUs, regardless of the extent to which Citigroup outperforms against performance goals and/or peer firms. The number of PSUs ultimately earned could vary from zero, if performance goals are not met, to as much as 150% of target, if performance goals are meaningfully exceeded. The reported financial metrics during the performance period are adjusted to reflect an equitable adjustment as required under the applicable award agreements for unusual and non-recurring items, including divestitures, as well as accounting rule and tax law changes.

For all award years, the value of each PSU is equal to the value of one share of Citi common stock. Dividend equivalents are accrued and paid on the number of earned PSUs after the end of the performance period.

PSUs are subject to variable accounting, pursuant to which the associated value of the award will fluctuate with changes in Citigroup's stock price and the attainment of the specified performance goals for each award. The award is settled solely in cash after the end of each performance period. The value of the award, subject to the performance goals and taking into account any mandatory equitable adjustments as per the terms of the award agreement, is estimated using a simulation model that incorporates multiple valuation assumptions, including the probability of achieving the specified performance goals of each award. The risk-free rate used in the model is based on the applicable U.S. Treasury yield curve. Other significant assumptions for the awards are as follows:

Valuation assumptions	2022	2021	2020
Expected volatility	**37.01 %**	40.88 %	22.26 %
Expected dividend yield	**2.96**	4.21	2.82

A summary of the performance share unit activity for 2022 is presented below:

Performance share units	Units	Weighted-average grant date fair value per unit
Outstanding, beginning of year	**1,274,273**	**$ 77.67**
Granted[(1)]	**531,824**	**71.04**
Canceled	**(62,875)**	**72.83**
Payments[(2)]	**(461,087)**	**72.83**
Outstanding, end of year	**1,282,135**	**$ 76.90**

(1) The weighted-average grant date fair value per unit awarded in 2021 and 2020 was $78.55 and $83.45, respectively.
(2) The value of the payments was approximately $32 million.

Transformation Program

In order to provide an incentive for select employees to effectively execute Citi's transformation program, in August 2021 the Personnel and Compensation (P&C) Committee of Citigroup's Board of Directors, the predecessor of the Compensation, Performance Management and Culture (CPC) Committee of Citigroup's Board of Directors, approved a program for them to earn additional compensation based on the achievement of Citi's transformation goals from August 2021 through December 2024 and satisfaction of other conditions. Performance under the program is divided into three consecutive periods, ending on December 31, 2022, 2023 and 2024. The awards are subject to variable accounting, pursuant to which the associated value of the award will fluctuate with the attainment of the performance conditions for each tranche and changes to Citigroup's stock price for the third tranche. Payment for each period will be in cash, in a lump sum, with the third payment indexed to changes in the value of Citi's common stock from the service inception date through the payment date. Earnings generally will be based on collective performance with respect to Citi's transformation goals and will be evaluated and approved by the CPC Committee on an annual basis.

Payments in the event of any category of employment termination or change in job title or employment status are subject to Citi's discretion. Cancellation and clawback are provided for in the event of misconduct and certain other circumstances. The program applies to senior leaders, other than the CEO, critical to helping deliver a successful transformation with the value varying based on individual compensation levels.

Stock Option Program

All outstanding options were fully vested at December 31, 2020 and exercised during 2021, with none outstanding at December 31, 2022 and 2021.

Other Variable Incentive Compensation

Citigroup has various incentive plans globally that are used to motivate and reward performance primarily in the areas of sales, operational excellence and customer satisfaction. Participation in these plans is generally limited to employees who are not eligible for discretionary annual incentive awards. Other forms of variable compensation include commissions paid to financial advisors and mortgage loan officers.

Summary

Except for awards subject to variable accounting, the total expense recognized for stock awards represents the grant date fair value of such awards, which is generally recognized as a charge to income ratably over the vesting period, other than for awards to retirement-eligible employees and immediately vested awards. Whenever awards are granted or are expected to be granted to retirement-eligible employees, the charge to income is accelerated based on when the applicable conditions for retirement eligibility were or will be met. If the employee is retirement eligible on the grant date, or the award is vested at the grant date, Citi recognizes the expense each year equal to the grant date fair value of the awards that it estimates will be granted in the following year.

Recipients of Citigroup stock awards generally do not have any stockholder rights until shares are delivered upon vesting or exercise. Recipients of deferred stock awards and deferred cash stock unit awards, however, may, except as prohibited by applicable regulatory guidance, be entitled to receive or accrue dividend-equivalent payments during the vesting period. Recipients of stock payment awards and other stock awards subject to a sale-restriction period are generally entitled to vote the shares in their award and receive dividends on such shares during the sale-restriction period. Once a stock award vests, the shares delivered to the participant are freely transferable, unless they are subject to a restriction on sale or transfer for a specified period.

All equity awards granted since April 19, 2005 have been made pursuant to stockholder-approved stock incentive plans that are administered by the CPC Committee (or its predecessor), which is composed entirely of independent non-employee directors.

On December 31, 2022, approximately 48.0 million shares of Citigroup common stock were authorized and available for grant under Citigroup's 2019 Stock Incentive Plan, the only plan from which equity awards are currently granted.

The 2019 Stock Incentive Plan and predecessor plans permit the use of treasury stock or newly issued shares in connection with awards granted under the plans. Treasury shares were used to settle vestings from 2018 to 2021, and for the first quarter of 2022, except where local laws favor newly issued shares. The use of treasury stock or newly issued shares to settle stock awards does not affect the compensation expense recorded in the Consolidated Statement of Income for equity awards.

Incentive Compensation Cost

The following table shows components of compensation expense, relating to certain of the incentive compensation programs described above:

In millions of dollars	**2022**	2021	2020
Charges for estimated awards to retirement-eligible employees	**$ 742**	$ 807	$ 748
Amortization of deferred cash awards, deferred cash stock units and performance stock units	**463**	384	201
Immediately vested stock award expense[(1)]	**101**	99	95
Amortization of restricted and deferred stock awards[(2)]	**533**	395	420
Other variable incentive compensation	**304**	435	627
Total	**$ 2,143**	$ 2,120	$ 2,091

(1) Represents expense for immediately vested stock awards that generally were stock payments in lieu of cash compensation. The expense is generally accrued as cash incentive compensation in the year prior to grant.

(2) All periods include amortization expense for all unvested awards to non-retirement-eligible employees.

8. RETIREMENT BENEFITS

Pension and Postretirement Plans

The Company has several non-contributory defined benefit pension plans covering certain U.S. employees and has various defined benefit pension and termination indemnity plans covering employees outside the U.S.

The U.S. qualified defined benefit plan was frozen effective January 1, 2008 for most employees. Accordingly, no additional compensation-based contributions have been credited to the cash balance portion of the plan for existing plan participants after 2007. However, certain employees covered under the prior final pay plan formula continue to accrue benefits. The Company also offers postretirement health care and life insurance benefits to certain eligible U.S. retired employees, as well as to certain eligible employees outside the U.S.

The Company also sponsors a number of non-contributory, nonqualified pension plans. These plans, which are unfunded, provide supplemental defined pension benefits to certain U.S. employees. With the exception of certain employees covered under the prior final pay plan formula, the benefits under these plans were frozen in prior years.

The plan obligations, plan assets and periodic plan expense for the Company's most significant pension and postretirement benefit plans (Significant Plans) are measured and disclosed quarterly, instead of annually. The Significant Plans captured approximately 90% of the Company's global pension and postretirement plan obligations as of December 31, 2022. All other plans (All Other Plans) are measured annually with a December 31 measurement date.

Net (Benefit) Expense

The following table summarizes the components of net (benefit) expense recognized in the Consolidated Statement of Income for the Company's pension and postretirement plans for Significant Plans and All Other Plans. Benefits earned during the year are reported in *Compensation and benefits expenses* and all other components of the net annual benefit cost are reported in *Other operating expenses* in the Consolidated Statement of Income:

	Pension plans						Postretirement benefit plans					
	U.S. plans			Non-U.S. plans			U.S. plans			Non-U.S. plans		
In millions of dollars	**2022**	2021	2020	**2022**	2021	2020	**2022**	2021	2020	**2022**	2021	2020
Service cost	**$ —**	$ —	$ —	**$ 116**	$ 149	$ 147	**$ —**	$ —	$ —	**$ 2**	$ 6	$ 7
Interest cost on benefit obligation	**442**	351	378	**329**	268	246	**16**	13	17	**90**	96	93
Expected return on assets	**(612)**	(683)	(824)	**(263)**	(253)	(245)	**(11)**	(13)	(17)	**(69)**	(84)	(77)
Amortization of unrecognized:												
Prior service cost (benefit)	**2**	2	2	**(7)**	(6)	5	**(9)**	(9)	(2)	**(8)**	(9)	(9)
Net actuarial loss (gain)	**162**	228	233	**58**	62	70	**(9)**	(3)	—	**6**	13	20
Curtailment loss (gain)[1]	**—**	—	—	**(22)**	1	(8)	**—**	—	—	**—**	—	—
Settlement loss (gain)[1]	**—**	—	—	**(15)**	10	(1)	**—**	—	—	**—**	—	—
Total net (benefit) expense	**$ (6)**	$ (102)	$ (211)	**$ 196**	$ 231	$ 214	**$ (13)**	$ (12)	$ (2)	**$ 21**	$ 22	$ 34

(1) Curtailment and settlement relate to divestiture activities. Total net expense for non-U.S. plans includes a $36 million net benefit related to the wind-down of Citi's consumer banking business in Korea.

Contributions

The Company's funding practice for U.S. and non-U.S. pension and postretirement plans is generally to fund to minimum funding requirements in accordance with applicable local laws and regulations. The Company may increase its contributions above the minimum required contribution, if appropriate. In addition, management has the ability to change its funding practices. For the U.S. pension plans, there were no required minimum cash contributions for 2022 or 2021.

The following table summarizes the Company's actual contributions for the years ended December 31, 2022 and 2021, as well as expected Company contributions for 2023. Expected contributions are subject to change, since contribution decisions are affected by various factors, such as market performance, tax considerations and regulatory requirements.

	Pension plans[1]						Postretirement benefit plans[1]					
	U.S. plans[2]			Non-U.S. plans			U.S. plans			Non-U.S. plans		
In millions of dollars	**2023**	2022	2021	**2023**	2022	2021	**2023**	2022	2021	**2023**	2022	2021
Contributions made by the Company	**$ —**	$ —	$ —	**$ 71**	$ 158	$ 104	**$ —**	$ —	$ —	**$ 4**	$ 4	$ 3
Benefits paid directly by (reimbursements to) the Company[3]	**57**	55	56	**39**	336	51	**5**	14	22	**5**	5	5

(1) Amounts reported for 2023 are expected amounts.
(2) The U.S. pension plans include benefits paid directly by the Company for the nonqualified pension plans.
(3) 2022 benefit payments have increased due to the wind-down of Citi's consumer banking business in Korea. See Note 2 for additional information.

Funded Status and *Accumulated Other Comprehensive Income (AOCI)*

The following table summarizes the funded status and amounts recognized on the Consolidated Balance Sheet for the Company's pension and postretirement plans:

	Pension plans				Postretirement benefit plans			
	U.S. plans		Non-U.S. plans		U.S. plans		Non-U.S. plans	
In millions of dollars	**2022**	2021	**2022**	2021	**2022**	2021	**2022**	2021
Change in benefit obligation								
Benefit obligation at beginning of year	**$ 12,766**	$ 13,815	**$ 8,001**	$ 8,629	**$ 501**	$ 559	**$ 1,169**	$ 1,390
Service cost	**—**	—	**116**	149	**—**	—	**2**	6
Interest cost on benefit obligation	**442**	351	**329**	268	**16**	13	**90**	96
Plan amendments	**—**	—	**—**	6	**—**	—	**—**	—
Actuarial (gain)[2]	**(2,522)**	(447)	**(1,168)**	(344)	**(95)**	(28)	**(100)**	(110)
Benefits paid, net of participants' contributions	**(945)**	(953)	**(397)**	(345)	**(47)**	(43)	**(72)**	(78)
Divestitures	**—**	—	**(22)**	—	**—**	—	**—**	—
Settlement[4]	**—**	—	**(364)**	(124)	**—**	—	**—**	—
Curtailment[4]	**—**	—	**(35)**	(30)	**—**	—	**—**	—
Foreign exchange impact and other	**—**	—	**(85)**	(208)	**—**	—	**(76)**	(135)
Benefit obligation at year end	**$ 9,741**	$ 12,766	**$ 6,375**	$ 8,001	**$ 375**	$ 501	**$ 1,013**	$ 1,169
Change in plan assets								
Plan assets at fair value at beginning of year	**$ 12,977**	$ 13,309	**$ 7,614**	$ 7,831	**$ 319**	$ 331	**$ 1,043**	$ 1,146
Actual return on assets[2]	**(1,942)**	565	**(1,212)**	217	**(33)**	9	**(75)**	97
Company contributions, net of reimbursements	**55**	56	**495**	155	**14**	22	**9**	8
Benefits paid, net of participants' contributions	**(945)**	(953)	**(397)**	(345)	**(47)**	(43)	**(72)**	(78)
Divestitures	**—**	—	**(11)**	—	**—**	—	**—**	—
Settlement[4]	**—**	—	**(364)**	(124)	**—**	—	**—**	—
Foreign exchange impact and other	**—**	—	**(39)**	(120)	**—**	—	**(50)**	(130)
Plan assets at fair value at year end	**$ 10,145**	$ 12,977	**$ 6,086**	$ 7,614	**$ 253**	$ 319	**$ 855**	$ 1,043
Funded status of the plans								
Qualified plans[5]	**$ 949**	$ 894	**$ (289)**	$ (387)	**$ (122)**	$ (182)	**$ (158)**	$ (126)
Nonqualified plans[3]	**(545)**	(683)	**—**	—	**—**	—	**—**	—
Funded status of the plans at year end	**$ 404**	$ 211	**$ (289)**	$ (387)	**$ (122)**	$ (182)	**$ (158)**	$ (126)
Net amount recognized at year end								
Qualified plans								
Benefit asset	**$ 949**	$ 894	**$ 799**	$ 963	**$ —**	$ —	**$ 28**	$ 165
Benefit liability	**—**	—	**(1,088)**	(1,350)	**(122)**	(182)	**(186)**	(291)
Qualified plans	**$ 949**	$ 894	**$ (289)**	$ (387)	**$ (122)**	$ (182)	**$ (158)**	$ (126)
Nonqualified plans	**(545)**	(683)	**—**	—	**—**	—	**—**	—
Net amount recognized on the balance sheet	**$ 404**	$ 211	**$ (289)**	$ (387)	**$ (122)**	$ (182)	**$ (158)**	$ (126)
Amounts recognized in *AOCI* at year end[1]								
Net transition obligation	**$ —**	$ —	**$ —**	$ —	**$ —**	$ —	**$ —**	$ —
Prior service (cost) benefit	**(6)**	(8)	**7**	5	**82**	92	**36**	47
Net actuarial (loss) gain	**(6,445)**	(6,575)	**(1,671)**	(1,400)	**120**	77	**(206)**	(182)
Net amount recognized in equity (pretax)	**$ (6,451)**	$ (6,583)	**$ (1,664)**	$ (1,395)	**$ 202**	$ 169	**$ (170)**	$ (135)
Accumulated benefit obligation at year end	**$ 9,740**	$ 12,765	**$ 6,051**	$ 7,559	**$ 375**	$ 501	**$ 1,013**	$ 1,169

(1) The framework for the Company's pension oversight process includes monitoring of potential settlement charges for all plans. Settlement accounting is triggered when either the sum of all settlements (including lump sum payments) for the year is greater than service plus interest costs or if more than 10% of the plan's projected benefit obligation will be settled. Because some of Citi's Significant Plans are frozen and have no material service cost, settlement accounting may apply in the future.

(2) Actuarial gain was primarily due to the increase in global discount rates partially offset by lower than expected asset returns.

(3) The nonqualified plans of the Company are unfunded.

(4) Curtailment and settlement relate to divestiture activities.

(5) The U.S. qualified plan was fully funded as of January 1, 2022 and no minimum funding was required for 2022. The plan is also expected to be fully funded as of January 1, 2023 with no expected minimum funding requirement for 2023.

The following table shows the change in *AOCI* related to the Company's pension, postretirement and post employment plans:

In millions of dollars	**2022**	2021	2020
Beginning of year balance, net of tax[1][2]	**$ (5,852)**	$ (6,864)	$ (6,809)
Actuarial assumptions changes and plan experience	**3,923**	963	(1,464)
Net asset gain (loss) due to difference between actual and expected returns	**(4,225)**	(148)	1,076
Net amortization	**198**	280	318
Prior service credit (cost)	**—**	(7)	108
Curtailment/settlement gain (loss)[3]	**(37)**	11	(8)
Foreign exchange impact and other	**172**	153	(108)
Change in deferred taxes, net	**66**	(240)	23
Change, net of tax	**$ 97**	$ 1,012	$ (55)
End of year balance, net of tax[1][2]	**$ (5,755)**	$ (5,852)	$ (6,864)

(1) See Note 20 for further discussion of net *AOCI* balance.
(2) Includes net-of-tax amounts for certain profit-sharing plans outside the U.S.
(3) Curtailment and settlement relate to divestiture activities.

At December 31, 2022 and 2021, the aggregate projected benefit obligation (PBO), the aggregate accumulated benefit obligation (ABO) and the aggregate fair value of plan assets are presented for all defined benefit pension plans with a PBO in excess of plan assets and for all defined benefit pension plans with an ABO in excess of plan assets as follows:

	PBO exceeds fair value of plan assets				**ABO exceeds fair value of plan assets**			
	U.S. plans[1]		**Non-U.S. plans**		**U.S. plans**[1]		**Non-U.S. plans**	
In millions of dollars	**2022**	2021	**2022**	2021	**2022**	2021	**2022**	2021
Projected benefit obligation	**$ 545**	$ 683	**$ 3,463**	$ 3,966	**$ 545**	$ 683	**$ 3,315**	$ 3,809
Accumulated benefit obligation	**545**	683	**3,179**	3,574	**545**	682	**3,088**	3,477
Fair value of plan assets	**—**	—	**2,374**	2,616	**—**	—	**2,252**	2,486

(1) As of December 31, 2022 and 2021, only the nonqualified plans' PBO and ABO exceeded plan assets.

Plan Assumptions

The Company utilizes a number of assumptions to determine plan obligations and expenses. Changes in one or a combination of these assumptions will have an impact on the Company's pension and postretirement PBO, funded status and (benefit) expense. Changes in the plans' funded status resulting from changes in the PBO and fair value of plan assets will have a corresponding impact on *Accumulated other comprehensive income (loss)*.

The actuarial assumptions at the respective years ended December 31 in the table below are used to measure the year-end PBO and the net periodic (benefit) expense for the subsequent year (period). Since Citi's Significant Plans are measured on a quarterly basis, the year-end rates for those plans are used to calculate the net periodic (benefit) expense for the subsequent year's first quarter.

As a result of the quarterly measurement process, the net periodic (benefit) expense for the Significant Plans is calculated at each respective quarter end based on the preceding quarter-end rates (as shown below for the U.S. and non-U.S. pension and postretirement plans). The actuarial assumptions for All Other Plans are measured annually.

Certain assumptions used in determining pension and postretirement benefit obligations and net benefit expense for the Company's plans are shown in the following table:

At year end	**2022**	2021
Discount rate		
U.S. plans		
Qualified pension	**5.50%**	2.80%
Nonqualified pension	**5.55**	2.80
Postretirement	**5.60**	2.75
Non-U.S. pension plans		
Range[1]	**1.75 to 25.20**	-0.10 to 11.95
Weighted average	**6.66**	3.96
Non-U.S. postretirement plans		
Range	**3.25 to 10.60**	1.05 to 10.00
Weighted average	**9.80**	8.28
Future compensation increase rate[2]		
Non-U.S. pension plans		
Range	**1.30 to 23.11**	1.30 to 11.25
Weighted average	**3.76**	3.10
Expected return on assets		
U.S. plans		
Qualified pension	**5.70**	5.00
Postretirement[3]	**5.70/3.00**	5.00/1.50
Non-U.S. pension plans		
Range	**1.00 to 11.50**	0.00 to 11.50
Weighted average	**6.05**	3.69
Non-U.S. postretirement plans		
Range	**8.70 to 9.10**	6.00 to 8.00
Weighted average	**8.70**	7.99

(1) In 2021, due to historically low global interest rates, there were negative discount rates for plans with relatively short duration in certain major markets, such as the Eurozone and Switzerland.
(2) Not material for U.S. plans.
(3) For the years ended 2022 and 2021, the expected return on assets for the VEBA Trust was 3.00% and 1.50%, respectively.

During the year	**2022**	2021	2020
Discount rate			
U.S. plans			
Qualified pension	**2.80%/3.80%/ 4.80%/5.65%**	2.45%/3.10%/ 2.75%/2.80%	3.25%/3.20%/ 2.60%/2.55%
Nonqualified pension	**2.80/3.85/ 4.80/5.60**	2.35/3.00/ 2.70/2.75	3.25/3.25/ 2.55/2.50
Postretirement	**2.75/3.85/ 4.75/5.65**	2.20/2.85/ 2.60/2.65	3.15/3.20/ 2.45/2.35
Non-U.S. pension plans[1]			
Range[2]	**-0.10 to 11.95**	-0.25 to 11.15	-0.10 to 11.30
Weighted average	**3.96**	3.14	3.65
Non-U.S. postretirement plans[1]			
Range	**1.05 to 11.25**	0.80 to 9.80	0.90 to 9.75
Weighted average	**8.28**	7.42	7.76
Future compensation increase rate[3]			
Non-U.S. pension plans[1]			
Range	**1.30 to 11.25**	1.20 to 11.25	1.50 to 11.50
Weighted average	**3.10**	3.10	3.17
Expected return on assets			
U.S. plans			
Qualified pension[4]	**5.00**	5.80/5.60/ 5.60/5.00	6.70
Postretirement[4]	**5.00/1.50**	5.80/5.60/ 5.00/1.50	6.70/3.00
Non-U.S. pension plans[1]			
Range	**0.00 to 11.50**	0.00 to 11.50	0.00 to 11.50
Weighted average	**3.69**	3.39	3.95
Non-U.S. postretirement plans[1]			
Range	**6.00 to 8.00**	5.95 to 8.00	6.20 to 8.00
Weighted average	**7.99**	7.99	7.99

(1) Reflects rates utilized to determine the quarterly expense for Significant non-U.S. pension and postretirement plans.
(2) In 2021, due to historically low global interest rates, there were negative discount rates for plans with relatively short duration in certain major markets, such as the Eurozone and Switzerland.
(3) Not material for U.S. plans.
(4) The expected return on assets for the U.S. pension and postretirement plans was adjusted from 5.00% to 5.70% effective January 1, 2023 to reflect a significant change in economic market conditions. The expected return on assets for the U.S. pension and postretirement plans changed from 6.70% to 5.80% effective as of January 1, 2021, reduced to 5.60% effective April 1, 2021 and further reduced to 5.00% effective October 1, 2021.

Discount Rate

The discount rates for the U.S. pension and postretirement plans were selected by reference to a Citigroup-specific analysis using each plan's specific cash flows and a hypothetical bond portfolio of U.S. high-quality corporate bonds that match each plan's projected cash flows. The discount rates for the non-U.S. pension and postretirement plans are selected by reference to each plan's specific cash flows and a market-based yield curve developed from the available local high-quality corporate bonds. However, where developed corporate bond markets do not exist, the discount rates are selected by reference to local government bonds with an estimated premium added to reflect the additional risk for corporate bonds in certain countries. Where available, the resulting plan yields by jurisdiction are compared with published, high-quality corporate bond indices for reasonableness.

Expected Return on Assets

The Company determines its assumptions for the expected return on assets for its U.S. pension and postretirement plans using a "building block" approach, which focuses on ranges of anticipated rates of return for each asset class. A weighted average range of nominal rates is then determined based on target allocations to each asset class. Market performance over a number of earlier years is evaluated covering a wide range of economic conditions to determine whether there are sound reasons for projecting any past trends.

The Company considers the expected return on assets to be a long-term assessment of return expectations and does not anticipate changing this assumption unless there are significant changes in investment strategy or economic conditions. This contrasts with the selection of the discount rate and certain other assumptions, which are reconsidered annually (or quarterly for the Significant Plans) in accordance with GAAP.

The expected return on assets reflects the expected annual appreciation of the plan assets and reduces the Company's annual pension expense. The expected return on assets is deducted from the sum of service cost, interest cost and other components of pension expense to arrive at the net pension (benefit) expense.

The following table shows the expected return on assets used in determining the Company's pension expense compared to the actual return on assets during 2022, 2021 and 2020 for the U.S. pension and postretirement plans:

U.S. plans (During the year)	**2022**	2021	2020
Expected return on assets			
U.S. pension and postretirement trust	**5.00%**	5.80%/5.60%/ 5.60%/5.00%	6.70%
VEBA Trust[2]	**1.50**	1.50	3.00
Actual return on assets[1]			
U.S. pension and postretirement trust	**(15.52)**	5.14	12.84
VEBA Trust	**1.40**	1.52	2.11

(1) Actual return on assets is presented net of fees.

(2) The expected return on assets for the VEBA Trust was adjusted from 1.50% to 3.00% effective January 1, 2023 to reflect significant change in economic condition.

Sensitivities of Certain Key Assumptions

The following tables summarize the effect on pension expense:

	Discount rate		
	One-percentage-point increase		
In millions of dollars	**2022**	2021	2020
U.S. plans	**$ 27**	$ 35	$ 34
Non-U.S. plans	**(5)**	(4)	(16)

	One-percentage-point decrease		
In millions of dollars	**2022**	2021	2020
U.S. plans	**$ (34)**	$ (49)	$ (52)
Non-U.S. plans	**15**	25	25

The U.S. Qualified Pension Plan was frozen in 2008, and as a result, most of the prospective service costs have been eliminated and the gain/loss amortization period was changed to the life expectancy for inactive participants. As a result, pension expense for the U.S. Qualified Pension Plan is driven more by interest costs than service costs, and an increase in the discount rate would increase pension expense, while a decrease in discount rate would decrease pension expense.

For Non-U.S. Pension Plans that are not frozen (in countries such as Mexico, the U.K. and South Korea), there is more service cost. The pension expense for the Non-U.S. Plans is driven by both service cost and interest cost. An increase in the discount rate generally decreases pension expense due to the greater impact on service cost compared to interest cost.

The following tables summarize the effect on pension expense:

	Expected return on assets		
	One-percentage-point increase		
In millions of dollars	**2022**	2021	2020
U.S. plans	**$ (123)**	$ (124)	$ (123)
Non-U.S. plans	**(60)**	(70)	(66)

	One-percentage-point decrease		
In millions of dollars	**2022**	2021	2020
U.S. plans	**$ 123**	$ 124	$ 123
Non-U.S. plans	**60**	70	66

Health Care Cost Trend Rate

Assumed health care cost trend rates were as follows:

	2022	2021
Health care cost increase rate for U.S. plans		
Following year	**7.00%**	6.25%
Ultimate rate to which cost increase is assumed to decline	**5.00**	5.00
Year in which the ultimate rate is reached	**2031**	2027
Health care cost increase rate for non-U.S. plans (weighted average)		
Following year	**7.05%**	6.92%
Ultimate rate to which cost increase is assumed to decline	**7.05**	6.92
Year in which the ultimate rate is reached	**2023**	2022

Interest Crediting Rate

The Company has cash balance plans and other plans with promised interest crediting rates. For these plans, the interest crediting rates are set in line with plan rules or country legislation and do not change with market conditions.

	Weighted average interest crediting rate		
At year end	**2022**	2021	2020
U.S. plans	**4.50%**	1.80%	1.45%
Non-U.S. plans	**1.73**	1.61	1.60

Plan Assets

Citigroup's pension and postretirement plans' asset allocations for the U.S. plans and the target allocations by asset category based on asset fair values are as follows:

	Target asset allocation	**U.S. pension assets at December 31,**		**U.S. postretirement assets at December 31,**	
Asset category[1]	2023	**2022**	2021	**2022**	2021
Equity securities[2]	0–22%	**7 %**	7 %	**7 %**	7 %
Debt securities[3]	55–114	**71**	72	**71**	72
Real estate	0–4	**3**	2	**3**	2
Private equity	0–5	**7**	6	**7**	6
Other investments	0–23	**12**	13	**12**	13
Total		**100 %**	100 %	**100 %**	100 %

(1) Target asset allocations are set by investment strategy, whereas pension and postretirement assets as of December 31, 2022 and 2021 are based on the underlying investment product. For example, the private equity investment strategy may include underlying investments in real estate within the target asset allocation; however, within pension and postretirement assets, the underlying investment in real estate is reflected in the real estate category and not private equity.

(2) Equity securities in the U.S. pension and postretirement plans do not include any Citigroup common stock at the end of 2022 and 2021.

(3) The VEBA Trust for postretirement benefits is primarily invested in cash equivalents and debt securities in 2022 and 2021 and is not reflected in the table above.

Third-party investment managers and advisors provide their services to Citigroup's U.S. pension and postretirement plans. Assets are rebalanced as the Company's Pension Plan Investment Committee deems appropriate. Citigroup's investment strategy, with respect to its assets, is to maintain a globally diversified investment portfolio across several asset classes that, when combined with Citigroup's contributions to the plans, will maintain the plans' ability to meet all required benefit obligations.

Citigroup's pension and postretirement plans' weighted-average asset allocations for the non-U.S. plans and the actual ranges, and the weighted-average target allocations by asset category based on asset fair values, are as follows:

	Non-U.S. pension plans				
	Target asset allocation	Actual range at December 31,		Weighted-average at December 31,	
Asset category[1]	2023	**2022**	2021	**2022**	2021
Equity securities	0–100%	**0–63%**	0–100%	**19 %**	16 %
Debt securities	0–100	**0–100**	0–100	**73**	76
Real estate	0–15	**0–15**	0–14	**1**	1
Other investments	0–100	**0–100**	0–100	**7**	7
Total				**100 %**	100 %

	Non-U.S. postretirement plans				
	Target asset allocation	Actual range at December 31,		Weighted-average at December 31,	
Asset category[1]	2023	**2022**	2021	**2022**	2021
Equity securities	0–46%	**0–48%**	0–42%	**47 %**	41 %
Debt securities	50–100	**45–100**	53–100	**49**	53
Other investments	0–4	**0–7**	0–6	**4**	6
Total				**100 %**	100 %

(1) Similar to the U.S. plans, asset allocations for certain non-U.S. plans are set by investment strategy, not by investment product.

Fair Value Disclosure

For information on fair value measurements, including descriptions of Levels 1, 2 and 3 of the fair value hierarchy and the valuation methodology utilized by the Company, see Notes 1 and 25. Investments measured using the NAV per share practical expedient are excluded from Level 1, Level 2 and Level 3 in the tables below.

Certain investments may transfer between the fair value hierarchy classifications during the year due to changes in valuation methodology and pricing sources.

Plan assets by detailed asset categories and the fair value hierarchy are as follows:

	U.S. pension and postretirement benefit plans[1]			
In millions of dollars	Fair value measurement at December 31, 2022			
Asset categories	**Level 1**	**Level 2**	**Level 3**	**Total**
U.S. equities	**$ 233**	**$ —**	**$ —**	**$ 233**
Non-U.S. equities	**346**	**—**	**—**	**346**
Mutual funds and other registered investment companies	**243**	**—**	**—**	**243**
Commingled funds	**—**	**818**	**—**	**818**
Debt securities	**929**	**4,638**		**5,567**
Annuity contracts	**—**	**—**	**3**	**3**
Derivatives	**2**	**34**	**—**	**36**
Other investments	**—**	**—**	**4**	**4**
Total investments	**$ 1,753**	**$ 5,490**	**$ 7**	**$ 7,250**
Cash and short-term investments	**$ 39**	**$ 563**	**$ —**	**$ 602**
Other investment liabilities	**(10)**	**(45)**	**—**	**(55)**
Net investments at fair value	**$ 1,782**	**$ 6,008**	**$ 7**	**$ 7,797**
Other investment receivables redeemed at NAV				**$ 21**
Securities valued at NAV				**2,580**
Total net assets				**$ 10,398**

(1) The investments of the U.S. pension and postretirement plans are commingled in one trust. At December 31, 2022, the allocable interests of the U.S. pension and postretirement plans were 98.0% and 2.0%, respectively. The investments of the VEBA Trust for postretirement benefits are reflected in the above table.

	U.S. pension and postretirement benefit plans[1]			
In millions of dollars	Fair value measurement at December 31, 2021			
Asset categories	Level 1	Level 2	Level 3	Total
U.S. equities	$ 358	$ —	$ —	$ 358
Non-U.S. equities	460	—	—	460
Mutual funds and other registered investment companies	297	—	—	297
Commingled funds	—	1,143	—	1,143
Debt securities	1,657	5,770	—	7,427
Annuity contracts	—	—	4	4
Derivatives	2	17	—	19
Other investments	13	—	25	38
Total investments	$ 2,787	$ 6,930	$ 29	$ 9,746
Cash and short-term investments	$ 25	$ 627	$ —	$ 652
Other investment liabilities	(7)	(17)	—	(24)
Net investments at fair value	$ 2,805	$ 7,540	$ 29	$ 10,374
Other investment liabilities redeemed at NAV				$ (29)
Securities valued at NAV				2,951
Total net assets				$ 13,296

(1) The investments of the U.S. pension and postretirement plans are commingled in one trust. At December 31, 2021, the allocable interests of the U.S. pension and postretirement plans were 98.0% and 2.0%, respectively. The investments of the VEBA Trust for postretirement benefits are reflected in the above table.

In millions of dollars	Non-U.S. pension and postretirement benefit plans Fair value measurement at December 31, 2022			
Asset categories	**Level 1**	**Level 2**	**Level 3**	**Total**
U.S. equities	**$ 121**	**$ 10**	**$ —**	**$ 131**
Non-U.S. equities	**718**	**19**	**—**	**737**
Mutual funds and other registered investment companies	**2,416**	**296**	**—**	**2,712**
Commingled funds	**13**	**—**	**—**	**13**
Debt securities	**2,959**	**980**	**—**	**3,939**
Real estate	**—**	**2**	**2**	**4**
Annuity contracts	**—**	**—**	**2**	**2**
Derivatives	**—**	**1,490**	**—**	**1,490**
Other investments	**—**	**—**	**258**	**258**
Total investments	**$ 6,227**	**$ 2,797**	**$ 262**	**$ 9,286**
Cash and short-term investments	**$ 69**	**$ 6**	**$ —**	**$ 75**
Other investment liabilities	**—**	**(2,436)**	**—**	**(2,436)**
Net investments at fair value	**$ 6,296**	**$ 367**	**$ 262**	**$ 6,925**
Securities valued at NAV				**$ 16**
Total net assets				**$ 6,941**

In millions of dollars	Non-U.S. pension and postretirement benefit plans Fair value measurement at December 31, 2021			
Asset categories	Level 1	Level 2	Level 3	Total
U.S. equities	$ 127	$ 19	$ —	$ 146
Non-U.S. equities	713	92	—	805
Mutual funds and other registered investment companies	2,888	66	—	2,954
Commingled funds	21	—	—	21
Debt securities	4,263	1,341	—	5,604
Real estate	—	3	2	5
Annuity contracts	—	—	2	2
Derivatives	—	239	—	239
Other investments	—	—	318	318
Total investments	$ 8,012	$ 1,760	$ 322	$ 10,094
Cash and short-term investments	$ 117	$ 5	$ —	$ 122
Other investment liabilities	—	(1,578)	—	(1,578)
Net investments at fair value	$ 8,129	$ 187	$ 322	$ 8,638
Securities valued at NAV				$ 19
Total net assets				$ 8,657

Level 3 Rollforward

The reconciliations of the beginning and ending balances during the year for Level 3 assets are as follows:

In millions of dollars

	U.S. pension and postretirement benefit plans					
Asset categories	**Beginning Level 3 fair value at Dec. 31, 2021**	**Realized (losses)**	**Unrealized gains**	**Purchases, sales and issuances**	**Transfers in and/ or out of Level 3**	**Ending Level 3 fair value at Dec. 31, 2022**
Annuity contracts	$ 4	$ —	$ —	$ (1)	$ —	**$ 3**
Other investments	25	(3)	2	(20)	—	**4**
Total investments	$ 29	$ (3)	$ 2	$ (21)	$ —	**$ 7**

In millions of dollars

	U.S. pension and postretirement benefit plans					
Asset categories	Beginning Level 3 fair value at Dec. 31, 2020	Realized (losses)	Unrealized gains	Purchases, sales and issuances	Transfers in and/ or out of Level 3	Ending Level 3 fair value at Dec. 31, 2021
Annuity contracts	$ 1	$ —	$ —	$ 3	$ —	$ 4
Other investments	57	(6)	2	(28)	—	25
Total investments	$ 58	$ (6)	$ 2	$ (25)	$ —	$ 29

In millions of dollars

	Non-U.S. pension and postretirement benefit plans				
Asset categories	**Beginning Level 3 fair value at Dec. 31, 2021**	**Unrealized gains**	**Purchases, sales and issuances**	**Transfers in and/ or out of Level 3**	**Ending Level 3 fair value at Dec. 31, 2022**
Real estate	$ 2	$ —	$ —	$ —	**$ 2**
Annuity contracts	2	—	—	—	**2**
Other investments	318	—	(60)	—	**258**
Total investments	$ 322	$ —	$ (60)	$ —	**$ 262**

In millions of dollars

	Non-U.S. pension and postretirement benefit plans				
Asset categories	Beginning Level 3 fair value at Dec. 31, 2020	Unrealized gains	Purchases, sales and issuances	Transfers in and/ or out of Level 3	Ending Level 3 fair value at Dec. 31, 2021
Real estate	$ 2	$ —	$ —	$ —	$ 2
Annuity contracts	5	—	(3)	—	2
Other investments	312	4	2	—	318
Total investments	$ 319	$ 4	$ (1)	$ —	$ 322

Investment Strategy
The Company's global pension and postretirement funds' investment strategy is to invest in a prudent manner for the exclusive purpose of providing benefits to participants. The investment strategies are targeted to produce a total return that, when combined with the Company's contributions to the funds, will maintain the funds' ability to meet all required benefit obligations. Risk is controlled through diversification of asset types and investments in domestic and international equities, fixed income securities and cash and short-term investments. The target asset allocation in most locations outside the U.S. is primarily in equity and debt securities. These allocations may vary by geographic region and country depending on the nature of applicable obligations and various other regional considerations. The wide variation in the actual range of plan asset allocations for the funded non-U.S. plans is a result of differing local statutory requirements and economic conditions. For example, in certain countries local law requires that all pension plan assets must be invested in fixed income investments, government funds or local-country securities.

Significant Concentrations of Risk in Plan Assets
The assets of the Company's pension plans are diversified to limit the impact of any individual investment. The U.S. qualified pension plan is diversified across multiple asset classes, with publicly traded fixed income, publicly traded equity, hedge funds and real estate representing the most significant asset allocations. Investments in these four asset classes are further diversified across funds, managers, strategies, vintages, sectors and geographies, depending on the specific characteristics of each asset class. The pension assets for the Company's non-U.S. Significant Plans are primarily invested in publicly traded fixed income and publicly traded equity securities.

Oversight and Risk Management Practices
The framework for the Company's pension oversight process includes monitoring of retirement plans by plan fiduciaries and/or management at the global, regional or country level, as appropriate. Independent Risk Management contributes to the risk oversight and monitoring for the Company's U.S. Qualified Pension Plan and non-U.S. Significant Pension Plans. Although the specific components of the oversight process are tailored to the requirements of each region, country and plan, the following elements are common to the Company's monitoring and risk management process:

- periodic asset/liability management studies and strategic asset allocation reviews;
- periodic monitoring of funding levels and funding ratios;
- periodic monitoring of compliance with asset allocation guidelines;
- periodic monitoring of asset class and/or investment manager performance against benchmarks; and
- periodic risk capital analysis and stress testing.

Estimated Future Benefit Payments
The Company expects to pay the following estimated benefit payments in future years:

	Pension plans		Postretirement benefit plans	
In millions of dollars	U.S. plans	Non-U.S. plans	U.S. plans	Non-U.S. plans
2023	$ 964	$ 536	$ 55	$ 72
2024	964	518	46	76
2025	969	489	43	79
2026	942	499	40	83
2027	921	508	38	87
2028–2032	4,038	2,623	150	494

Post Employment Plans

The Company sponsors U.S. post employment plans that provide income continuation and health and welfare benefits to certain eligible U.S. employees on long-term disability. The following table summarizes the funded status and amounts recognized on the Company's Consolidated Balance Sheet:

In millions of dollars	**2022**	2021
Funded status of the plan at year end	**$ (48)**	$ (41)
Net amount recognized in *AOCI* (pretax)	**$ (16)**	$ (15)

The following table summarizes the net expense recognized in the Consolidated Statement of Income for the Company's U.S. post employment plans:

In millions of dollars	**2022**	2021	2020
Net expense	**$ 11**	$ 10	$ 9

Defined Contribution Plans

The Company sponsors defined contribution plans in the U.S. and in certain non-U.S. locations, all of which are administered in accordance with local laws. The most significant defined contribution plan is the Citi Retirement Savings Plan sponsored by the Company in the U.S.

Under the Citi Retirement Savings Plan, eligible U.S. employees received matching contributions of up to 6% of their eligible compensation for 2022 and 2021, subject to statutory limits. In addition, for eligible employees whose eligible compensation is $100,000 or less, a fixed contribution of up to 2% of eligible compensation is provided. All Company contributions are invested according to participants' individual elections. The following tables summarize the Company contributions for the defined contribution plans:

	U.S. plans		
In millions of dollars	**2022**	2021	2020
Company contributions	**$ 471**	$ 436	$ 414

	Non-U.S. plans		
In millions of dollars	**2022**	2021	2020
Company contributions	**$ 399**	$ 364	$ 304

9. INCOME TAXES

Income Tax Provision

Details of the Company's income tax provision are presented below:

In millions of dollars	**2022**	2021	2020
Current			
Federal	**$ 407**	$ 522	$ 305
Non-U.S.	**4,106**	3,288	4,113
State	**270**	228	440
Total current income taxes	**$ 4,783**	$ 4,038	$ 4,858
Deferred			
Federal	**$ (807)**	$ 1,059	$ (1,430)
Non-U.S.	**353**	8	(690)
State	**(687)**	346	(213)
Total deferred income taxes	**$ (1,141)**	$ 1,413	$ (2,333)
Provision for income tax on continuing operations before noncontrolling interests[1]	**$ 3,642**	$ 5,451	$ 2,525
Provision (benefit) for income taxes on:			
Discontinued operations	**$ (41)**	$ —	$ —
Gains (losses) included in *AOCI*, but excluded from net income	**(1,573)**	(1,684)	1,520
Employee stock plans	**(8)**	(6)	(4)
Opening adjustment to *Retained earnings*[2]	**—**	—	(911)

(1) Includes the tax on realized investment gains and impairment losses resulting in a provision (benefit) of $14 million and $(137) million in 2022, $169 million and $(57) million in 2021 and $454 million and $(14) million in 2020, respectively.

(2) 2020 reflects the tax effect of ASU 2016-13 for current expected credit losses (CECL).

Tax Rate

The reconciliation of the federal statutory income tax rate to the Company's effective income tax rate applicable to income from continuing operations (before noncontrolling interests and the cumulative effect of accounting changes) for each of the periods indicated is as follows:

	2022	2021	2020
Federal statutory rate	**21.0 %**	21.0 %	21.0 %
State income taxes, net of federal benefit	**2.0**	2.1	1.3
Non-U.S. income tax rate differential	**4.3**	1.6	3.5
Tax audit resolutions	**(3.2)**	(0.4)	0.3
Nondeductible FDIC premiums	**1.0**	0.6	1.3
Tax advantaged investments	**(3.0)**	(2.3)	(4.4)
Valuation allowance releases[1]	**(2.3)**	(1.7)	(4.4)
Other, net	**(0.4)**	(1.1)	(0.1)
Effective income tax rate	**19.4 %**	19.8 %	18.5 %

(1) See "Deferred Tax Assets" below for a description of the components.

As presented in the table above, Citi's effective tax rate for 2022 was 19.4%, compared to 19.8% in 2021.

Deferred Income Taxes

Deferred income taxes at December 31 related to the following:

In millions of dollars	**2022**	2021
Deferred tax assets		
Credit loss deduction	**$ 5,162**	$ 5,330
Deferred compensation and employee benefits	**2,059**	2,335
U.S. tax on non-U.S. earnings	**1,191**	1,138
Investment and loan basis differences	**5,149**	2,970
Tax credit and net operating loss carry-forwards	**14,623**	15,620
Fixed assets and leases	**3,551**	3,064
Other deferred tax assets	**4,055**	3,549
Gross deferred tax assets	**$ 35,790**	$ 34,006
Valuation allowance	**$ 2,438**	$ 4,194
Deferred tax assets after valuation allowance	**$ 33,352**	$ 29,812
Deferred tax liabilities		
Intangibles and leases	**$ (2,271)**	$ (2,446)
Non-U.S. withholding taxes	**(1,142)**	(987)
Debt issuances	**(595)**	(126)
Other deferred tax liabilities	**(1,672)**	(1,464)
Gross deferred tax liabilities	**$ (5,680)**	$ (5,023)
Net deferred tax assets	**$ 27,672**	$ 24,789

Unrecognized Tax Benefits

The following is a rollforward of the Company's unrecognized tax benefits:

In millions of dollars	**2022**	2021	2020
Total unrecognized tax benefits at January 1	**$ 1,296**	$ 861	$ 721
Increases for current year's tax positions	**55**	97	51
Increases for prior years' tax positions	**168**	515	217
Decreases for prior years' tax positions	**(119)**	(107)	(74)
Amounts of decreases relating to settlements	**(50)**	(64)	(40)
Reductions due to lapse of statutes of limitation	**(26)**	(2)	(13)
Foreign exchange, acquisitions and dispositions	**(13)**	(4)	(1)
Total unrecognized tax benefits at December 31	**$ 1,311**	$ 1,296	$ 861

The portions of the total unrecognized tax benefits at December 31, 2022, 2021 and 2020 that, if recognized, would affect Citi's tax expense are $1.0 billion, $1.0 billion and $0.7 billion, respectively. The remaining uncertain tax positions have offsetting amounts in other jurisdictions or are temporary differences.

Interest and penalties (not included in unrecognized tax benefits above) are a component of *Provision for income taxes*.

	2022		2021		2020	
In millions of dollars	**Pretax**	**Net of tax**	Pretax	Net of tax	Pretax	Net of tax
Total interest and penalties on the Consolidated Balance Sheet at January 1	**$ 214**	**$ 164**	$ 118	$ 96	$ 100	$ 82
Total interest and penalties in the Consolidated Statement of Income	**27**	**16**	32	24	14	10
Total interest and penalties on the Consolidated Balance Sheet at December 31[(1)]	**234**	**176**	214	164	118	96

(1) Includes $3 million, $3 million and $4 million for non-U.S. penalties in 2022, 2021 and 2020, respectively. Also includes $0 million, $0 million and $1 million for state penalties in 2022, 2021 and 2020, respectively.

As of December 31, 2022, Citi was under audit by the Internal Revenue Service and other major taxing jurisdictions around the world. It is thus reasonably possible that significant changes in the gross balance of unrecognized tax benefits may occur within the next 12 months. The potential range of amounts that could affect Citi's effective tax rate is between $0 and $500 million.

The following are the major tax jurisdictions in which the Company and its affiliates operate and the earliest tax year subject to examination:

Jurisdiction	**Tax year**
United States	2016
Mexico	2017
New York State and City	2009
United Kingdom	2016
India	2021
Singapore	2021
Hong Kong	2016
Ireland	2018

Non-U.S. Earnings

Non-U.S. pretax earnings approximated $16.2 billion in 2022, $12.9 billion in 2021 and $13.8 billion in 2020. As a U.S. corporation, Citigroup and its U.S. subsidiaries are currently subject to U.S. taxation on all non-U.S. pretax earnings of non-U.S. branches. Beginning in 2018, there is a separate foreign tax credit (FTC) basket for branches. Also, dividends from a non-U.S. subsidiary or affiliate are effectively exempt from U.S. taxation. The Company provides income taxes on the book over tax basis differences of non-U.S. subsidiaries except to the extent that such differences are indefinitely reinvested outside the U.S.

At December 31, 2022, $5.9 billion of basis differences of non-U.S. entities was indefinitely invested. At the existing tax rates (including withholding taxes), additional taxes (net of U.S. FTCs and valuation allowances) of $2.4 billion would have to be provided if such assertions were reversed.

Deferred Tax Assets

As of December 31, 2022, Citi had a valuation allowance of $2.4 billion, composed of valuation allowances of $0.9 billion on its branch basket FTC carry-forwards, $1.0 billion on its U.S. residual DTA related to its non-U.S. branches, $0.4 billion on local non-U.S. DTAs and $0.1 billion on state net operating loss carry-forwards. There was a decrease of $1.8 billion from the December 31, 2021 balance of $4.2 billion. The amount of Citi's valuation allowances (VA) may change in future years.

In 2022, Citi's VA for carry-forward FTCs in its branch basket decreased by $0.8 billion, primarily due to carry-forward expirations.

The level of branch pretax income, the local branch tax rate and the allocations of overall domestic losses (ODL) and expenses for U.S. tax purposes to the branch basket are the main factors in determining the branch VA. There was no branch basket VA release in 2022.

In Citi's general basket for FTCs, changes in the forecasted amount of income in U.S. locations derived from sources outside the U.S., in addition to tax examination changes from prior years, could alter the amount of VA that is needed against such FTCs. The remaining VA for the general basket of $0.8 billion was released, primarily due to increases in interest rates and prior-year audit adjustments.

The non-U.S. local VA decreased by $0.2 billion.

The following table summarizes Citi's DTAs:

In billions of dollars

Jurisdiction/component[1]	DTAs balance December 31, 2022	DTAs balance December 31, 2021
U.S. federal[2]		
Net operating losses (NOLs)[3]	**$ 3.3**	$ 3.2
Foreign tax credits (FTCs)	**1.9**	2.8
General business credits (GBCs)	**5.2**	4.5
Future tax deductions and credits	**10.1**	8.4
Total U.S. federal	**$ 20.5**	$ 18.9
State and local		
New York NOLs	**$ 1.9**	$ 1.2
Other state NOLs	**0.2**	0.2
Future tax deductions	**2.2**	1.8
Total state and local	**$ 4.3**	$ 3.2
Non-U.S.		
NOLs	**$ 0.7**	$ 0.5
Future tax deductions	**2.2**	2.2
Total non-U.S.	**$ 2.9**	$ 2.7
Total	**$ 27.7**	$ 24.8

(1) All amounts are net of valuation allowances.
(2) Included in the net U.S. federal DTAs of $20.5 billion as of December 31, 2022 were deferred tax liabilities of $3.3 billion that will reverse in the relevant carry-forward period and may be used to support the DTAs.
(3) Consists of non-consolidated tax return NOL carry-forwards that are eventually expected to be utilized in Citigroup's consolidated tax return.

The following table summarizes the amounts of tax carry-forwards and their expiration dates:

In billions of dollars

Year of expiration	December 31, 2022	December 31, 2021
U.S. tax return general basket foreign tax credit carry-forwards[1]		
2022	**$ —**	$ 0.5
2023	**—**	0.4
2025	**0.8**	1.5
2027	**1.1**	1.1
Total U.S. tax return general basket foreign tax credit carry-forwards	**$ 1.9**	$ 3.5
U.S. tax return branch basket foreign tax credit carry-forwards[1]		
2022	**$ —**	$ 1.0
2028	**0.7**	0.6
2029	**0.2**	0.2
Total U.S. tax return branch basket foreign tax credit carry-forwards	**$ 0.9**	$ 1.8
U.S. tax return general business credit carry-forwards		
2032	**$ 0.4**	$ 0.4
2033	**0.3**	0.3
2034	**0.2**	0.2
2035	**0.2**	0.2
2036	**0.2**	0.2
2037	**0.5**	0.5
2038	**0.5**	0.5
2039	**0.7**	0.7
2040	**0.7**	0.7
2041	**0.8**	0.8
2042	**0.7**	—
Total U.S. tax return general business credit carry-forwards	**$ 5.2**	$ 4.5
U.S. subsidiary separate federal NOL carry-forwards		
2027	**$ 0.1**	$ 0.1
2028	**0.1**	0.1
2030	**0.3**	0.3
2033	**1.6**	1.6
2034	**2.0**	2.0
2035	**3.3**	3.3
2036	**2.1**	2.1
2037	**1.0**	1.0
Unlimited carry-forward period	**5.3**	4.6
Total U.S. subsidiary separate federal NOL carry-forwards[2]	**$ 15.8**	$ 15.1
New York State NOL carry-forwards[2]		
2034	**$ 11.5**	$ 6.6
New York City NOL carry-forwards[2]		
2034	**$ 10.3**	$ 7.2
Non-U.S. NOL carry-forwards[1]		
Various	**$ 1.1**	$ 1.1

(1) Before valuation allowance.
(2) Pretax.

The time remaining for utilization of the FTC component has shortened, given the passage of time. Although realization is not assured, Citi believes that the realization of the recognized net DTAs of $27.7 billion at December 31, 2022 is more-likely-than-not, based upon expectations as to future taxable income in the jurisdictions in which the DTAs arise and consideration of available tax planning strategies (as defined in ASC 740, *Income Taxes*).

The majority of Citi's U.S. federal net operating loss carry-forward and all of its New York State and City net operating loss carry-forwards are subject to a carry-forward period of 20 years. This provides enough time to fully utilize the DTAs pertaining to these existing NOL carry-forwards. This is due to Citi's forecast of sufficient U.S. taxable income and because New York State and City continue to tax Citi's non-U.S. income.

With respect to the FTCs component of the DTAs, the carry-forward period is 10 years. Utilization of FTCs in any year is generally limited to 21% of foreign source taxable income in that year. However, ODL that Citi has incurred of approximately $8 billion as of December 31, 2022 are allowed to be reclassified as foreign source income to the extent of 50%–100% (at taxpayer's election) of domestic source income produced in subsequent years. Such resulting foreign source income would support the realization of the FTC carry-forwards after VA. As noted in the tables above, Citi's FTC carry-forwards were $1.9 billion ($2.8 billion before VA) as of December 31, 2022, compared to $2.8 billion ($5.3 billion before VA) as of December 31, 2021. Citi believes that it will more-likely-than-not generate sufficient U.S. taxable income within the 10-year carry-forward period to be able to utilize the net FTCs after the VA, after considering any FTCs produced in the tax return for such period, which must be used prior to any carry-forward utilization.

10. EARNINGS PER SHARE

The following table reconciles the income and share data used in the basic and diluted earnings per share (EPS) computations:

In millions of dollars, except per share amounts	**2022**	2021	2020
Earnings per common share			
Income from continuing operations before attribution of noncontrolling interests	**$ 15,165**	$ 22,018	$ 11,107
Less: Noncontrolling interests from continuing operations	**89**	73	40
Net income from continuing operations (for EPS purposes)	**$ 15,076**	$ 21,945	$ 11,067
Loss from discontinued operations, net of taxes	**(231)**	7	(20)
Citigroup's net income	**$ 14,845**	$ 21,952	$ 11,047
Less: Preferred dividends[1]	**1,032**	1,040	1,095
Net income available to common shareholders	**$ 13,813**	$ 20,912	$ 9,952
Less: Dividends and undistributed earnings allocated to employee restricted and deferred shares with rights to dividends, applicable to basic EPS	**113**	154	73
Net income allocated to common shareholders for basic EPS	**$ 13,700**	$ 20,758	$ 9,879
Weighted-average common shares outstanding applicable to basic EPS *(in millions)*	**1,946.7**	2,033.0	2,085.8
Basic earnings per share[2]			
Income from continuing operations	**$ 7.16**	$ 10.21	$ 4.75
Discontinued operations	**(0.12)**	—	(0.01)
Net income per share—basic	**$ 7.04**	$ 10.21	$ 4.74
Diluted earnings per share			
Net income allocated to common shareholders for basic EPS	**$ 13,700**	$ 20,758	$ 9,879
Add back: Dividends allocated to employee restricted and deferred shares with rights to dividends that are forfeitable	**41**	31	30
Net income allocated to common shareholders for diluted EPS	**$ 13,741**	$ 20,789	$ 9,909
Weighted-average common shares outstanding applicable to basic EPS *(in millions)*	**$ 1,946.7**	$ 2,033.0	$ 2,085.8
Effect of dilutive securities			
Options[3]	**—**	—	0.1
Other employee plans	**17.6**	16.4	13.1
Adjusted weighted-average common shares outstanding applicable to diluted EPS *(in millions)*[4]	**1,964.3**	2,049.4	2,099.0
Diluted earnings per share[2]			
Income from continuing operations	**$ 7.11**	$ 10.14	$ 4.73
Discontinued operations	**(0.12)**	—	(0.01)
Net income per share—diluted	**$ 7.00**	$ 10.14	$ 4.72

(1) See Note 21 for the potential future impact of preferred stock dividends.
(2) Due to rounding, earnings per share on continuing operations and discontinued operations may not sum to earnings per share on net income.
(3) During 2022 and 2021, there were no weighted-average options outstanding. During 2020, weighted-average options to purchase 0.1 million shares of common stock were outstanding but not included in the computation of earnings per share because the weighted-average exercise price of $56.25 per share was anti-dilutive.
(4) Due to rounding, weighted-average common shares outstanding applicable to basic EPS and the effect of dilutive securities may not sum to weighted-average common shares outstanding applicable to diluted EPS.

11. SECURITIES BORROWED, LOANED AND SUBJECT TO REPURCHASE AGREEMENTS

Securities borrowed and purchased under agreements to resell, at their respective carrying values, consisted of the following:

	December 31,	
In millions of dollars	**2022**	2021
Securities purchased under agreements to resell	**$ 291,272**	$ 236,252
Deposits paid for securities borrowed	**74,165**	91,042
Total, net[(1)]	**$ 365,437**	$ 327,294
Allowance for credit losses on securities purchased and borrowed[(2)]	**(36)**	(6)
Total, net of allowance	**$ 365,401**	$ 327,288

Securities loaned and sold under agreements to repurchase, at their respective carrying values, consisted of the following:

	December 31,	
In millions of dollars	**2022**	2021
Securities sold under agreements to repurchase	**$ 183,827**	$ 174,255
Deposits received for securities loaned	**18,617**	17,030
Total, net[(1)]	**$ 202,444**	$ 191,285

(1) The above tables do not include securities-for-securities lending transactions of $4.4 billion and $3.6 billion at December 31, 2022 and 2021, respectively, where the Company acts as lender and receives securities that can be sold or pledged as collateral. In these transactions, the Company recognizes the securities received at fair value within *Other assets* and the obligation to return those securities as a liability within *Brokerage payables*.

(2) See Note 15 for further information.

The resale and repurchase agreements represent collateralized financing transactions. Citi executes these transactions primarily through its broker-dealer subsidiaries to facilitate customer matched-book activity and to efficiently fund a portion of Citi's trading inventory. Transactions executed by Citi's bank subsidiaries primarily facilitate customer financing activity.

To maintain reliable funding under a wide range of market conditions, including under periods of stress, Citi manages these activities by taking into consideration the quality of the underlying collateral and stipulating financing tenor. Citi manages the risks in its collateralized financing transactions by conducting daily stress tests to account for changes in capacity, tenors, haircut, collateral profile and client actions. In addition, Citi maintains counterparty diversification by establishing concentration triggers and assessing counterparty reliability and stability under stress.

It is the Company's policy to take possession of the underlying collateral, monitor its market value relative to the amounts due under the agreements and, when necessary, require prompt transfer of additional collateral in order to maintain contractual margin protection. For resale and repurchase agreements, when necessary, the Company posts additional collateral in order to maintain contractual margin protection.

Collateral typically consists of government and government-agency securities, corporate and municipal bonds, equities and mortgage- and other asset-backed securities.

The resale and repurchase agreements are generally documented under industry standard agreements that allow the prompt close-out of all transactions (including the liquidation of securities held) and the offsetting of obligations to return cash or securities by the non-defaulting party, following a payment default or other type of default under the relevant master agreement. Events of default generally include (i) failure to deliver cash or securities as required under the transaction, (ii) failure to provide or return cash or securities as used for margining purposes, (iii) breach of representation, (iv) cross-default to another transaction entered into among the parties, or, in some cases, their affiliates and (v) a repudiation of obligations under the agreement. The counterparty that receives the securities in these transactions is generally unrestricted in its use of the securities, with the exception of transactions executed on a tri-party basis, where the collateral is maintained by a custodian and operational limitations may restrict its use of the securities.

A substantial portion of the resale and repurchase agreements is recorded at fair value as the Company elected the fair value option, as described in Notes 25 and 26. The remaining portion is carried at the amount of cash initially advanced or received, plus accrued interest, as specified in the respective agreements.

The securities borrowing and lending agreements also represent collateralized financing transactions similar to the resale and repurchase agreements. Collateral typically consists of government and government-agency securities and corporate debt and equity securities.

Similar to the resale and repurchase agreements, securities borrowing and lending agreements are generally documented under industry standard agreements that allow the prompt close-out of all transactions (including the liquidation of securities held) and the offsetting of obligations to return cash or securities by the non-defaulting party, following a payment default or other default by the other party under the relevant master agreement. Events of default and rights to use securities under the securities borrowing and lending agreements are similar to the resale and repurchase agreements referenced above.

A substantial portion of securities borrowing and lending agreements is recorded at the amount of cash advanced or received. The remaining portion is recorded at fair value as the Company elected the fair value option for certain securities borrowed and loaned portfolios, as described in Note 26. With respect to securities loaned, the Company receives cash collateral in an amount generally in excess of the market value of the securities loaned. The Company monitors the market value of securities borrowed and securities loaned on a daily basis and posts or obtains additional collateral in order to maintain contractual margin protection.

The enforceability of offsetting rights incorporated in the master netting agreements for resale and repurchase agreements, and securities borrowing and lending agreements, is evidenced to the extent that (i) a supportive legal opinion has been obtained from counsel of recognized standing that provides the requisite level of certainty regarding the enforceability of these agreements and (ii) the exercise of rights by the non-defaulting party to terminate and close out transactions on a net basis under these agreements will not be stayed or avoided under applicable law upon an event of default including bankruptcy, insolvency or similar proceeding.

A legal opinion may not have been sought or obtained for certain jurisdictions where local law is silent or sufficiently ambiguous to determine the enforceability of offsetting rights or where adverse case law or conflicting regulation may cast doubt on the enforceability of such rights. In some jurisdictions and for some counterparty types, the insolvency law for a particular counterparty type may be nonexistent or unclear as overlapping regimes may exist. For example, this may be the case for certain sovereigns, municipalities, central banks and U.S. pension plans.

The following tables present the gross and net resale and repurchase agreements and securities borrowing and lending agreements and the related offsetting amounts permitted under ASC 210-20-45. The tables also include amounts related to financial instruments that are not permitted to be offset under ASC 210-20-45, but would be eligible for offsetting to the extent that an event of default has occurred and a legal opinion supporting enforceability of the offsetting rights has been obtained. Remaining exposures continue to be secured by financial collateral, but the Company may not have sought or been able to obtain a legal opinion evidencing enforceability of the offsetting right.

	As of December 31, 2022				
In millions of dollars	**Gross amounts of recognized assets**	**Gross amounts offset on the Consolidated Balance Sheet[1]**	**Net amounts of assets included on the Consolidated Balance Sheet**	**Amounts not offset on the Consolidated Balance Sheet but eligible for offsetting upon counterparty default[2]**	**Net amounts[3]**
Securities purchased under agreements to resell	**$ 403,663**	**$ 112,391**	**$ 291,272**	**$ 204,077**	**$ 87,195**
Deposits paid for securities borrowed	**88,817**	**14,652**	**74,165**	**13,844**	**60,321**
Total	**$ 492,480**	**$ 127,043**	**$ 365,437**	**$ 217,921**	**$ 147,516**

In millions of dollars	**Gross amounts of recognized liabilities**	**Gross amounts offset on the Consolidated Balance Sheet[1]**	**Net amounts of liabilities included on the Consolidated Balance Sheet**	**Amounts not offset on the Consolidated Balance Sheet but eligible for offsetting upon counterparty default[2]**	**Net amounts[3]**
Securities sold under agreements to repurchase	**$ 296,218**	**$ 112,391**	**$ 183,827**	**$ 71,635**	**$ 112,192**
Deposits received for securities loaned	**33,269**	**14,652**	**18,617**	**2,542**	**16,075**
Total	**$ 329,487**	**$ 127,043**	**$ 202,444**	**$ 74,177**	**$ 128,267**

	As of December 31, 2021				
In millions of dollars	Gross amounts of recognized assets	Gross amounts offset on the Consolidated Balance Sheet[1]	Net amounts of assets included on the Consolidated Balance Sheet	Amounts not offset on the Consolidated Balance Sheet but eligible for offsetting upon counterparty default[2]	Net amounts[3]
Securities purchased under agreements to resell	$ 367,594	$ 131,342	$ 236,252	$ 205,349	$ 30,903
Deposits paid for securities borrowed	107,041	15,999	91,042	17,326	73,716
Total	$ 474,635	$ 147,341	$ 327,294	$ 222,675	$ 104,619

In millions of dollars	Gross amounts of recognized liabilities	Gross amounts offset on the Consolidated Balance Sheet[1]	Net amounts of liabilities included on the Consolidated Balance Sheet	Amounts not offset on the Consolidated Balance Sheet but eligible for offsetting upon counterparty default[2]	Net amounts[3]
Securities sold under agreements to repurchase	$ 305,597	$ 131,342	$ 174,255	$ 85,184	$ 89,071
Deposits received for securities loaned	33,029	15,999	17,030	2,868	14,162
Total	$ 338,626	$ 147,341	$ 191,285	$ 88,052	$ 103,233

(1) Includes financial instruments subject to enforceable master netting agreements that are permitted to be offset under ASC 210-20-45.
(2) Includes financial instruments subject to enforceable master netting agreements that are not permitted to be offset under ASC 210-20-45, but would be eligible for offsetting to the extent that an event of default has occurred and a legal opinion supporting enforceability of the offsetting right has been obtained.
(3) Remaining exposures continue to be secured by financial collateral, but the Company may not have sought or been able to obtain a legal opinion evidencing enforceability of the offsetting right.

The following tables present the gross amounts of liabilities associated with repurchase agreements and securities lending agreements by remaining contractual maturity:

	As of December 31, 2022				
In millions of dollars	**Open and overnight**	**Up to 30 days**	**31–90 days**	**Greater than 90 days**	**Total**
Securities sold under agreements to repurchase	**$ 138,710**	**$ 86,819**	**$ 25,119**	**$ 45,570**	**$ 296,218**
Deposits received for securities loaned	**25,388**	**267**	**2,121**	**5,493**	**33,269**
Total	**$ 164,098**	**$ 87,086**	**$ 27,240**	**$ 51,063**	**$ 329,487**

	As of December 31, 2021				
In millions of dollars	Open and overnight	Up to 30 days	31–90 days	Greater than 90 days	Total
Securities sold under agreements to repurchase	$ 127,679	$ 93,257	$ 32,908	$ 51,753	$ 305,597
Deposits received for securities loaned	23,387	6	1,392	8,244	33,029
Total	$ 151,066	$ 93,263	$ 34,300	$ 59,997	$ 338,626

The following tables present the gross amounts of liabilities associated with repurchase agreements and securities lending agreements by class of underlying collateral:

	As of December 31, 2022		
In millions of dollars	**Repurchase agreements**	**Securities lending agreements**	**Total**
U.S. Treasury and federal agency securities	**$ 99,979**	**$ 106**	**$ 100,085**
State and municipal securities	**1,911**	**—**	**1,911**
Foreign government securities	**123,826**	**13**	**123,839**
Corporate bonds	**14,308**	**45**	**14,353**
Equity securities	**9,749**	**33,096**	**42,845**
Mortgage-backed securities	**36,225**	**—**	**36,225**
Asset-backed securities	**1,755**	**—**	**1,755**
Other	**8,465**	**9**	**8,474**
Total	**$ 296,218**	**$ 33,269**	**$ 329,487**

In millions of dollars	As of December 31, 2021		
	Repurchase agreements	Securities lending agreements	Total
U.S. Treasury and federal agency securities	$ 85,861	$ 90	$ 85,951
State and municipal securities	1,053	—	1,053
Foreign government securities	133,352	212	133,564
Corporate bonds	20,398	152	20,550
Equity securities	25,653	32,517	58,170
Mortgage-backed securities	33,573	—	33,573
Asset-backed securities	1,681	—	1,681
Other	4,026	58	4,084
Total	$ 305,597	$ 33,029	$ 338,626

12. BROKERAGE RECEIVABLES AND BROKERAGE PAYABLES

The Company has receivables and payables for financial instruments sold to and purchased from brokers, dealers and customers, which arise in the ordinary course of business. Citi is exposed to risk of loss from the inability of brokers, dealers or customers to pay for purchases or to deliver the financial instruments sold, in which case Citi would have to sell or purchase the financial instruments at prevailing market prices. Credit risk is reduced to the extent that an exchange or clearing organization acts as a counterparty to the transaction and replaces the broker, dealer or customer in question.

Citi seeks to protect itself from the risks associated with customer activities by requiring customers to maintain margin collateral in compliance with regulatory and internal guidelines. Margin levels are monitored daily, and customers deposit additional collateral as required. Where customers cannot meet collateral requirements, Citi may liquidate sufficient underlying financial instruments to bring the customer into compliance with the required margin level.

Exposure to credit risk is impacted by market volatility, which may impair the ability of clients to satisfy their obligations to Citi. Credit limits are established and closely monitored for customers and for brokers and dealers engaged in forwards, futures and other transactions deemed to be credit sensitive.

Brokerage receivables and *Brokerage payables* consisted of the following:

	December 31,	
In millions of dollars	**2022**	2021
Receivables from customers	**$ 15,462**	$ 26,403
Receivables from brokers, dealers and clearing organizations	**38,730**	27,937
Total brokerage receivables[(1)]	**$ 54,192**	$ 54,340
Payables to customers	**$ 55,747**	$ 52,158
Payables to brokers, dealers and clearing organizations	**13,471**	9,272
Total brokerage payables[(1)]	**$ 69,218**	$ 61,430

(1) Includes brokerage receivables and payables recorded by Citi broker-dealer entities that are accounted for in accordance with the AICPA Accounting Guide for Brokers and Dealers in Securities as codified in ASC 940-320.

13. INVESTMENTS

The following table presents Citi's investments by category:

	December 31,	
In millions of dollars	**2022**	2021
Debt securities available-for-sale (AFS)	**$ 249,679**	$ 288,522
Debt securities held-to-maturity (HTM)[1]	**268,863**	216,963
Marketable equity securities carried at fair value[2]	**429**	543
Non-marketable equity securities carried at fair value[2][5]	**466**	489
Non-marketable equity securities measured using the measurement alternative[3]	**1,676**	1,413
Non-marketable equity securities carried at cost[4]	**5,469**	4,892
Total investments[6]	**$ 526,582**	$ 512,822

(1) Carried at adjusted amortized cost basis, net of any ACL.
(2) Unrealized gains and losses are recognized in earnings.
(3) Impairment losses and adjustments to the carrying value as a result of observable price changes are recognized in earnings. See "Non-Marketable Equity Securities Not Carried at Fair Value" below.
(4) Represents shares issued by the Federal Reserve Bank, Federal Home Loan Banks and certain exchanges of which Citigroup is a member.
(5) Includes $27 million and $145 million of investments in funds for which the fair values are estimated using the net asset value of the Company's ownership interest in the funds at December 31, 2022 and 2021, respectively.
(6) Not included in the balances above is approximately $2 billion of accrued interest receivable at December 31, 2022, which is included in *Other assets* on the Consolidated Balance Sheet. The Company does not recognize an allowance for credit losses on accrued interest receivable for AFS and HTM debt securities, consistent with its non-accrual policy, which results in timely write-off of accrued interest. The Company did not reverse through interest income any accrued interest receivables for the years ended December 31, 2022 and 2021.

The following table presents interest and dividend income on investments:

In millions of dollars	**2022**	2021	2020
Taxable interest	**$ 10,643**	$ 6,975	$ 7,554
Interest exempt from U.S. federal income tax	**348**	279	301
Dividend income	**223**	134	134
Total interest and dividend income on investments	**$ 11,214**	$ 7,388	$ 7,989

The following table presents realized gains and losses on the sales of investments, which exclude impairment losses:

In millions of dollars	**2022**	2021	2020
Gross realized investment gains	**$ 323**	$ 860	$ 1,895
Gross realized investment losses	**(256)**	(195)	(139)
Net realized gains on sales of investments	**$ 67**	$ 665	$ 1,756

Debt Securities Available-for-Sale

The amortized cost and fair value of AFS debt securities were as follows:

	December 31, 2022					December 31, 2021				
In millions of dollars	**Amortized cost**	**Gross unrealized gains**	**Gross unrealized losses**	**Allowance for credit losses**	**Fair value**	Amortized cost	Gross unrealized gains	Gross unrealized losses	Allowance for credit losses	Fair value
Debt securities AFS										
Mortgage-backed securities[1]										
U.S. government-sponsored agency guaranteed[2]	**$ 12,009**	**$ 8**	**$ 755**	**$ —**	**$ 11,262**	$ 33,064	$ 453	$ 301	$ —	$ 33,216
Residential	**488**	**—**	**3**	**—**	**485**	380	1	1	—	380
Commercial	**2**	**—**	**—**	**—**	**2**	25	—	—	—	25
Total mortgage-backed securities	**$ 12,499**	**$ 8**	**$ 758**	**$ —**	**$ 11,749**	$ 33,469	$ 454	$ 302	$ —	$ 33,621
U.S. Treasury and federal agency securities										
U.S. Treasury	**$ 94,732**	**$ 50**	**$ 2,492**	**$ —**	**$ 92,290**	$ 122,669	$ 615	$ 844	$ —	$ 122,440
Agency obligations	**—**	**—**	**—**	**—**	**—**	—	—	—	—	—
Total U.S. Treasury and federal agency securities	**$ 94,732**	**$ 50**	**$ 2,492**	**$ —**	**$ 92,290**	$ 122,669	$ 615	$ 844	$ —	$ 122,440
State and municipal[2]	**$ 2,363**	**$ 19**	**$ 159**	**$ —**	**$ 2,223**	$ 2,643	$ 79	$ 101	$ —	$ 2,621
Foreign government	**135,648**	**569**	**2,940**	**—**	**133,277**	119,426	337	1,023	—	118,740
Corporate	**5,146**	**19**	**246**	**3**	**4,916**	5,972	33	77	8	5,920
Asset-backed securities[1]	**1,022**	**12**	**4**	**—**	**1,030**	304	—	1	—	303
Other debt securities	**4,198**	**1**	**5**	**—**	**4,194**	4,880	1	4	—	4,877
Total debt securities AFS	**$ 255,608**	**$ 678**	**$ 6,604**	**$ 3**	**$ 249,679**	$ 289,363	$ 1,519	$ 2,352	$ 8	$ 288,522

(1) The Company invests in mortgage- and asset-backed securities, which are typically issued by VIEs through securitization transactions. The Company's maximum exposure to loss from these VIEs is equal to the carrying amount of the securities, which is reflected in the table above. See Note 22 for mortgage- and asset-backed securitizations in which the Company has other involvement.

(2) In 2022, Citibank transferred $21.5 billion of agency residential mortgage-backed securities and $165 million of municipal bonds from AFS classification to HTM classification in accordance with ASC 320. At the time of transfer, the securities and bonds were in an unrealized loss position of $2.3 billion and $12 million, respectively. The loss amounts will remain in *AOCI* and will be amortized over the remaining life of the securities and bonds.

At December 31, 2022, the amortized cost of AFS fixed income securities for those in a loss position exceeded their fair value by $6,604 million. Of the $6,604 million, $3,997 million represented unrealized losses on fixed income investments that have been in a gross unrealized loss position for less than a year and, of these, 73% were rated investment grade; and $2,607 million represented unrealized losses on fixed income investments that have been in a gross unrealized loss position for a year or more and, of these, 99% were rated investment grade. Of the $2,607 million, $1,491 million represents U.S. Treasury and federal agency securities.

The following table shows the fair value of AFS debt securities that have been in an unrealized loss position:

In millions of dollars	Less than 12 months		12 months or longer		Total	
	Fair value	Gross unrealized losses	Fair value	Gross unrealized losses	Fair value	Gross unrealized losses
December 31, 2022						
Debt securities AFS						
Mortgage-backed securities						
U.S. government-sponsored agency guaranteed	**$ 7,908**	**$ 412**	**$ 3,290**	**$ 343**	**$ 11,198**	**$ 755**
Residential	**158**	**3**	**1**	**—**	**159**	**3**
Commercial	**1**	**—**	**1**	**—**	**2**	**—**
Total mortgage-backed securities	**$ 8,067**	**$ 415**	**$ 3,292**	**$ 343**	**$ 11,359**	**$ 758**
U.S. Treasury and federal agency securities						
U.S. Treasury	**$ 40,701**	**$ 1,001**	**$ 34,692**	**$ 1,491**	**$ 75,393**	**$ 2,492**
Agency obligations	**—**	**—**	**—**	**—**	**—**	**—**
Total U.S. Treasury and federal agency securities	**$ 40,701**	**$ 1,001**	**$ 34,692**	**$ 1,491**	**$ 75,393**	**$ 2,492**
State and municipal	**$ 896**	**$ 31**	**$ 707**	**$ 128**	**$ 1,603**	**$ 159**
Foreign government	**82,900**	**2,332**	**14,220**	**608**	**97,120**	**2,940**
Corporate	**3,082**	**209**	**784**	**37**	**3,866**	**246**
Asset-backed securities	**708**	**4**	**—**	**—**	**708**	**4**
Other debt securities	**2,213**	**5**	**—**	**—**	**2,213**	**5**
Total debt securities AFS	**$ 138,567**	**$ 3,997**	**$ 53,695**	**$ 2,607**	**$ 192,262**	**$ 6,604**
December 31, 2021						
Debt securities AFS						
Mortgage-backed securities						
U.S. government-sponsored agency guaranteed	$ 17,039	$ 270	$ 698	$ 31	$ 17,737	$ 301
Residential	96	1	1	—	97	1
Commercial	—	—	—	—	—	—
Total mortgage-backed securities	$ 17,135	$ 271	$ 699	$ 31	$ 17,834	$ 302
U.S. Treasury and federal agency securities						
U.S. Treasury	$ 56,448	$ 713	$ 6,310	$ 131	$ 62,758	$ 844
Agency obligations	—	—	—	—	—	—
Total U.S. Treasury and federal agency securities	$ 56,448	$ 713	$ 6,310	$ 131	$ 62,758	$ 844
State and municipal	$ 229	$ 3	$ 874	$ 98	$ 1,103	$ 101
Foreign government	64,319	826	9,924	197	74,243	1,023
Corporate	2,655	77	22	—	2,677	77
Asset-backed securities	108	1	—	—	108	1
Other debt securities	3,439	4	—	—	3,439	4
Total debt securities AFS	$ 144,333	$ 1,895	$ 17,829	$ 457	$ 162,162	$ 2,352

The following table presents the amortized cost and fair value of AFS debt securities by contractual maturity dates:

	December 31,					
	2022			2021		
In millions of dollars	**Amortized cost**	**Fair value**	**Weighted average yield[1]**	Amortized cost	Fair value	Weighted average yield[1]
Mortgage-backed securities[2]						
Due within 1 year	**$ 42**	**$ 44**	**2.02 %**	$ 188	$ 189	0.79 %
After 1 but within 5 years	**523**	**513**	**2.31**	211	211	1.07
After 5 but within 10 years	**468**	**440**	**3.46**	523	559	3.41
After 10 years	**11,466**	**10,752**	**3.46**	32,547	32,662	2.73
Total	**$ 12,499**	**$ 11,749**	**3.41 %**	$ 33,469	$ 33,621	2.72 %
U.S. Treasury and federal agency securities						
Due within 1 year	**$ 25,935**	**$ 25,829**	**2.81 %**	$ 34,321	$ 34,448	1.05 %
After 1 but within 5 years	**68,455**	**66,166**	**1.17**	87,987	87,633	0.81
After 5 but within 10 years	**342**	**295**	**2.53**	361	359	1.42
After 10 years	**—**	**—**	**—**	—	—	—
Total	**$ 94,732**	**$ 92,290**	**1.62 %**	$ 122,669	$ 122,440	0.87 %
State and municipal						
Due within 1 year	**$ 19**	**$ 18**	**1.79 %**	$ 40	$ 40	2.09 %
After 1 but within 5 years	**94**	**92**	**3.07**	121	124	3.16
After 5 but within 10 years	**305**	**302**	**3.55**	156	161	3.18
After 10 years	**1,945**	**1,811**	**3.51**	2,326	2,296	3.15
Total	**$ 2,363**	**$ 2,223**	**3.49 %**	$ 2,643	$ 2,621	3.14 %
Foreign government						
Due within 1 year	**$ 64,795**	**$ 64,479**	**4.25 %**	$ 49,263	$ 49,223	2.53 %
After 1 but within 5 years	**67,935**	**66,150**	**4.80**	64,555	63,961	3.14
After 5 but within 10 years	**2,491**	**2,250**	**2.86**	3,736	3,656	1.72
After 10 years	**427**	**398**	**3.80**	1,872	1,900	1.52
Total	**$ 135,648**	**$ 133,277**	**4.50 %**	$ 119,426	$ 118,740	2.82 %
All other[3]						
Due within 1 year	**$ 4,452**	**$ 4,441**	**1.52 %**	$ 5,175	$ 5,180	0.94 %
After 1 but within 5 years	**5,162**	**4,988**	**4.82**	5,177	5,149	1.91
After 5 but within 10 years	**695**	**693**	**11.35**	750	750	2.08
After 10 years	**57**	**18**	**3.81**	54	21	4.28
Total	**$ 10,366**	**$ 10,140**	**3.83 %**	$ 11,156	$ 11,100	1.48 %
Total debt securities AFS	**$ 255,608**	**$ 249,679**	**3.34 %**	$ 289,363	$ 288,522	1.94 %

(1) Weighted average yields are weighted based on the amortized cost of each security. The average yield considers the contractual coupon, amortization of premiums and accretion of discounts and excludes the effects of any related hedging derivatives.
(2) Includes mortgage-backed securities of U.S. government-sponsored agencies. The Company invests in mortgage- and asset-backed securities, which are typically issued by VIEs through securitization transactions.
(3) Includes corporate, asset-backed and other debt securities.

Debt Securities Held-to-Maturity

The carrying value and fair value of debt securities HTM were as follows:

In millions of dollars	Amortized cost, net[1]	Gross unrealized gains	Gross unrealized losses	Fair value
December 31, 2022				
Debt securities HTM				
Mortgage-backed securities[2]				
U.S. government-sponsored agency guaranteed[3]	**$ 90,063**	**$ 58**	**$ 10,033**	**$ 80,088**
Non-U.S. residential	**445**	**—**	**—**	**445**
Commercial	**1,114**	**5**	**1**	**1,118**
Total mortgage-backed securities	**$ 91,622**	**$ 63**	**$ 10,034**	**$ 81,651**
U.S. Treasury securities	**$ 134,961**	**$ —**	**$ 13,722**	**$ 121,239**
State and municipal[4]	**9,237**	**34**	**764**	**8,507**
Foreign government	**2,075**	**—**	**93**	**1,982**
Asset-backed securities[2]	**30,968**	**4**	**703**	**30,269**
Total debt securities HTM, net	**$ 268,863**	**$ 101**	**$ 25,316**	**$ 243,648**
December 31, 2021				
Debt securities HTM				
Mortgage-backed securities[2]				
U.S. government-sponsored agency guaranteed	$ 63,885	$ 1,076	$ 925	$ 64,036
Non-U.S. residential	736	3	—	739
Commercial	1,070	4	2	1,072
Total mortgage-backed securities	$ 65,691	$ 1,083	$ 927	$ 65,847
U.S. Treasury securities	$ 111,819	$ 30	$ 1,632	$ 110,217
State and municipal	8,923	589	12	9,500
Foreign government	1,651	4	36	1,619
Asset-backed securities[2]	28,879	8	32	28,855
Total debt securities HTM, net	$ 216,963	$ 1,714	$ 2,639	$ 216,038

(1) Amortized cost is reported net of ACL of $120 million and $87 million at December 31, 2022 and December 31, 2021, respectively.

(2) The Company invests in mortgage- and asset-backed securities. These securitizations are generally considered VIEs. The Company's maximum exposure to loss from these VIEs is equal to the carrying amount of the securities, which is reflected in the table above. See Note 22 for mortgage- and asset-backed securitizations in which the Company has other involvement.

(3) In 2022, Citibank transferred $21.5 billion of agency residential mortgage-backed securities and $165 million of municipal bonds from AFS classification to HTM classification in accordance with ASC 320. At the time of transfer, the securities and bonds were in an unrealized loss position of $2.3 billion and $12 million, respectively. The loss amounts will remain in *AOCI* and will be amortized over the remaining life of the securities and bonds.

The Company has the positive intent and ability to hold these securities to maturity or, where applicable, until the exercise of any issuer call option, absent any unforeseen significant changes in circumstances, including deterioration in credit or changes in regulatory capital requirements.

The net unrealized losses classified in *AOCI* for HTM debt securities primarily relate to debt securities previously classified as AFS that were transferred to HTM, and include any cumulative fair value hedge adjustments. The net unrealized loss amount also includes any non-credit-related changes in fair value of HTM debt securities that have suffered credit impairment recorded in earnings. The *AOCI* balance related to HTM debt securities is amortized as an adjustment of yield, in a manner consistent with the accretion of any difference between the carrying value at the transfer date and par value of the same debt securities.

The following table presents the carrying value and fair value of HTM debt securities by contractual maturity dates:

	December 31,					
	2022			2021		
In millions of dollars	Amortized cost[1]	Fair value	Weighted average yield[2]	Amortized cost[1]	Fair value	Weighted average yield[2]
Mortgage-backed securities						
Due within 1 year	$ 27	$ 27	2.93 %	$ 152	$ 151	1.70 %
After 1 but within 5 years	520	505	3.84	684	725	3.01
After 5 but within 10 years	1,496	1,374	2.74	1,655	1,739	2.74
After 10 years	89,579	79,745	2.89	63,200	63,232	2.55
Total	$ 91,622	$ 81,651	2.90 %	$ 65,691	$ 65,847	2.56 %
U.S. Treasury securities						
Due within 1 year	$ 3,148	$ 3,017	0.18 %	$ —	$ —	— %
After 1 but within 5 years	86,617	79,104	1.04	65,498	64,516	0.69
After 5 but within 10 years	45,196	39,118	1.16	46,321	45,701	1.15
After 10 years	—	—	—	—	—	—
Total	$ 134,961	$ 121,239	1.06 %	$ 111,819	$ 110,217	0.88 %
State and municipal						
Due within 1 year	$ 22	$ 21	2.73 %	$ 51	$ 50	3.82 %
After 1 but within 5 years	102	100	2.99	166	170	2.82
After 5 but within 10 years	1,002	967	3.16	908	951	3.23
After 10 years	8,111	7,419	3.32	7,798	8,329	2.65
Total	$ 9,237	$ 8,507	3.30 %	$ 8,923	$ 9,500	2.72 %
Foreign government						
Due within 1 year	$ 143	$ 139	10.83 %	$ 292	$ 291	7.86 %
After 1 but within 5 years	1,932	1,843	9.94	1,359	1,328	6.30
After 5 but within 10 years	—	—	—	—	—	—
After 10 years	—	—	—	—	—	—
Total	$ 2,075	$ 1,982	10.00 %	$ 1,651	$ 1,619	6.58 %
All other[3]						
Due within 1 year	$ —	$ —	— %	$ —	$ —	— %
After 1 but within 5 years	—	—	—	—	—	—
After 5 but within 10 years	11,751	11,583	2.81	11,520	11,515	2.78
After 10 years	19,217	18,686	1.53	17,359	17,340	1.34
Total	$ 30,968	$ 30,269	2.02 %	$ 28,879	$ 28,855	1.92 %
Total debt securities HTM	$ 268,863	$ 243,648	1.94 %	$ 216,963	$ 216,038	1.65 %

(1) Amortized cost is reported net of ACL of $120 million and $87 million at December 31, 2022 and 2021, respectively.
(2) Weighted average yields are weighted based on the amortized cost of each security. The average yield considers the contractual coupon, amortization of premiums and accretion of discounts and excludes the effects of any related hedging derivatives.
(3) Includes corporate and asset-backed securities.

HTM Debt Securities Delinquency and Non-Accrual Details

Citi did not have any HTM debt securities that were delinquent or on non-accrual status at December 31, 2022 and 2021.

There were no purchased credit-deteriorated HTM debt securities held by the Company as of December 31, 2022 and 2021.

Evaluating Investments for Impairment

AFS Debt Securities

Overview—AFS Debt Securities

The Company conducts periodic reviews of all AFS debt securities with unrealized losses to evaluate whether the impairment resulted from expected credit losses or from other factors and to evaluate the Company's intent to sell such securities.

An AFS debt security is impaired when the current fair value of an individual AFS debt security is less than its amortized cost basis.

The Company recognizes the entire difference between amortized cost basis and fair value in earnings for impaired AFS debt securities that Citi has an intent to sell or for which Citi believes it will more-likely-than-not be required to sell prior to recovery of the amortized cost basis. However, for those AFS debt securities that the Company does not intend to sell and is not likely to be required to sell, only the credit-related impairment is recognized in earnings by recording an allowance for credit losses. Any remaining fair value decline for such securities is recorded in *AOCI*. The Company does not consider the length of time that the fair value of a security is below its amortized cost when determining if a credit loss exists.

For AFS debt securities, credit losses exist where Citi does not expect to receive contractual principal and interest cash flows sufficient to recover the entire amortized cost basis of a security. The allowance for credit losses is limited to the amount by which the AFS debt security's amortized cost basis exceeds its fair value. The allowance is increased or decreased if credit conditions subsequently worsen or improve. Reversals of credit losses are recognized in earnings.

The Company's review for impairment of AFS debt securities generally entails:

- identification and evaluation of impaired investments;
- consideration of evidential matter, including an evaluation of factors or triggers that could cause individual positions to qualify as credit impaired and those that would not support credit impairment; and
- documentation of the results of these analyses, as required under business policies.

The sections below describe the Company's process for identifying expected credit impairments for debt security types that have the most significant unrealized losses as of December 31, 2022.

Agency Mortgage-Backed Securities

Citi records no allowances for credit losses on U.S. government-agency-guaranteed mortgage-backed securities, because the Company expects to incur no credit losses in the event of default due to a history of incurring no credit losses and due to the nature of the counterparties.

State and Municipal Securities

The process for estimating credit losses in Citigroup's AFS state and municipal bonds is primarily based on a credit analysis that incorporates third-party credit ratings. Citi monitors the bond issuers and any insurers providing default protection in the form of financial guarantee insurance. The average external credit rating, disregarding any insurance, is Aa2/AA. In the event of an external rating downgrade or other indicator of credit impairment (i.e., based on instrument-specific estimates of cash flows or probability of issuer default), the subject bond is specifically reviewed for adverse changes in the amount or timing of expected contractual principal and interest payments.

For AFS state and municipal bonds with unrealized losses that Citi plans to sell or would more-likely-than-not be required to sell prior to recovery of value, the full impairment is recognized in earnings. For AFS state and municipal bonds where Citi has no intent to sell and it is not more-likely-than-not that the Company will be required to sell, Citi records an allowance for expected credit losses for the amount it expects not to collect, capped at the difference between the bond's amortized cost basis and fair value.

Equity Method Investments

Management assesses equity method investments that have fair values that are less than their respective carrying values for other-than-temporary impairment (OTTI). Fair value is measured as price multiplied by quantity if the investee has publicly listed securities. If the investee is not publicly listed, other methods are used (see Note 25).

For impaired equity method investments that Citi plans to sell prior to recovery of value or would more-likely-than-not be required to sell, with no expectation that the fair value will recover prior to the expected sale date, the full impairment is recognized as OTTI in *Other revenue* regardless of severity and duration. The measurement of the OTTI does not include partial projected recoveries subsequent to the balance sheet date.

For impaired equity method investments that management does not plan to sell and is not more-likely-than-not to be required to sell prior to recovery of value, the evaluation of whether an impairment is other-than-temporary is based on (i) whether and when an equity method investment will recover in value and (ii) whether the investor has the intent and ability to hold that investment for a period of time sufficient to recover the value. The determination of whether the impairment is considered other-than-temporary considers the following indicators:

- the cause of the impairment and the financial condition and near-term prospects of the issuer, including any specific events that may influence the operations of the issuer;
- the intent and ability to hold the investment for a period of time sufficient to allow for any anticipated recovery in market value; and
- the length of time and extent to which fair value has been less than the carrying value.

Recognition and Measurement of Impairment

The following table presents total impairment on AFS investments recognized in earnings:

	Year ended		
In millions of dollars	**2022**	2021	2020
Impairment losses related to debt securities that the Company does not intend to sell nor will likely be required to sell:			
Total impairment losses recognized during the period	**$ —**	$ —	$ —
Less: portion of impairment loss recognized in *AOCI* (before taxes)	**—**	—	—
Net impairment losses recognized in earnings for debt securities that the Company does not intend to sell nor will likely be required to sell	**$ —**	**$ —**	**$ —**
Impairment losses recognized in earnings for debt securities that the Company intends to sell, would more-likely-than-not be required to sell or will be subject to an issuer call deemed probable of exercise	**360**	181	109
Total impairment losses recognized in earnings	**$ 360**	$ 181	$ 109

The following presents the credit-related impairments recognized in earnings for AFS securities held that the Company does not intend to sell nor will likely be required to sell at December 31, 2022 and 2021:

Allowance for Credit Losses on AFS Debt Securities

	Year ended December 31, 2022					
In millions of dollars	**Mortgage-backed**	**U.S. Treasury and federal agency**	**State and municipal**	**Foreign government**	**Corporate**	**Total AFS**
Allowance for credit losses at beginning of year	**$ —**	**$ —**	**$ —**	**$ —**	**$ 8**	**$ 8**
Gross write-offs	—	—	—	—	—	—
Gross recoveries	—	—	—	—	**5**	**5**
Net credit losses (NCLs)	**$ —**	**$ —**	**$ —**	**$ —**	**$ 5**	**$ 5**
NCLs	**$ —**	**$ —**	**$ —**	**$ —**	**$ (5)**	**$ (5)**
Credit losses on securities without previous credit losses	—	—	—	—	**2**	**2**
Net reserve builds (releases) on securities with previous credit losses	—	—	—	—	**(2)**	**(2)**
Total provision for credit losses	**$ —**	**$ —**	**$ —**	**$ —**	**$ (5)**	**$ (5)**
Initial allowance on newly purchased credit-deteriorated securities during the year	—	—	—	—	—	—
Allowance for credit losses at end of year	**$ —**	**$ —**	**$ —**	**$ —**	**$ 3**	**$ 3**

	Year ended December 31, 2021					
In millions of dollars	Mortgage-backed	U.S. Treasury and federal agency	State and municipal	Foreign government	Corporate	Total AFS
Allowance for credit losses at beginning of year	$ —	$ —	$ —	$ —	$ 5	$ 5
Gross write-offs	—	—	—	—	—	—
Gross recoveries	—	—	—	—	—	—
Net credit losses (NCLs)	$ —	$ —	$ —	$ —	$ —	$ —
NCLs	$ —	$ —	$ —	$ —	$ —	$ —
Credit losses on securities without previous credit losses	—	—	—	—	3	3
Net reserve builds (releases) on securities with previous credit losses	—	—	—	—	—	—
Total provision for credit losses	$ —	$ —	$ —	$ —	$ 3	$ 3
Initial allowance on newly purchased credit-deteriorated securities during the year	—	—	—	—	—	—
Allowance for credit losses at end of year	$ —	$ —	$ —	$ —	$ 8	$ 8

In millions of dollars	Year ended December 31, 2020					
	Mortgage-backed	U.S. Treasury and federal agency	State and municipal	Foreign government	Corporate	Total AFS
Allowance for credit losses at beginning of year	$ —	$ —	$ —	$ —	$ —	$ —
Gross write-offs	—	—	—	—	—	—
Gross recoveries	—	—	—	—	2	2
Net credit losses (NCLs)	$ —	$ —	$ —	$ —	$ 2	$ 2
NCLs	$ —	$ —	$ —	$ —	$ (2)	$ (2)
Credit losses on securities without previous credit losses	—	—	—	3	5	8
Net reserve builds (releases) on securities with previous credit losses	—	—	—	(3)	—	(3)
Total provision for credit losses	$ —	$ —	$ —	$ —	$ 3	$ 3
Initial allowance on newly purchased credit-deteriorated securities during the year	—	—	—	—	—	—
Allowance for credit losses at end of year	$ —	$ —	$ —	$ —	$ 5	$ 5

Non-Marketable Equity Securities Not Carried at Fair Value

Non-marketable equity securities are required to be measured at fair value with changes in fair value recognized in earnings unless (i) the measurement alternative is elected or (ii) the investment represents Federal Reserve Bank and Federal Home Loan Bank stock or certain exchange seats that continue to be carried at cost.

The election to measure a non-marketable equity security using the measurement alternative is made on an instrument-by-instrument basis. Under the measurement alternative, an equity security is carried at cost plus or minus changes resulting from observable prices in orderly transactions for the identical or a similar investment of the same issuer. The carrying value of the equity security is adjusted to fair value on the date of an observed transaction. Fair value may differ from the observed transaction price due to a number of factors, including marketability adjustments and differences in rights and obligations when the observed transaction is not for the identical investment held by Citi.

Equity securities under the measurement alternative are also assessed for impairment. On a quarterly basis, management qualitatively assesses whether each equity security under the measurement alternative is impaired. Impairment indicators that are considered include, but are not limited to, the following:

- a significant deterioration in the earnings performance, credit rating, asset quality or business prospects of the investee;
- a significant adverse change in the regulatory, economic or technological environment of the investee;
- a significant adverse change in the general market condition of either the geographical area or the industry in which the investee operates;
- a bona fide offer to purchase, an offer by the investee to sell or a completed auction process for the same or similar investment for an amount less than the carrying amount of that investment; and
- factors that raise significant concerns about the investee's ability to continue as a going concern, such as negative cash flows from operations, working capital deficiencies or noncompliance with statutory capital requirements or debt covenants.

When the qualitative assessment indicates that impairment exists, the investment is written down to fair value, with the full difference between the fair value of the investment and its carrying amount recognized in earnings.

Below is the carrying value of non-marketable equity securities measured using the measurement alternative at December 31, 2022 and 2021:

In millions of dollars	**December 31, 2022**	December 31, 2021
Measurement alternative:		
Carrying value	**$ 1,676**	$ 1,413

Below are amounts recognized in earnings and life-to-date amounts for non-marketable equity securities measured using the measurement alternative:

	Years ended December 31,	
In millions of dollars	**2022**	2021
Measurement alternative[(1)]:		
Impairment losses	**$ 139**	$ 25
Downward changes for observable prices	**3**	—
Upward changes for observable prices	**177**	406

(1) See Note 25 for additional information on these nonrecurring fair value measurements.

	Life-to-date amounts on securities still held
In millions of dollars	**December 31, 2022**
Measurement alternative:	
Impairment losses	**$ 219**
Downward changes for observable prices	**6**
Upward changes for observable prices	**867**

A similar impairment analysis is performed for non-marketable equity securities carried at cost. For the years ended December 31, 2022 and 2021, there was no impairment loss recognized in earnings for non-marketable equity securities carried at cost.

14. LOANS

Citigroup loans are reported in two categories: corporate and consumer. These categories are classified primarily according to the operating segment and component that manage the loans in addition to the nature of the obligor, with corporate loans generally made for corporate institutional and public sector clients around the world and consumer loans to retail and small business customers.

Corporate Loans

Corporate loans represent loans and leases managed by *ICG* and the Mexico SBMM component of *Legacy Franchises*. The following table presents information by corporate loan type:

In millions of dollars	**December 31, 2022**	December 31, 2021
In North America offices[1]		
Commercial and industrial	**$ 56,176**	$ 48,364
Financial institutions	**43,399**	49,804
Mortgage and real estate[2]	**17,829**	15,965
Installment and other	**23,767**	20,143
Lease financing	**308**	415
Total	**$ 141,479**	$ 134,691
In offices outside North America[1]		
Commercial and industrial	**$ 93,967**	$ 102,735
Financial institutions	**21,931**	22,158
Mortgage and real estate[2]	**4,179**	4,374
Installment and other	**23,347**	22,812
Lease financing	**46**	40
Governments and official institutions	**4,205**	4,423
Total	**$ 147,675**	$ 156,542
Corporate loans, net of unearned income[3][4][5]	**$ 289,154**	$ 291,233

(1) North America includes the U.S., Canada and Puerto Rico. Mexico is included in offices outside North America. The classification between offices in North America and outside North America is based on the domicile of the booking unit. The difference between the domicile of the booking unit and the domicile of the managing unit is not material.

(2) Loans secured primarily by real estate.

(3) Corporate loans are net of unearned income of $($797) million and ($770) million at December 31, 2022 and 2021, respectively. Unearned income on corporate loans primarily represents interest received in advance, but not yet earned, on loans originated on a discounted basis.

(4) Not included in the balances above is approximately $2 billion of accrued interest receivable at December 31, 2022, which is included in *Other assets* on the Consolidated Balance Sheet.

(5) Accrued interest receivable considered to be uncollectible is reversed through interest income. Amounts reversed were not material for the years ended December 31, 2022 and 2021, respectively.

The Company sold and/or reclassified to held-for-sale $5.0 billion and $5.9 billion of corporate loans during the years ended December 31, 2022 and 2021, respectively. The Company did not have significant purchases of corporate loans classified as held-for-investment for the years ended December 31, 2022 or 2021.

Lease financing

Citi is a lessor in the power, railcars, shipping and aircraft sectors, where the Company has executed operating, direct financing and leveraged leases. Citi's $0.4 billion of lease financing receivables, as of December 31, 2022, is composed of approximately equal balances of direct financing lease receivables and net investments in leveraged leases. Citi uses the interest rate implicit in the lease to determine the present value of its lease financing receivables. Interest income on direct financing and leveraged leases during the year ended December 31, 2022 was not material.

The Company's operating leases, where Citi is a lessor, are not significant to the Consolidated Financial Statements.

Delinquency Status

Citi generally does not manage corporate loans on a delinquency basis. Corporate loans are placed on a cash (non-accrual) basis when it is determined, based on actual experience and a forward-looking assessment of the collectability of the loan in full, that the payment of interest or principal is doubtful or when interest or principal is 90 days past due, except when the loan is well collateralized and in the process of collection. Any interest accrued on impaired corporate loans and leases is reversed at 90 days and charged against current earnings, and interest is thereafter included in earnings only to the extent actually received in cash. When there is doubt regarding the ultimate collectibility of principal, all cash receipts are thereafter applied to reduce the recorded investment in the loan. While corporate loans are generally managed based on their internally assigned risk rating (see further discussion below), the following tables present delinquency information by corporate loan type.

Corporate Loan Delinquencies and Non-Accrual Details at December 31, 2022

In millions of dollars	30–89 days past due and accruing[1]	≥ 90 days past due and accruing[1]	Total past due and accruing	Total non-accrual[2]	Total current[3]	Total loans[4]
Commercial and industrial	$ 763	$ 594	$ 1,357	$ 860	$ 145,586	$ 147,803
Financial institutions	233	102	335	152	64,420	64,907
Mortgage and real estate	30	12	42	33	21,874	21,949
Lease financing	—	1	1	10	343	354
Other	145	18	163	67	48,788	49,018
Loans at fair value						5,123
Total	$ 1,171	$ 727	$ 1,898	$ 1,122	$ 281,011	$ 289,154

Corporate Loan Delinquencies and Non-Accrual Details at December 31, 2021

In millions of dollars	30–89 days past due and accruing[1]	≥ 90 days past due and accruing[1]	Total past due and accruing	Total non-accrual[2]	Total current[3]	Total loans[4]
Commercial and industrial	$ 1,072	$ 239	$ 1,311	$ 1,263	$ 144,430	$ 147,004
Financial institutions	320	166	486	2	71,279	71,767
Mortgage and real estate	1	1	2	136	20,153	20,291
Lease financing	—	—	—	14	441	455
Other	77	19	96	138	45,412	45,646
Loans at fair value						6,070
Total	$ 1,470	$ 425	$ 1,895	$ 1,553	$ 281,715	$ 291,233

(1) Corporate loans that are 90 days past due are generally classified as non-accrual. Corporate loans are considered past due when principal or interest is contractually due but unpaid.
(2) Non-accrual loans generally include those loans that are 90 days or more past due or those loans for which Citi believes, based on actual experience and a forward-looking assessment of the collectability of the loan in full, that the payment of interest and/or principal is doubtful.
(3) Loans less than 30 days past due are presented as current.
(4) The Total loans column includes loans at fair value, which are not included in the various delinquency columns, and therefore the tables' total rows will not cross-foot.

Citigroup has a risk management process to monitor, evaluate and manage the principal risks associated with its corporate loan portfolio. As part of its risk management process, Citi assigns numeric risk ratings to its corporate loan facilities based on quantitative and qualitative assessments of the obligor and facility. These risk ratings are reviewed at least annually or more often if material events related to the obligor or facility warrant. Factors considered in assigning the risk ratings include financial condition of the obligor, qualitative assessment of management and strategy, amount and sources of repayment, amount and type of collateral and guarantee arrangements, amount and type of any contingencies associated with the obligor and the obligor's industry and geography.

The obligor risk ratings are defined by ranges of default probabilities. The facility risk ratings are defined by ranges of loss norms, which are the product of the probability of default and the loss given default. The investment-grade rating categories are similar to the category BBB-/Baa3 and above as defined by S&P and Moody's. Loans classified according to the bank regulatory definitions as special mention, substandard, doubtful and loss will have risk ratings within the non-investment-grade categories.

Corporate Loans Credit Quality Indicators

	Recorded investment in loans[1]							
	Term loans by year of origination							
In millions of dollars	2022	2021	2020	2019	2018	Prior	Revolving line of credit arrangements[2]	December 31, 2022
Investment grade[3]								
Commercial and industrial[4]	$ 50,086	$ 5,716	$ 2,454	$ 2,348	$ 1,129	$ 1,776	$ 38,359	$ 101,868
Financial institutions[4]	13,547	3,174	813	593	284	713	37,463	56,587
Mortgage and real estate	7,321	3,876	3,379	1,205	577	775	152	17,285
Other[5]	12,257	1,171	494	148	688	3,496	26,807	45,061
Total investment grade	$ 83,211	$ 13,937	$ 7,140	$ 4,294	$ 2,678	$ 6,760	$ 102,781	$ 220,801
Non-investment grade[3]								
Accrual								
Commercial and industrial[4]	$ 21,877	$ 3,114	$ 1,371	$ 800	$ 661	$ 402	$ 16,850	$ 45,075
Financial institutions[4]	5,110	626	247	65	36	11	2,073	8,168
Mortgage and real estate	1,081	989	470	556	562	501	472	4,631
Other[5]	1,938	360	466	107	7	64	1,292	4,234
Non-accrual								
Commercial and industrial[4]	80	31	90	53	44	83	479	860
Financial institutions	41	35	—	—	—	—	76	152
Mortgage and real estate	2	11	—	—	2	18	—	33
Other[5]	7	26	1	8	10	9	16	77
Total non-investment grade	$ 30,136	$ 5,192	$ 2,645	$ 1,589	$ 1,322	$ 1,088	$ 21,258	$ 63,230
Loans at fair value[6]								$ 5,123
Corporate loans, net of unearned income	$ 113,347	$ 19,129	$ 9,785	$ 5,883	$ 4,000	$ 7,848	$ 124,039	$ 289,154

	Recorded investment in loans[1]							
	Term loans by year of origination							
In millions of dollars	2021	2020	2019	2018	2017	Prior	Revolving line of credit arrangements[2]	December 31, 2021
Investment grade[3]								
Commercial and industrial[4]	$ 42,422	$ 5,529	$ 4,642	$ 3,757	$ 2,911	$ 8,392	$ 30,588	$ 98,241
Financial institutions[4]	12,862	1,678	1,183	1,038	419	1,354	43,630	62,164
Mortgage and real estate	2,423	3,660	3,332	2,015	1,212	1,288	141	14,071
Other[5]	9,037	3,099	1,160	2,789	330	4,601	18,727	39,743
Total investment grade	$ 66,744	$ 13,966	$ 10,317	$ 9,599	$ 4,872	$ 15,635	$ 93,086	$ 214,219
Non-investment grade[3]								
Accrual								
Commercial and industrial[4]	$ 16,783	$ 2,281	$ 2,343	$ 2,024	$ 1,412	$ 3,981	$ 18,676	$ 47,500
Financial institutions[4]	4,325	347	567	101	71	511	3,679	9,601
Mortgage and real estate	1,275	869	1,228	1,018	493	586	615	6,084
Other[5]	1,339	349	554	364	119	245	3,236	6,206
Non-accrual								
Commercial and industrial[4]	53	119	64	104	94	117	712	1,263
Financial institutions	—	—	—	—	—	—	2	2
Mortgage and real estate	11	8	2	49	10	25	31	136
Other[5]	19	5	19	19	—	90	—	152
Total non-investment grade	$ 23,805	$ 3,978	$ 4,777	$ 3,679	$ 2,199	$ 5,555	$ 26,951	$ 70,944
Loans at fair value[6]								6,070
Corporate loans, net of unearned income	$ 90,549	$ 17,944	$ 15,094	$ 13,278	$ 7,071	$ 21,190	$ 120,037	$ 291,233

(1) Recorded investment in a loan includes net deferred loan fees and costs, unamortized premium or discount, less any direct write-downs.
(2) There were no significant revolving line of credit arrangements that converted to term loans during the year.
(3) Held-for-investment loans are accounted for on an amortized cost basis.
(4) Includes certain short-term loans with less than one year in tenor.
(5) Other includes installment and other, lease financing and loans to government and official institutions.
(6) Loans at fair value include loans to commercial and industrial, financial institutions, mortgage and real estate and other.

Collateral-dependent loans and leases, where repayment is expected to be provided solely by the sale of the underlying collateral with no other available and reliable sources of repayment, are written down to the lower of carrying value or collateral value, less cost to sell. Cash-basis loans are returned to an accrual status when all contractual principal and interest amounts are reasonably assured of repayment and there is a sustained period of repayment performance, generally six months, in accordance with the contractual terms of the loan.

Non-Accrual Corporate Loans

The following tables present non-accrual loan information by corporate loan type and interest income recognized on non-accrual corporate loans:

In millions of dollars	At and for the year ended December 31, 2022				
	Recorded investment[1]	**Unpaid principal balance**	**Related specific allowance**	**Average carrying value[2]**	**Interest income recognized[3]**
Non-accrual corporate loans					
Commercial and industrial	**$ 860**	**$ 1,440**	**$ 268**	**$ 1,210**	**$ 56**
Financial institutions	**152**	**205**	**51**	**115**	**—**
Mortgage and real estate	**33**	**33**	**4**	**85**	**4**
Lease financing	**10**	**10**	**—**	**12**	**—**
Other	**67**	**89**	**—**	**111**	**6**
Total non-accrual corporate loans	**$ 1,122**	**$ 1,777**	**$ 323**	**$ 1,533**	**$ 66**

In millions of dollars	At and for the year ended December 31, 2021				
	Recorded investment[1]	Unpaid principal balance	Related specific allowance	Average carrying value[2]	Interest income recognized[3]
Non-accrual corporate loans					
Commercial and industrial	$ 1,263	$ 1,858	$ 198	$ 1,839	$ 37
Financial institutions	2	55	—	4	—
Mortgage and real estate	136	285	10	163	—
Lease financing	14	14	—	21	—
Other	138	165	4	134	17
Total non-accrual corporate loans	$ 1,553	$ 2,377	$ 212	$ 2,161	$ 54

In millions of dollars	**December 31, 2022**		December 31, 2021	
	Recorded investment[1]	**Related specific allowance**	Recorded investment[1]	Related specific allowance
Non-accrual corporate loans with specific allowances				
Commercial and industrial	**$ 583**	**$ 268**	$ 637	$ 198
Financial institutions	**149**	**51**	—	—
Mortgage and real estate	**33**	**4**	29	10
Other	**—**	**—**	37	4
Total non-accrual corporate loans with specific allowances	**$ 765**	**$ 323**	$ 703	$ 212
Non-accrual corporate loans without specific allowances				
Commercial and industrial	**$ 277**		$ 626	
Financial institutions	**3**		2	
Mortgage and real estate	**—**		107	
Lease financing	**10**		14	
Other	**67**		101	
Total non-accrual corporate loans without specific allowances	**$ 357**	**N/A**	$ 850	N/A

(1) Recorded investment in a loan includes net deferred loan fees and costs, unamortized premium or discount, less any direct write-downs.
(2) Average carrying value represents the average recorded investment balance and does not include related specific allowances.
(3) Interest income recognized for the year ended December 31, 2020 was $35 million.
N/A Not applicable

Corporate Troubled Debt Restructurings

For the year ended December 31, 2022

In millions of dollars	**Carrying value of TDRs modified during the year**	**TDRs involving changes in the amount and/or timing of principal payments[2]**	**TDRs involving changes in the amount and/or timing of interest payments[3]**	**TDRs involving changes in the amount and/or timing of both principal and interest payments**
Commercial and industrial	**$ 61**	**$ —**	**$ —**	**$ 61**
Mortgage and real estate	**2**	**1**	**—**	**1**
Other	**30**	**—**		**30**
Total	**$ 93**	**$ 1**	**$ —**	**$ 92**

For the year ended December 31, 2021[1]

In millions of dollars	Carrying value of TDRs modified during the year	TDRs involving changes in the amount and/or timing of principal payments[2]	TDRs involving changes in the amount and/or timing of interest payments[3]	TDRs involving changes in the amount and/or timing of both principal and interest payments
Commercial and industrial	$ 82	$ —	$ —	$ 82
Mortgage and real estate	4	—	—	4
Other	6	—		6
Total	$ 92	$ —	$ —	$ 92

(1) The 2021 table does not include loan modifications that meet the TDR relief criteria in the CARES Act or the interagency guidance.
(2) TDRs involving changes in the amount or timing of principal payments may involve principal forgiveness or deferral of periodic and/or final principal payments. Because forgiveness of principal is rare for corporate loans, modifications typically have little to no impact on the loans' projected cash flows and thus little to no impact on the allowance established for the loans. Charge-offs for amounts deemed uncollectible may be recorded at the time of the restructuring or may have already been recorded in prior periods such that no charge-off is required at the time of the modification.
(3) TDRs involving changes in the amount or timing of interest payments may involve a below-market interest rate.

The following table presents total corporate loans modified in a TDR as well as those TDRs that defaulted and for which the payment default occurred within one year of a permanent modification. Default is defined as 60 days past due, except for classifiably managed commercial banking loans, where default is defined as 90 days past due.

In millions of dollars	**TDR balances at December 31, 2022**	**TDR loans that re-defaulted in 2022 within one year of modification**	TDR balances at December 31, 2021	TDR loans that re-defaulted in 2020 within one year of modification
Commercial and industrial	**$ 85**	**$ —**	$ 236	$ —
Mortgage and real estate	**13**	**—**	20	—
Other	**12**	**—**	28	—
Total[1]	**$ 110**	**$ —**	$ 284	$ —

(1) The above table reflects activity for loans outstanding that were considered TDRs as of the end of the reporting period.

Consumer Loans

Consumer loans represent loans and leases managed primarily by *PBWM* and *Legacy Franchises* (except Mexico SBMM).

Citigroup has established a risk management process to monitor, evaluate and manage the principal risks associated with its consumer loan portfolio. Credit quality indicators that are actively monitored include delinquency status, consumer credit scores under Fair Isaac Corporation (FICO) and loan to value (LTV) ratios, each as discussed in more detail below.

Delinquency Status

Delinquency status is monitored and considered a key indicator of credit quality of consumer loans. Principally, the U.S. residential first mortgage loans use the Mortgage Bankers Association (MBA) method of reporting delinquencies, which considers a loan delinquent if a monthly payment has not been received by the end of the day immediately preceding the loan's next due date. All other loans use a method of reporting delinquencies that considers a loan delinquent if a monthly payment has not been received by the close of business on the loan's next due date.

As a general policy, residential first mortgages, home equity loans and installment loans are classified as non-accrual when loan payments are 90 days contractually past due. Credit cards and unsecured revolving loans generally accrue interest until payments are 180 days past due. Home equity loans in regulated bank entities are classified as non-accrual if the related residential first mortgage is 90 days or more past due. Mortgage loans, other than Federal Housing Administration (FHA)-insured loans, are classified as non-accrual within 60 days of notification that the borrower has filed for bankruptcy.

The policy for re-aging modified U.S. consumer loans to current status varies by product. Generally, one of the conditions to qualify for these modifications is that a minimum number of payments (typically ranging from one to three) be made. Upon modification, the loan is re-aged to current status. However, re-aging practices for certain open-ended consumer loans, such as credit cards, are governed by Federal Financial Institutions Examination Council (FFIEC) guidelines. For open-ended consumer loans subject to FFIEC guidelines, one of the conditions for a loan to be re-aged to current status is that at least three consecutive minimum monthly payments, or the equivalent amount, must be received. In addition, under FFIEC guidelines, the number of times that such a loan can be re-aged is subject to limitations (generally once in 12 months and twice in five years).

Furthermore, FHA and Department of Veterans Affairs (VA) loans are modified under those respective agencies' guidelines and payments are not always required in order to re-age a modified loan to current.

The tables below present details about these loans, including the following loan categories:

- Residential first mortgages and Home equity loans in North America offices primarily represent secured mortgage lending to customers of Retail banking and Global Wealth (primarily Private bank and Citigold).
- Credit cards in North America offices primarily represent unsecured credit card lending to customers of Branded cards and Retail services.
- Personal, small business and other loans in North America are primarily composed of classifiably managed loans to customers of Global Wealth (mostly within the Private bank) who are typically high credit quality borrowers that historically experienced minimal delinquencies and credit losses. Loans to these borrowers are generally well collateralized in the form of liquid securities and other forms of collateral.
- Residential mortgage loans in offices outside North America primarily represent secured mortgage lending to customers of Global Wealth (primarily Private bank and Citigold) as well as customers of *Legacy Franchises*.
- Credit cards in offices outside North America primarily represent unsecured credit card lending to customers of *Legacy Franchises*, primarily in Asia and Mexico.
- Personal, small business and other loans in offices outside North America are primarily composed of secured and unsecured loans to customers of *PBWM* and *Legacy Franchises*. A significant portion of *PBWM* loans is classifiably managed and represents loans to high credit quality Private bank customers who historically experienced minimal delinquencies and credit losses. Loans to these borrowers are generally well collateralized in the form of liquid securities and other forms of collateral.

The following tables provide Citi's consumer loans by type:

Consumer Loans, Delinquencies and Non-Accrual Status at December 31, 2022

In millions of dollars	Total current[1][2]	30–89 days past due[3]	≥ 90 days past due[3]	Past due government guaranteed[6]	Total loans	Non-accrual loans for which there is no ACLL	Non-accrual loans for which there is an ACLL	Total non-accrual	90 days past due and accruing
In North America offices[7]									
Residential first mortgages[8]	$ 95,023	$ 421	$ 316	$ 279	$ 96,039	$ 86	$ 434	$ 520	$ 163
Home equity loans[9][10]	4,407	38	135	—	4,580	51	151	202	—
Credit cards	147,717	1,511	1,415	—	150,643	—	—	—	1,415
Personal, small business and other[11]	37,635	88	22	7	37,752	3	23	26	11
Total	$ 284,782	$ 2,058	$ 1,888	$ 286	$ 289,014	$ 140	$ 608	$ 748	$ 1,589
In offices outside North America[7]									
Residential mortgages[8]	$ 27,946	$ 62	$ 106	$ —	$ 28,114	$ —	$ 305	$ 305	$ 13
Credit cards	12,659	147	149	—	12,955	—	127	127	56
Personal, small business and other[11]	37,869	105	10	—	37,984	—	137	137	—
Total	$ 78,474	$ 314	$ 265	$ —	$ 79,053	$ —	$ 569	$ 569	$ 69
Total Citigroup[12][13]	$ 363,256	$ 2,372	$ 2,153	$ 286	$ 368,067	$ 140	$ 1,177	$ 1,317	$ 1,658

Consumer Loans, Delinquencies and Non-Accrual Status at December 31, 2021

In millions of dollars	Total current[1][2]	30–89 days past due[3][4][5]	≥ 90 days past due[3][4][5]	Past due government guaranteed[5][6]	Total loans	Non-accrual loans for which there is no ACLL	Non-accrual loans for which there is an ACLL	Total non-accrual	90 days past due and accruing
In North America offices[7]									
Residential first mortgages[8]	$ 82,087	$ 381	$ 499	$ 394	$ 83,361	$ 134	$ 559	$ 693	$ 282
Home equity loans[9][10]	5,546	43	156	—	5,745	64	221	285	—
Credit cards	132,050	947	871	—	133,868	—	—	—	871
Personal, small business and other[14]	40,533	126	16	38	40,713	2	70	72	30
Total	$ 260,216	$ 1,497	$ 1,542	$ 432	$ 263,687	$ 200	$ 850	$ 1,050	$ 1,183
In offices outside North America[7]									
Residential mortgages[8]	$ 37,566	$ 165	$ 158	$ —	$ 37,889	$ —	$ 409	$ 409	$ 10
Credit cards	17,428	192	188	—	17,808	—	140	140	133
Personal, small business and other[14]	56,930	145	75	—	57,150	—	227	227	—
Total	$ 111,924	$ 502	$ 421	$ —	$ 112,847	$ —	$ 776	$ 776	$ 143
Total Citigroup[13]	$ 372,140	$ 1,999	$ 1,963	$ 432	$ 376,534	$ 200	$ 1,626	$ 1,826	$ 1,326

(1) Loans less than 30 days past due are presented as current.
(2) Includes $237 million and $12 million at December 31, 2022 and 2021, respectively, of residential first mortgages recorded at fair value.
(3) Excludes loans guaranteed by U.S. government-sponsored agencies. Excludes $31.5 billion and $17.8 billion of classifiably managed Private bank loans in North America and outside North America, respectively, at December 31, 2022. Excludes $35.3 billion and $24.5 billion of classifiably managed Private bank loans in North America and outside North America, respectively, at December 31, 2021.
(4) Loans modified under Citi's consumer relief programs continue to be reported in the same delinquency bucket they were in at the time of modification. Most modified loans in North America would not be reported as 30–89 or 90+ days past due for the duration of the programs (which have various durations, and certain of which may be renewed).
(5) Conformed to be consistent with the current period's delineation between delinquency-managed and classifiably managed loans.
(6) Consists of loans that are guaranteed by U.S. government-sponsored agencies that are 30–89 days past due of $0.1 billion and $0.1 billion and 90 days or more past due of $0.2 billion and $0.3 billion at December 31, 2022 and 2021, respectively.
(7) North America includes the U.S., Canada and Puerto Rico. Mexico is included in offices outside North America.
(8) Includes approximately $0.1 billion and $0.0 billion of residential first mortgage loans in process of foreclosure in North America and outside North America, respectively, and $19.8 billion of residential mortgages outside North America related to the Global Wealth business at December 31, 2022. Includes

approximately $0.1 billion and $0.1 billion of residential first mortgage loans in process of foreclosure in North America and outside North America, respectively, and $19.8 billion of residential mortgages outside North America related to the Global Wealth business at December 31, 2021.

(9) Includes approximately $0.1 billion and $0.1 billion at December 31, 2022 and 2021, respectively, of home equity loans in process of foreclosure in North America.

(10) Fixed-rate home equity loans and loans extended under home equity lines of credit, which are typically in junior lien positions.

(11) Includes loans related to the Global Wealth business: $34.0 billion in North America, approximately $31.5 billion of which are classifiably managed, and as of December 31, 2022 approximately 98% were rated investment grade; and $26.6 billion outside North America, approximately $17.8 billion of which are classifiably managed, and as of December 31, 2022 approximately 94% were rated investment grade. The classifiably managed portion of these loans is shown as "current" because the delinquency status is not applicable, since these loans are primarily evaluated for credit risk based on their internal risk classification.

(12) Not included in the balances above is approximately $1 billion of accrued interest receivable at December 31, 2022, which is included in *Other assets* on the Consolidated Balance Sheet, except for credit card loans (which include accrued interest and fees). When a loan becomes non-accrual or, if not subject to a non-accrual policy, is charged-off per the Company's charge-off policy, any accrued interest receivable is also reversed against the interest income. During the years ended December 31, 2022 and 2021, the Company reversed accrued interest of approximately $0.6 billion and $0.8 billion, respectively, primarily related to credit card loans.

(13) Consumer loans were net of unearned income of $712 million and $629 million at December 31, 2022 and 2021, respectively. Unearned income on consumer loans primarily represents unamortized origination fees and costs, premiums and discounts.

(14) Includes loans related to the Global Wealth business: $37.9 billion in North America, approximately $35.3 billion of which are classifiably managed, and as of December 31, 2021 approximately 95% were rated investment grade; and $34.6 billion outside North America, approximately $24.5 billion of which are classifiably managed, and as of December 31, 2021 approximately 94% were rated investment grade. The classifiably managed portion of these loans is shown as "current" because the delinquency status is not applicable, since these loans are primarily evaluated for credit risk based on their internal risk classification.

Interest Income Recognized for Non-Accrual Consumer Loans

	For the years ended December 31,	
In millions of dollars	**2022**	2021
In North America offices[1]		
Residential first mortgages	**$ 12**	$ 13
Home equity loans	**5**	7
Credit cards	**—**	—
Personal, small business and other	**2**	—
Total	**$ 19**	$ 20
In offices outside North America[1]		
Residential mortgages	**$ 4**	$ 1
Credit cards	**—**	—
Personal, small business and other	**4**	—
Total	**$ 8**	$ 1
Total Citigroup	**$ 27**	$ 21

(1) North America includes the U.S., Canada and Puerto Rico. Mexico is included in offices outside North America.

During the years ended December 31, 2022 and 2021, the Company sold and/or reclassified to HFS $582 million and $1,473 million of consumer loans, respectively. Loans held by a business for sale are not included in the above. The Company did not have significant purchases of consumer loans classified as held-for-investment during the years ended December 31, 2022 and 2021. See Note 2 for additional information regarding Citigroup's businesses for sale.

Consumer Credit Scores (FICO)

In the U.S., independent credit agencies rate an individual's risk for assuming debt based on the individual's credit history and assign every consumer a Fair Isaac Corporation (FICO) credit score. These scores are continually updated by the agencies based upon an individual's credit actions (e.g., taking out a loan or missed or late payments).

The following tables provide details on the FICO scores for Citi's U.S. consumer loan portfolio based on end-of-period receivables by year of origination. FICO scores are updated monthly for substantially all of the portfolio or, otherwise, on a quarterly basis for the remaining portfolio.

For Citi's $80.5 billion and $114.3 billion in the consumer loan portfolio outside of the U.S. as of December 31, 2022 and 2021, respectively, various country-specific or regional credit risk metrics and acquisition and behavior scoring models are leveraged as one of the factors to evaluate the credit quality of customers (for additional information on loans outside of the U.S., see "Consumer Loans and Ratios Outside of North America" below). As a result, details of relevant credit quality indicators for those loans are not comparable to the below FICO score distribution for the U.S. portfolio.

FICO score distribution—U.S. portfolio[1][2]	**December 31, 2022**					
In millions of dollars	**Less than 680**	**680 to 760**	**Greater than 760**	**Classifiably managed[3]**	**FICO not available[4]**	**Total loans**
Residential first mortgages						
2022	**$ 691**	**$ 7,530**	**$ 12,928**			
2021	**639**	**5,933**	**12,672**			
2020	**431**	**4,621**	**10,936**			
2019	**321**	**2,505**	**5,445**			
2018	**302**	**1,072**	**1,899**			
Prior	**2,020**	**6,551**	**12,649**			
Total residential first mortgages	**$ 4,404**	**$ 28,212**	**$ 56,529**		**$ 6,894**	**$ 96,039**
Home equity line of credit (pre-reset)	**$ 552**	**$ 1,536**	**$ 1,876**			
Home equity line of credit (post-reset)	**62**	**65**	**40**			
Home equity term loans	**106**	**151**	**117**			
2022	**—**	**—**	**—**			
2021	**—**	**1**	**1**			
2020	**1**	**2**	**2**			
2019	**1**	**2**	**2**			
2018	**1**	**2**	**1**			
Prior	**103**	**144**	**111**			
Total home equity loans	**$ 720**	**$ 1,752**	**$ 2,033**		**$ 75**	**$ 4,580**
Credit cards	**$ 27,901**	**$ 58,213**	**$ 60,896**			
Revolving loans converted to term loans[5]	**766**	**354**	**54**			
Total credit cards[6]	**$ 28,667**	**$ 58,567**	**$ 60,950**		**$ 1,914**	**$ 150,098**
Personal, small business and other						
2022	**$ 247**	**$ 546**	**$ 800**			
2021	**96**	**170**	**210**			
2020	**15**	**20**	**30**			
2019	**21**	**23**	**28**			
2018	**10**	**10**	**9**			
Prior	**126**	**190**	**144**			
Total personal, small business and other[7][8]	**$ 515**	**$ 959**	**$ 1,221**	**$ 31,478**	**2,639**	**$ 36,812**
Total	**$ 34,306**	**$ 89,490**	**$ 120,733**	**$ 31,478**	**$ 11,522**	**$ 287,529**

FICO score distribution—U.S. portfolio[1][2] December 31, 2021

In millions of dollars	Less than 680	680 to 760	Greater than 760	Classifiably managed[3]	FICO not available[4]	Total loans
Residential first mortgages						
2021	$ 626	$ 6,729	$ 12,349			
2020	508	5,102	12,153			
2019	373	3,074	6,167			
2018	394	1,180	2,216			
2017	343	1,455	2,568			
Prior	2,053	6,540	12,586			
Total residential first mortgages	$ 4,297	$ 24,080	$ 48,039		$ 6,945	$ 83,361
Home equity line of credit (pre-reset)	$ 659	$ 1,795	$ 2,506			
Home equity line of credit (post-reset)	75	72	37			
Home equity term loans	168	210	156			
2021	—	1	1			
2020	—	3	2			
2019	1	2	2			
2018	1	2	1			
2017	1	2	2			
Prior	165	201	149			
Total home equity loans	$ 902	$ 2,077	$ 2,699		$ 67	$ 5,745
Credit cards	$ 22,342	$ 52,481	$ 55,076			
Revolving loans converted to term loans[5]	773	426	61			
Total credit cards[6]	$ 23,115	$ 52,907	$ 55,137		$ 2,192	$ 133,351
Personal, small business and other						
2021	$ 59	$ 201	$ 319			
2020	22	41	64			
2019	42	53	68			
2018	34	35	37			
2017	7	8	9			
Prior	120	179	143			
Total personal, small business and other[7][8]	$ 284	$ 517	$ 640	$ 35,324	$ 3,041	$ 39,806
Total	$ 28,598	$ 79,581	$ 106,515	$ 35,324	$ 12,245	$ 262,263

(1) The FICO bands in the tables are consistent with general industry peer presentations.
(2) FICO scores are updated on either a monthly or quarterly basis. For updates that are made only quarterly, certain current-period loans by year of origination are greater than those disclosed in the prior periods. Loans that did not have FICO scores as of the prior period have been updated with FICO scores as they become available.
(3) These personal, small business and other loans without a FICO score available include $31.5 billion and $35.3 billion of Private bank loans as of December 31, 2022 and 2021, respectively, which are classifiably managed within Global Wealth and are primarily evaluated for credit risk based on their internal risk ratings. As of December 31, 2022 and 2021, approximately 98% and 95% of these loans, respectively, were rated investment grade.
(4) FICO scores not available related to loans guaranteed by government-sponsored enterprises for which FICO scores are generally not utilized.
(5) Not included in the tables above are $75 million and $313 million of revolving credit card loans outside of the U.S. that were converted to term loans as of December 31, 2022 and 2021, respectively.
(6) Excludes $545 million and $517 million of balances related to Canada for December 31, 2022 and 2021, respectively.
(7) Excludes $940 million and $907 million of balances related to Canada for December 31, 2022 and 2021, respectively.
(8) Includes approximately $67 million and $74 million of personal revolving loans that were converted to term loans for December 31, 2022 and 2021, respectively.

Loan to Value (LTV) Ratios—U.S. Consumer Mortgages

LTV ratios (loan balance divided by appraised value) are calculated at origination and updated by applying market price data.

The following tables provide details on the LTV ratios for Citi's U.S. consumer mortgage portfolios by year of origination. LTV ratios are updated monthly using the most recent Core Logic Home Price Index data available for substantially all of the portfolio applied at the Metropolitan Statistical Area level, if available, or the state level if not. The remainder of the portfolio is updated in a similar manner using the Federal Housing Finance Agency indices.

LTV distribution—U.S. portfolio	**December 31, 2022**				
In millions of dollars	**Less than or equal to 80%**	**> 80% but less than or equal to 100%**	**Greater than 100%**	**LTV not available[1]**	**Total**
Residential first mortgages					
2022	**$ 15,644**	**$ 6,497**	**$ 40**		
2021	**19,104**	**1,227**	**33**		
2020	**16,935**	**267**	**1**		
2019	**8,789**	**140**	**23**		
2018	**3,598**	**74**	**9**		
Prior	**22,367**	**132**	**74**		
Total residential first mortgages	**$ 86,437**	**$ 8,337**	**$ 180**	**$ 1,085**	**$ 96,039**
Home equity loans (pre-reset)	**$ 3,677**	**$ 36**	**$ 56**		
Home equity loans (post-reset)	**627**	**12**	**27**		
Total home equity loans	**$ 4,304**	**$ 48**	**$ 83**	**$ 145**	**$ 4,580**
Total	**$ 90,741**	**$ 8,385**	**$ 263**	**$ 1,230**	**$ 100,619**

LTV distribution—U.S. portfolio	December 31, 2021				
In millions of dollars	Less than or equal to 80%	> 80% but less than or equal to 100%	Greater than 100%	LTV not available[1]	Total
Residential first mortgages					
2021	$ 18,107	$ 2,723	$ 34		
2020	18,715	446	—		
2019	10,047	269	29		
2018	4,117	136	11		
2017	4,804	103	4		
Prior	22,161	128	14		
Total residential first mortgages	$ 77,951	$ 3,805	$ 92	$ 1,513	$ 83,361
Home equity loans (pre-reset)	$ 2,637	$ 46	$ 69		
Home equity loans (post-reset)	2,751	52	32		
Total home equity loans	$ 5,388	$ 98	$ 101	$ 158	$ 5,745
Total	$ 83,339	$ 3,903	$ 193	$ 1,671	$ 89,106

(1) Residential first mortgages with no LTV information available are primarily due to government-guaranteed loans that do not require LTV information for credit risk assessment and fair value loans.

Loan-to-Value (LTV) Ratios—Outside of U.S. Consumer Mortgages

The following tables provide details on the LTV ratios for Citi's consumer mortgage portfolio outside of the U.S. by year of origination:

LTV distribution—outside of U.S. portfolio[1]	**December 31, 2022**				
In millions of dollars	**Less than or equal to 80%**	**> 80% but less than or equal to 100%**	**Greater than 100%**	**LTV not available**	**Total**
Residential mortgages					
2022	**$ 3,106**	**$ 975**	**$ 294**		
2021	**4,144**	**964**	**273**		
2020	**3,293**	**502**	**25**		
2019	**3,048**	**92**	**1**		
2018	**2,074**	**48**	**—**		
Prior	**9,201**	**36**	**7**		
Total	**$ 24,866**	**$ 2,617**	**$ 600**	**$ 31**	**$ 28,114**

LTV distribution—outside of U.S. portfolio[1]	December 31, 2021				
In millions of dollars	Less than or equal to 80%	> 80% but less than or equal to 100%	Greater than 100%	LTV not available	Total
Residential mortgages					
2021	$ 6,334	$ 989	$ —		
2020	5,996	292	—		
2019	5,293	116	1		
2018	3,729	32	—		
2017	2,739	38	—		
Prior	12,190	102	14		
Total	$ 36,281	$ 1,569	$ 15	$ 24	$ 37,889

(1) Mortgage portfolios outside of the U.S. are primarily in Global Wealth. As of December 31, 2022 and 2021, mortgage portfolios outside of the U.S. have an average LTV of approximately 51% and 46%, respectively.

Consumer Loans and Ratios Outside of North America

In millions of dollars at December 31, 2022	**Total loans outside of North America[1]**	**Classifiably managed loans[2]**	**Delinquency-managed loans and ratios**			
			Delinquency-managed loans	**30–89 days past due ratio**	**≥ 90 days past due ratio**	**4Q22 NCL ratio**
Residential mortgages[3]	**$ 28,114**	**$ —**	**$ 28,114**	**0.22 %**	**0.38 %**	**0.10 %**
Credit cards	**12,955**	**—**	**12,955**	**1.13**	**1.15**	**3.18**
Personal, small business and other[4]	**37,984**	**17,762**	**20,222**	**0.52**	**0.05**	**0.76**
Total	**$ 79,053**	**$ 17,762**	**$ 61,291**	**0.51 %**	**0.43 %**	**0.91 %**

In millions of dollars at December 31, 2021	Total loans outside of North America[1]	Classifiably managed loans[2]	Delinquency-managed loans and ratios			
			Delinquency-managed loans	30–89 days past due ratio	≥ 90 days past due ratio	4Q21 NCL ratio
Residential mortgages[3]	$ 37,889	$ —	$ 37,889	0.44 %	0.42 %	0.08 %
Credit cards	17,808	—	17,808	1.08	1.06	3.06
Personal, small business and other[4]	57,150	24,482	32,668	0.44	0.23	0.72
Total	$ 112,847	$ 24,482	$ 88,365	0.57 %	0.48 %	0.88 %

(1) Mexico is included in offices outside of North America.
(2) Classifiably managed loans are primarily evaluated for credit risk based on their internal risk classification. As of December 31, 2022 and 2021, approximately 94% and 94% of these loans, respectively, were rated investment grade.
(3) Includes $19.8 billion and $19.8 billion as of December 31, 2022 and 2021, respectively, of residential mortgages related to the Global Wealth business.
(4) Includes $26.6 billion and $34.6 billion as of December 31, 2022 and 2021, respectively, of loans related to the Global Wealth business.

Impaired Consumer Loans

A loan is considered impaired when Citi believes it is probable that all amounts due according to the original contractual terms of the loan will not be collected. Impaired consumer loans include non-accrual loans, as well as smaller-balance homogeneous loans whose terms have been modified due to the borrower's financial difficulties and where Citi has granted a concession to the borrower. These modifications may include interest rate reductions and/or principal forgiveness. Impaired consumer loans exclude smaller-balance homogeneous loans that have not been modified and are carried on a non-accrual basis.

The following tables present information about impaired consumer loans and interest income recognized on impaired consumer loans:

	At and for the year ended December 31, 2022				
In millions of dollars	**Recorded investment[1][2]**	**Unpaid principal balance**	**Related specific allowance[3]**	**Average carrying value[5]**	**Interest income recognized[6]**
Mortgage and real estate					
Residential first mortgages	**$ 1,305**	**$ 1,430**	**$ 58**	**$ 1,283**	**$ 115**
Home equity loans	**254**	**322**	**—**	**261**	**10**
Credit cards	**1,255**	**1,256**	**491**	**1,246**	**62**
Personal, small business and other	**107**	**108**	**47**	**120**	**18**
Total	**$ 2,921**	**$ 3,116**	**$ 596**	**$ 2,910**	**$ 205**

	At and for the year ended December 31, 2021				
In millions of dollars	Recorded investment[1][2]	Unpaid principal balance	Related specific allowance[3][4]	Average carrying value[5]	Interest income recognized[6]
Mortgage and real estate					
Residential first mortgages	$ 1,521	$ 1,595	$ 87	$ 1,564	$ 88
Home equity loans	191	344	(1)	336	9
Credit cards	1,582	1,609	594	1,795	116
Personal, small business and other	454	461	133	505	52
Total	$ 3,748	$ 4,009	$ 813	$ 4,200	$ 265

(1) Recorded investment in a loan includes net deferred loan fees and costs, unamortized premium or discount and direct write-downs and includes accrued interest only on credit card loans.

(2) For December 31, 2022, $152 million of residential first mortgages and $73 million of home equity loans do not have a specific allowance. For December 31, 2021, $190 million of residential first mortgages and $94 million of home equity loans do not have a specific allowance because they are accounted for based on collateral value, and that value is in excess of the outstanding loan balance.

(3) Included in the *Allowance for credit losses on loans*.

(4) The negative allowance on home equity loans resulted from expected recoveries on previously written-off accounts.

(5) Average carrying value represents the average recorded investment ending balance for the last four quarters and does not include the related specific allowance.

(6) Includes amounts recognized on both an accrual and cash basis.

Consumer Troubled Debt Restructurings

In millions of dollars, except number of loans modified	For the year ended December 31, 2022					
	Number of loans modified	**Post-modification recorded investment[2][3]**	**Deferred principal[4]**	**Contingent principal forgiveness[5]**	**Principal forgiveness[6]**	**Average interest rate reduction**
In North America offices[7]						
Residential first mortgages	**1,133**	**$ 263**	**$ —**	**$ —**	**$ —**	**— %**
Home equity loans	**451**	**40**	**—**	**—**	**—**	**—**
Credit cards	**176,252**	**775**	**—**	**—**	**—**	**18**
Personal, small business and other	**575**	**7**	**—**	**—**	**—**	**5**
Total[8]	**178,411**	**$ 1,085**	**$ —**	**$ —**	**$ —**	
In offices outside North America[7]						
Residential mortgages	**683**	**$ 21**	**$ —**	**$ —**	**$ —**	**— %**
Credit cards	**16,006**	**68**	**—**	**—**	**1**	**25**
Personal, small business and other	**2,432**	**29**	**—**	**—**	**1**	**8**
Total[8]	**19,121**	**$ 118**	**$ —**	**$ —**	**2**	

In millions of dollars, except number of loans modified	For the year ended December 31, 2021[1]					
	Number of loans modified	Post-modification recorded investment[2][9]	Deferred principal[4]	Contingent principal forgiveness[5]	Principal forgiveness[6]	Average interest rate reduction
In North America offices[7]						
Residential first mortgages	1,335	$ 230	$ —	$ —	$ —	1 %
Home equity loans	191	19	—	—	—	—
Credit cards	165,098	794	—	—	—	18
Personal, small business and other	1,000	13	—	—	—	3
Total[8]	167,624	$ 1,056	$ —	$ —	$ —	
In offices outside North America[7]						
Residential mortgages	1,975	$ 86	$ —	$ —	$ —	— %
Credit cards	74,202	339	—	—	13	13
Personal, small business and other	28,208	202	—	—	7	10
Total[8]	104,385	$ 627	$ —	$ —	20	

(1) The 2021 table does not include loan modifications that meet the TDR relief criteria in the Coronavirus Aid, Relief, and Economic Security Act (CARES Act) or the interagency guidance.
(2) Post-modification balances include past-due amounts that are capitalized at the modification date.
(3) Post-modification balances in North America include $5 million of residential first mortgages to borrowers who have gone through Chapter 7 bankruptcy in the year ended December 31, 2022. These amounts include $3.8 million of residential first mortgages that were newly classified as TDRs during 2022, based on previously received OCC guidance. The remaining amounts were already classified as TDRs before being discharged in Chapter 7 bankruptcy.
(4) Represents the portion of contractual loan principal that is non-interest bearing, but still due from the borrower. Such deferred principal is charged off at the time of permanent modification to the extent that the related loan balance exceeds the underlying collateral value.
(5) Represents the portion of contractual loan principal that is non-interest bearing and, depending upon borrower performance, eligible for forgiveness.
(6) Represents the portion of contractual loan principal that was forgiven at the time of permanent modification.
(7) North America includes the U.S., Canada and Puerto Rico. Mexico is included in offices outside North America.
(8) The above tables reflect activity for restructured loans that were considered TDRs during the year.
(9) Post-modification balances in North America include $15 million of residential first mortgages to borrowers who have gone through Chapter 7 bankruptcy in the year ended December 31, 2021. These amounts include $5 million of residential first mortgages that were newly classified as TDRs during 2021, based on previously received OCC guidance. The remaining amounts were already classified as TDRs before being discharged in Chapter 7 bankruptcy.

The following table presents consumer TDRs that defaulted for which the payment default occurred within one year of a permanent modification. Default is defined as 60 days past due:

	Years ended December 31,	
In millions of dollars	**2022**	2021
In North America offices[1]		
Residential first mortgages	**$ 35**	$ 57
Home equity loans	**4**	8
Credit cards	**250**	252
Personal, small business and other	**1**	4
Total	**$ 290**	$ 321
In offices outside North America[1]		
Residential mortgages	**$ 10**	$ 38
Credit cards	**12**	152
Personal, small business and other	**3**	96
Total	**$ 25**	$ 286

(1) North America includes the U.S., Canada and Puerto Rico. Mexico is included in offices outside North America.

Purchased Credit-Deteriorated Assets

	Years ended December 31,					
	2022			2021		
In millions of dollars	**Credit cards**	**Mortgages[1]**	**Installment and other**	Credit cards	Mortgages[1]	Installment and other
Purchase price	**$ —**	**$ 23**	**$ —**	$ —	$ 23	$ —
Allowance for credit losses at acquisition date	**—**	**—**	**—**	—	—	—
Discount or premium attributable to non-credit factors	**—**	**—**	**—**	—	—	—
Par value (amortized cost basis)	**$ —**	**$ 23**	**$ —**	$ —	$ 23	$ —

(1) Includes loans sold to agencies that were bought back at par due to repurchase agreements.

15. ALLOWANCE FOR CREDIT LOSSES

In millions of dollars		**2022**		2021		2020
Allowance for credit losses on loans (ACLL) at beginning of year	**$**	**16,455**	$	24,956	$	12,783
Adjustments to opening balance[1]:						
Financial instruments—credit losses (CECL) adoption		**—**		—		4,201
Variable post-charge-off third-party collection costs		**—**		—		(443)
Adjusted ACLL at beginning of year	**$**	**16,455**	$	24,956	$	16,541
Gross credit losses on loans	**$**	**(5,156)**	$	(6,720)	$	(9,263)
Gross recoveries on loans		**1,367**		1,825		1,652
Net credit losses on loans (NCLs)	**$**	**(3,789)**	$	(4,895)	$	(7,611)
Replenishment of NCLs	**$**	**3,789**	$	4,895	$	7,611
Net reserve builds (releases) for loans		**937**		(7,283)		7,635
Net specific reserve builds (releases) for loans		**19**		(715)		676
Total provision for credit losses on loans (PCLL)	**$**	**4,745**	$	(3,103)	$	15,922
Initial allowance for credit losses on newly purchased credit-deteriorated assets during the period		**—**		—		4
Other, net (see table below)		**(437)**		(503)		100
ACLL at end of year	**$**	**16,974**	$	16,455	$	24,956
Allowance for credit losses on unfunded lending commitments (ACLUC) at beginning of year[2]	**$**	**1,871**	$	2,655	$	1,456
Adjustment to opening balance for CECL adoption[1]		**—**		—		(194)
Provision (release) for credit losses on unfunded lending commitments		**291**		(788)		1,446
Other, net[3]		**(11)**		4		(53)
ACLUC at end of year[2]	**$**	**2,151**	$	1,871	$	2,655
Total allowance for credit losses on loans, leases and unfunded lending commitments	**$**	**19,125**	$	18,326	$	27,611

Other, net details

In millions of dollars		**2022**		2021		2020
Sales or transfers of various consumer loan portfolios to HFS[4]						
Reclass of Thailand, India, Malaysia, Taiwan, Indonesia, Bahrain and Vietnam consumer ACLL to HFS	**$**	**(350)**	$	—	$	—
Reclass of Australia consumer ACLL to HFS		**—**		(280)		—
Reclass of the Philippines consumer ACLL to HFS		**—**		(90)		—
Transfer of real estate loan portfolios		**—**		—		(4)
Reclasses of consumer ACLL to HFS[4]	**$**	**(350)**	$	(370)	$	(4)
FX translation and other		**(87)**		(133)		104
Other, net	**$**	**(437)**	$	(503)	$	100

(1) See "Accounting Changes" in Note 1.
(2) Represents additional credit loss reserves for unfunded lending commitments and letters of credit recorded in *Other liabilities* on the Consolidated Balance Sheet.
(3) See below for ACL on *HTM debt securities* and *Other assets*. 2020 includes a non-provision transfer of $68 million, representing reserves on performance guarantees. The reserves on these contracts have been reclassified out of the allowance for credit losses on unfunded lending commitments and into *Other liabilities* on the Consolidated Balance Sheet beginning in 2020.
(4) See Note 2.

Allowance for Credit Losses on Loans and End-of-Period Loans at December 31, 2022

In millions of dollars	Corporate	Consumer	Total
ACLL at beginning of year	$ 2,415	$ 14,040	$ 16,455
Gross credit losses on loans	(278)	(4,878)	(5,156)
Gross recoveries on loans	100	1,267	1,367
Replenishment of NCLs	178	3,611	3,789
Net reserve builds (releases)	374	563	937
Net specific reserve builds (releases)	65	(46)	19
Initial allowance for credit losses on newly purchased credit-deteriorated assets during the year	—	—	—
Other	1	(438)	(437)
Ending balance	$ 2,855	$ 14,119	$ 16,974
ACLL			
Collectively evaluated	$ 2,532	$ 13,521	$ 16,053
Individually evaluated	323	596	919
Purchased credit deteriorated	—	2	2
Total ACLL	$ 2,855	$ 14,119	$ 16,974
Loans, net of unearned income			
Collectively evaluated	$ 282,909	$ 364,795	$ 647,704
Individually evaluated	1,122	2,921	4,043
Purchased credit deteriorated	—	114	114
Held at fair value	5,123	237	5,360
Total loans, net of unearned income	$ 289,154	$ 368,067	$ 657,221

2022 Changes in the ACL

The total allowance for credit losses on loans, leases and unfunded lending commitments as of December 31, 2022 was $19,125 million, an increase from $18,326 million at December 31, 2021. The increase in the allowance for credit losses on loans, leases and unfunded lending commitments was primarily driven by U.S. Cards loan growth and a deterioration in macroeconomic assumptions.

Consumer ACLL

Citi's total consumer allowance for credit losses on loans (ACLL) as of December 31, 2022 was $14,119 million, an increase from $14,040 million at December 31, 2021. The increase in the ACLL balance was primarily driven by U.S. Cards loan growth and a deterioration in macroeconomic assumptions, partially offset by the reduction in reserves related to COVID-19 uncertainty.

Corporate ACLL

Citi's total corporate ACLL as of December 31, 2022 was $2,855 million, an increase from $2,415 million at December 31, 2021. The increase in the ACLL balance was primarily driven by a deterioration in macroeconomic assumptions, partially offset by the release of a COVID-19–related uncertainty reserve.

ACLUC

As of December 31, 2022, Citi's total allowance for credit losses on unfunded lending commitments (ACLUC), included in *Other liabilities*, was $2,151 million, an increase from $1,871 million at December 31, 2021. The increase in the ACLUC balance was primarily driven by a deterioration in macroeconomic assumptions.

Allowance for Credit Losses on Loans and End-of-Period Loans at December 31, 2021

In millions of dollars	Corporate	Consumer	Total
ACLL at beginning of year	$ 4,776	$ 20,180	$ 24,956
Gross credit losses on loans	(500)	(6,220)	(6,720)
Gross recoveries on loans	114	1,711	1,825
Replenishment of NCLs	386	4,509	4,895
Net reserve builds (releases)	(2,075)	(5,208)	(7,283)
Net specific reserve builds (releases)	(255)	(460)	(715)
Initial allowance for credit losses on newly purchased credit-deteriorated assets during the year	—	—	—
Other	(31)	(472)	(503)
Ending balance	$ 2,415	$ 14,040	$ 16,455
ACLL			
Collectively evaluated	$ 2,203	$ 13,227	$ 15,430
Individually evaluated	212	813	1,025
Purchased credit deteriorated	—	—	—
Total ACLL	$ 2,415	$ 14,040	$ 16,455
Loans, net of unearned income			
Collectively evaluated	$ 283,610	$ 372,655	$ 656,265
Individually evaluated	1,553	3,748	5,301
Purchased credit deteriorated	—	119	119
Held at fair value	6,070	12	6,082
Total loans, net of unearned income	$ 291,233	$ 376,534	$ 667,767

Allowance for Credit Losses on Loans at December 31, 2020

In millions of dollars	Corporate	Consumer	Total
ACLL at beginning of year	$ 2,727	$ 10,056	$ 12,783
Adjustments to opening balance:			
Financial instruments—credit losses (CECL)[1]	(816)	5,017	4,201
Variable post-charge-off third-party collection costs[1]	—	(443)	(443)
Adjusted ACLL at beginning of year	1,911	14,630	16,541
Gross credit losses on loans	(976)	(8,287)	(9,263)
Gross recoveries on loans	76	1,576	1,652
Replenishment of NCLs	900	6,711	7,611
Net reserve builds (releases)	2,551	5,084	7,635
Net specific reserve builds (releases)	249	427	676
Initial allowance for credit losses on newly purchased credit-deteriorated assets during the year	—	4	4
Other	65	35	100
Ending balance	$ 4,776	$ 20,180	$ 24,956

(1) See “Accounting Changes” in Note 1 for additional details.

Allowance for Credit Losses on HTM Debt Securities

In millions of dollars	Mortgage-backed	State and municipal	Foreign government	Asset-backed	All other debt securities	Total HTM
	Year ended December 31, 2022					
Allowance for credit losses on HTM debt securities at beginning of year	**$ 6**	**$ 75**	**$ 4**	**$ 2**	**$ —**	**$ 87**
Gross credit losses	—	—	—	—	—	—
Gross recoveries	—	—	—	—	—	—
Net credit losses (NCLs)	**$ —**	**$ —**	**$ —**	**$ —**	**$ —**	**$ —**
Replenishment of NCLs	**$ —**	**$ —**	**$ —**	**$ —**	**$ —**	**$ —**
Net reserve builds (releases)	**(5)**	**37**	**—**	**1**	**—**	**33**
Net specific reserve builds (releases)	—	—	—	—	—	—
Total provision for credit losses on HTM debt securities	**$ (5)**	**$ 37**	**$ —**	**$ 1**	**$ —**	**$ 33**
Other, net	**$ —**	**$ 1**	**$ (1)**	**$ —**	**$ —**	**$ —**
Allowance for credit losses on HTM debt securities at end of year	**$ 1**	**$ 113**	**$ 3**	**$ 3**	**$ —**	**$ 120**

In millions of dollars	Mortgage-backed	State and municipal	Foreign government	Asset-backed	All other debt securities	Total HTM
	Year ended December 31, 2021					
Allowance for credit losses on HTM debt securities at beginning of year	$ 3	$ 74	$ 6	$ 3	$ —	$ 86
Gross credit losses	—	—	—	—	—	—
Gross recoveries	3	—	—	—	—	3
Net credit losses (NCLs)	$ 3	$ —	$ —	$ —	$ —	$ 3
Replenishment of NCLs	$ (3)	$ —	$ —	$ —	$ —	$ (3)
Net reserve builds (releases)	7	1	(2)	(2)	—	4
Net specific reserve builds (releases)	(4)	—	—	—	—	(4)
Total provision for credit losses on HTM debt securities	$ —	$ 1	$ (2)	$ (2)	$ —	$ (3)
Other, net	$ —	$ —	$ —	$ 1	$ —	$ 1
Allowance for credit losses on HTM debt securities at end of year	$ 6	$ 75	$ 4	$ 2	$ —	$ 87

In millions of dollars	Mortgage-backed	State and municipal	Foreign government	Asset-backed	All other debt securities	Total HTM
	Year ended December 31, 2020					
Allowance for credit losses on HTM debt securities at beginning of year	$ —	$ —	$ —	$ —	$ —	$ —
Adjustment to opening balance for CECL adoption	—	61	4	5	—	70
Gross credit losses	—	—	—	—	—	—
Gross recoveries	—	—	—	—	—	—
Net credit losses (NCLs)	$ —	$ —	$ —	$ —	$ —	$ —
Replenishment of NCLs	$ —	$ —	$ —	$ —	$ —	$ —
Net reserve builds (releases)	(2)	10	(2)	1	—	7
Net specific reserve builds (releases)	—	—	—	—	—	—
Total provision for credit losses on HTM debt securities	$ (2)	$ 10	$ (2)	$ 1	$ —	$ 7
Other, net	$ 5	$ 3	$ 4	$ (3)	$ —	$ 9
Allowance for credit losses on HTM debt securities at end of year	$ 3	$ 74	$ 6	$ 3	$ —	$ 86

Allowance for Credit Losses on Other Assets

In millions of dollars	Year ended December 31, 2022				
	Deposits with banks	**Securities borrowed and purchased under agreements to resell**	**Brokerage receivables**	**All other assets[1]**	**Total**
Allowance for credit losses on other assets at beginning of year	**$ 21**	**$ 6**	**$ —**	**$ 26**	**$ 53**
Gross credit losses	**—**	**—**	**—**	**(24)**	**(24)**
Gross recoveries	**—**	**—**	**—**	**3**	**3**
Net credit losses (NCLs)	**$ —**	**$ —**	**$ —**	**$ (21)**	**$ (21)**
Replenishment of NCLs	**$ —**	**$ —**	**$ —**	**$ 21**	**$ 21**
Net reserve builds (releases)	**30**	**14**	**—**	**11**	**55**
Total provision for credit losses	**$ 30**	**$ 14**	**$ —**	**$ 32**	**$ 76**
Other, net[2]	**$ —**	**$ 16**	**$ —**	**$ (1)**	**$ 15**
Allowance for credit losses on other assets at end of year	**$ 51**	**$ 36**	**$ —**	**$ 36**	**$ 123**

(1) Primarily accounts receivable.
(2) Includes $30 million of ACL transferred from *ICG* loans ACL during the second quarter of 2022 for securities borrowed and purchased under agreements to resell.

In millions of dollars	Year ended December 31, 2021				
	Deposits with banks	Securities borrowed and purchased under agreements to resell	Brokerage receivables	All other assets[1]	Total
Allowance for credit losses on other assets at beginning of year	$ 20	$ 10	$ —	$ 25	$ 55
Gross credit losses	—	—	—	(2)	(2)
Gross recoveries	—	—	—	—	—
Net credit losses (NCLs)	$ —	$ —	$ —	$ (2)	$ (2)
Replenishment of NCLs	$ —	$ —	$ —	$ 2	$ 2
Net reserve builds (releases)	2	(4)	—	—	(2)
Total provision for credit losses	$ 2	$ (4)	$ —	$ 2	$ —
Other, net	$ (1)	$ —	$ —	$ 1	$ —
Allowance for credit losses on other assets at end of year	$ 21	$ 6	$ —	$ 26	$ 53

(1) Primarily accounts receivable.

In millions of dollars	Year ended December 31, 2020					
	Cash and due from banks	Deposits with banks	Securities borrowed and purchased under agreements to resell	Brokerage receivables	All other assets[1]	Total
Allowance for credit losses on other assets at beginning of year	$ —	$ —	$ —	$ —	$ —	$ —
Adjustment to opening balance for CECL adoption	6	14	2	1	3	26
Gross credit losses	—	—	—	—	—	—
Gross recoveries	—	—	—	—	—	—
Net credit losses (NCLs)	$ —	$ —	$ —	$ —	$ —	$ —
Replenishment of NCLs	$ —	$ —	$ —	$ —	$ —	$ —
Net reserve builds (releases)	(6)	5	8	(1)	1	7
Total provision for credit losses	$ (6)	$ 5	$ 8	$ (1)	$ 1	$ 7
Other, net	$ —	$ 1	$ —	$ —	$ 21	$ 22
Allowance for credit losses on other assets at end of year	$ —	$ 20	$ 10	$ —	$ 25	$ 55

(1) Primarily accounts receivable.

For ACL on AFS debt securities, see Note 13.

16. GOODWILL AND INTANGIBLE ASSETS

Goodwill

The changes in *Goodwill* were as follows:

In millions of dollars	Institutional Clients Group	Personal Banking and Wealth Management	Legacy Franchises	Total
Balance at December 31, 2019	$ 9,482	$ 10,015	$ 2,629	$ 22,126
Foreign exchange translation	(1)	7	30	36
Balance at December 31, 2020	$ 9,481	$ 10,022	$ 2,659	$ 22,162
Foreign exchange translation	(266)	(296)	179	(383)
Divestitures[(1)]	—	(9)	(471)	(480)
Balance at December 31, 2021	$ 9,215	$ 9,717	$ 2,367	$ 21,299
Foreign exchange translation	(229)	24	5	(200)
Divestitures[(1)]	—	—	(873)	(873)
Impairment of goodwill[(2)]	—	—	(535)	(535)
Balance at December 31, 2022	**$ 8,986**	**$ 9,741**	**$ 964**	**$ 19,691**

(1) Represents goodwill allocated to the Asia Consumer banking exit markets upon the signing of the respective sales agreements: in 2021, related to the Australia and Philippines consumer banking businesses, which were reclassified as HFS during 2021; in 2022, related to the India, Taiwan, Thailand, Malaysia, Indonesia, Bahrain and Vietnam consumer banking businesses, which were reclassified as HFS during 2022. See Note 2.

(2) Goodwill impairment of $535 million (approximately $489 million after-tax) was incurred in the Asia Consumer reporting unit of *Legacy Franchises* in the first quarter of 2022, due to the re-segmentation and change of reporting units as well as the sequence of the signing of sale agreements.

As discussed in Note 3, effective January 1, 2022, as part of its strategic refresh, Citi made changes to its management structure, which resulted in changes in its operating segments and reporting units to reflect how the CEO, who is the chief operating decision maker, manages the Company, including allocating resources and measuring performance. Goodwill balances were reallocated across the new reporting units based on their relative fair values using the valuation performed as of the effective date of the reorganization. Further, the goodwill balances associated with certain Asia Consumer businesses within the *Legacy Franchises* operating segment were reclassified to HFS as of March 31, 2022 upon the signing of the respective sale agreements. See Note 2 for a discussion of Citi's divestiture activities.

The reorganization of Citi's reporting structure and the announced sales of businesses within a reporting unit were identified as triggering events for purposes of goodwill impairment testing. Consistent with the requirements of ASC 350, interim goodwill impairment tests were performed that resulted in an impairment of $535 million to the Asia Consumer reporting unit within the *Legacy Franchises* operating segment, due to the implementation of Citi's revised operating segments and reporting units, as well as the timing of mutual execution of sale agreements for Asia consumer banking businesses. This impairment was recorded in the first quarter of 2022 as an operating expense. There were no additional impairment charges incurred as a result of any of the other interim goodwill impairment tests performed during 2022.

For the interim impairment tests performed in the first quarter of 2022, the valuation of reporting units used either the market approach, income approach, or a combination of both. Under the market approach, Citi estimated fair value by comparing the business to similar businesses or guideline companies whose securities are actively traded in public markets. Under the income approach, Citi used a discounted cash flow (DCF) model in which cash flows anticipated over several periods, plus a terminal value at the end of that time horizon, are discounted to their present value using an appropriate rate that is commensurate with the risk inherent within the reporting unit.

The key assumptions used to determine the fair value of Citi's reporting units consisted primarily of significant unobservable inputs (Level 3 fair value inputs), including discount rates, estimated cash flows, growth rates, earnings multiples and/or transaction multiples of similar businesses or guideline public companies, and bids from buyers. The DCF method employs a capital asset pricing model in estimating the discount rate based on several factors, including market interest rates, and includes adjustments for market risk and company-specific risk. Estimated cash flows are based on internally developed estimates and the growth rates are based on industry knowledge and historical performance.

Citi had historically performed its annual goodwill impairment test as of July 1 each year. During the quarter ended September 30, 2022, the Company voluntarily changed its annual impairment assessment date from July 1 to October 1. Based on interim impairment tests performed within the period between the previous annual test on July 1, 2021 and the annual test to be performed on October 1, 2022, no more than 12 months have elapsed between goodwill impairment tests of any of Citi's reporting units. The change in measurement date represents a change in method of applying an accounting principle. This change is preferable because it better aligns the Company's goodwill impairment testing procedures with its annual planning process and with its fiscal year-end. Citi continues to monitor each reporting unit for triggering events for purposes of goodwill impairment testing.

The change in accounting principle did not result in any delay, acceleration or avoidance of an impairment charge.

Citi performed its annual goodwill impairment test as of October 1, 2022, which resulted in no impairment of any of Citi's reporting units. While the inherent risk of uncertainty is embedded in the key assumptions used in the valuations, the economic and business environments continue to evolve as management implements its strategic refresh. If management's future estimate of key economic and market assumptions were to differ from its current assumptions, Citi could potentially experience material goodwill impairment charges in the future.

For additional information regarding Citi's goodwill impairment testing process, see the following Notes to the Consolidated Financial Statements: Note 1 for Citi's accounting policy for goodwill and Note 3 for a description of Citi's operating segments.

Intangible Assets

The components of intangible assets were as follows:

In millions of dollars	December 31, 2022 Gross carrying amount	December 31, 2022 Accumulated amortization	December 31, 2022 Net carrying amount	December 31, 2021 Gross carrying amount	December 31, 2021 Accumulated amortization	December 31, 2021 Net carrying amount
Purchased credit card relationships	**$ 5,513**	**$ 4,426**	**$ 1,087**	$ 5,579	$ 4,348	$ 1,231
Credit card contract-related intangibles[1]	**3,903**	**1,518**	**2,385**	3,912	1,372	2,540
Core deposit intangibles	**37**	**37**	**—**	39	39	—
Other customer relationships	**373**	**283**	**90**	429	305	124
Present value of future profits	**32**	**31**	**1**	31	29	2
Indefinite-lived intangible assets	**192**	**—**	**192**	183	—	183
Other	**28**	**20**	**8**	37	26	11
Intangible assets (excluding MSRs)	**$ 10,078**	**$ 6,315**	**$ 3,763**	$ 10,210	$ 6,119	$ 4,091
Mortgage servicing rights (MSRs)[2]	**665**	**—**	**665**	404	—	404
Total intangible assets	**$ 10,743**	**$ 6,315**	**$ 4,428**	$ 10,614	$ 6,119	$ 4,495

(1) Primarily reflects contract-related intangibles associated with the American Airlines, The Home Depot, Costco and AT&T credit card program agreements, which represented 97% of the aggregate net carrying amount as of December 31, 2022.

(2) See Note 22 for additional information on Citi's MSRs.

Intangible assets amortization expense was $352 million, $360 million and $419 million for 2022, 2021 and 2020, respectively. Intangible assets amortization expense is estimated to be $373 million in 2023, $381 million in 2024, $388 million in 2025, $348 million in 2026 and $341 million in 2027.

The changes in intangible assets were as follows:

In millions of dollars	Net carrying amount at December 31, 2021	**Acquisitions/ renewals/ divestitures**	**Amortization**	**Impairments**	**FX translation and other**	**Net carrying amount at December 31, 2022**
Purchased credit card relationships[1]	$ 1,231	**$ 3**	**$ (140)**	**$ —**	**$ (7)**	**$ 1,087**
Credit card contract-related intangibles[2]	2,540	**—**	**(154)**	**—**	**(1)**	**2,385**
Core deposit intangibles	—	**—**	**—**	**—**	**—**	**—**
Other customer relationships	124	**10**	**(24)**	**—**	**(20)**	**90**
Present value of future profits	2	**—**	**(1)**	**—**	**—**	**1**
Indefinite-lived intangible assets	183	**—**	**—**	**—**	**9**	**192**
Other	11	**33**	**(33)**	**—**	**(3)**	**8**
Intangible assets (excluding MSRs)	$ 4,091	**$ 46**	**$ (352)**	**$ —**	**$ (22)**	**$ 3,763**
Mortgage servicing rights (MSRs)[3]	404					**665**
Total intangible assets	$ 4,495					**$ 4,428**

(1) Reflects intangibles for the value of purchased cardholder relationships, which are discrete from partner contract-related intangibles, and includes credit card accounts primarily in the Costco, Macy's and Sears portfolios.

(2) Primarily reflects contract-related intangibles associated with the extension or renewal of existing credit card program agreements with American Airlines, The Home Depot, Costco and AT&T, which represent 97% and 97% of the aggregate net carrying amount at December 31, 2022 and 2021, respectively.

(3) See Note 22 for additional information on Citi's MSRs, including the rollforward from 2021 to 2022.

17. DEPOSITS

In millions of dollars	December 31, 2022	2021
Non-interest-bearing deposits in U.S. offices	**$ 122,655**	$ 158,552
Interest-bearing deposits in U.S. offices (including $903 and $879 as of December 31, 2022 and 2021, respectively, at fair value)	**607,470**	543,283
Total deposits in U.S. offices	**$ 730,125**	$ 701,835
Non-interest-bearing deposits in offices outside the U.S.	**$ 95,182**	$ 97,270
Interest-bearing deposits in offices outside the U.S. (including $972 and $787 as of December 31, 2022 and 2021, respectively, at fair value)	**540,647**	518,125
Total deposits in offices outside the U.S.	**$ 635,829**	$ 615,395
Total deposits	**$ 1,365,954**	$ 1,317,230

At December 31, 2022 and 2021, time deposits in denominations that met or exceeded the insured limit were as follows:

In millions of dollars	December 31, 2022	2021
U.S. offices[(1)]	**$ 63,420**	$ 9,153
Offices outside the U.S.[(2)]	**150,921**	77,698
Total	**$ 214,341**	$ 86,851

(1) Represents time deposits in U.S. offices in denominations that met or exceeded $250,000.
(2) Represents all time deposits outside U.S. offices as these deposits typically exceed the insured limit.

At December 31, 2022, the maturities of time deposits were as follows:

In millions of dollars	U.S.	Outside U.S.	Total
2023	**$ 84,321**	**$ 149,604**	**$ 233,925**
2024	**5,751**	**1,018**	**6,769**
2025	**300**	**264**	**564**
2026	**386**	**26**	**412**
2027	**122**	**6**	**128**
After 5 years	**439**	**3**	**442**
Total	**$ 91,319**	**$ 150,921**	**$ 242,240**

18. DEBT

Short-Term Borrowings

	December 31,			
	2022		2021	
In millions of dollars	**Balance**	**Weighted average coupon**	Balance	Weighted average coupon
Commercial paper				
Bank[1]	**$11,185**		$ 9,026	
Broker-dealer and other[2]	**14,345**		6,992	
Total commercial paper	**$25,530**	**4.29 %**	$16,018	0.22 %
Other borrowings[3]	**21,566**	**4.23**	11,955	0.91
Total	**$47,096**		$27,973	

(1) Represents Citibank entities as well as other bank entities.
(2) Represents broker-dealer and other non-bank subsidiaries that are consolidated into Citigroup Inc., the parent holding company.
(3) Includes borrowings from Federal Home Loan Banks and other market participants. At December 31, 2022 and 2021, collateralized short-term advances from Federal Home Loan Banks were $12.0 billion and $0.0 billion, respectively.

Some of Citigroup's non-bank subsidiaries have credit facilities with Citigroup's subsidiary depository institutions, including Citibank. Borrowings under these facilities are secured in accordance with Section 23A of the Federal Reserve Act.

Citigroup Global Markets Holdings Inc. (CGMHI) has borrowing agreements consisting of facilities that CGMHI has been advised are available, but where no contractual lending obligation exists. These arrangements are reviewed on an ongoing basis to ensure flexibility in meeting CGMHI's short-term requirements.

Long-Term Debt

			Balances at December 31,	
In millions of dollars	**Weighted average coupon[1]**	**Maturities**	**2022**	2021
Citigroup Inc.[2]				
Senior debt	3.38 %	2023–2098	**$ 141,893**	$ 137,651
Subordinated debt[3]	4.77	2023–2046	**22,758**	25,560
Trust preferred securities	10.53	2036–2040	**1,606**	1,734
Bank[4]				
Senior debt	3.98	2023–2039	**21,113**	23,567
Broker-dealer[5]				
Senior debt	3.95	2023–2070	**84,236**	65,862
Total	3.72 %		**$ 271,606**	$ 254,374
Senior debt			**$ 247,242**	$ 227,080
Subordinated debt[3]			**22,758**	25,560
Trust preferred securities			**1,606**	1,734
Total			**$ 271,606**	$ 254,374

(1) The weighted average coupon excludes structured notes accounted for at fair value.
(2) Represents the parent holding company.
(3) Includes notes that are subordinated within certain countries, regions or subsidiaries.
(4) Represents Citibank entities as well as other bank entities. At December 31, 2022 and 2021, collateralized long-term advances from Federal Home Loan Banks were $7.3 billion and $5.3 billion, respectively.
(5) Represents broker-dealer and other non-bank subsidiaries that are consolidated into Citigroup Inc., the parent holding company. Certain Citigroup consolidated hedging activities are also included in this line. Balances primarily relates to senior debt.

The Company issues both fixed- and variable-rate debt in a range of currencies. It uses derivative contracts, primarily interest rate swaps, to effectively convert a portion of its fixed-rate debt to variable-rate debt. The maturity structure of the derivatives generally corresponds to the maturity structure of the debt being hedged. In addition, the Company uses other derivative contracts to manage the foreign exchange impact of certain debt issuances. At December 31, 2022, the Company's overall weighted average interest rate for long-term debt, excluding structured notes accounted for at fair value, was 3.72% on a contractual basis and 4.10% including the effects of derivative contracts.

Aggregate annual maturities of long-term debt obligations (based on final maturity dates) including trust preferred securities are as follows:

In millions of dollars	2023	2024	2025	2026	2027	Thereafter	Total
Citigroup Inc.	$ 6,887	$ 12,321	$ 19,124	$ 27,913	$ 12,601	$ 87,411	$ 166,257
Bank	7,029	8,152	1,867	197	788	3,080	21,113
Broker-dealer	18,543	20,043	11,758	4,680	7,383	21,829	84,236
Total	$ 32,459	$ 40,516	$ 32,749	$ 32,790	$ 20,772	$ 112,320	$ 271,606

The following table summarizes Citi's outstanding trust preferred securities at December 31, 2022:

						Junior subordinated debentures owned by trust		
Trust	**Issuance date**	**Securities issued**	**Liquidation value[1]**	**Coupon rate[2]**	**Common shares issued to parent**	**Notional amount**	**Maturity**	**Redeemable by issuer beginning**
In millions of dollars, except securities and share amounts								
Citigroup Capital III	Dec. 1996	194,053	$ 194	7.625 %	6,003	$ 200	Dec. 1, 2036	Not redeemable
Citigroup Capital XIII	Oct. 2010	89,840,000	2,246	3 mo LIBOR + 637 bps	1,000	2,246	Oct. 30, 2040	Oct. 30, 2015
Total obligated			**$ 2,440**			**$ 2,446**		

Note: Distributions on the trust preferred securities and interest on the subordinated debentures are payable semiannually for Citigroup Capital III and quarterly for Citigroup Capital XIII.

(1) Represents the notional value received by outside investors from the trusts at the time of issuance. This differs from Citi's balance sheet carrying value due primarily to unamortized discount and issuance costs.

(2) In each case, the coupon rate on the subordinated debentures is the same as that on the trust preferred securities.

19. REGULATORY CAPITAL

Citigroup is subject to risk-based capital and leverage standards issued by the Federal Reserve Board, which constitute the U.S. Basel III rules. Citi's U.S.-insured depository institution subsidiaries, including Citibank, are subject to similar standards issued by their respective primary bank regulatory agencies. These standards are used to evaluate capital adequacy and include the required minimums shown in the following table. The regulatory agencies are required by law to take specific, prompt corrective actions with respect to institutions that do not meet minimum capital standards.

The following table presents for Citigroup and Citibank the regulatory capital tiers, total risk-weighted assets, quarterly adjusted average total assets, Total Leverage Exposure, risk-based capital ratios and leverage ratios:

		Citigroup			Citibank		
In millions of dollars, except ratios	**Stated minimum**	**Well-capitalized minimum**	**December 31, 2022**	December 31, 2021	**Well-capitalized minimum**	**December 31, 2022**	December 31, 2021
CET1 Capital			**$ 148,930**	$ 149,305		**$ 149,593**	$ 148,548
Tier 1 Capital			**169,145**	169,568		**151,720**	150,679
Total Capital (Tier 1 Capital + Tier 2 Capital)—Standardized Approach			**197,543**	203,838		**172,647**	175,427
Total Capital (Tier 1 Capital + Tier 2 Capital)—Advanced Approaches			**188,839**	194,006		**165,131**	166,921
Total risk-weighted assets—Standardized Approach			**1,142,985**	1,219,175		**982,914**	1,066,015
Total risk-weighted assets—Advanced Approaches			**1,221,538**	1,209,374		**1,003,747**	1,017,774
Quarterly adjusted average total assets[1]			**2,395,863**	2,351,434		**1,738,744**	1,716,596
Total Leverage Exposure[2]			**2,906,773**	2,957,764		**2,189,541**	2,236,839
CET1 Capital ratio[3]	**4.5 %**	**N/A**	**13.03 %**	12.25 %	**6.5 %**	**14.90 %**	13.93 %
Tier 1 Capital ratio[3]	**6.0**	**6.0 %**	**14.80**	13.91	**8.0**	**15.12**	14.13
Total Capital ratio[3]	**8.0**	**10.0**	**15.46**	16.04	**10.0**	**16.45**	16.40
Tier 1 Leverage ratio	**4.0**	**N/A**	**7.06**	7.21	**5.0**	**8.73**	8.78
Supplementary Leverage ratio	**3.0**	**N/A**	**5.82**	5.73	**6.0**	**6.93**	6.74

(1) Tier 1 Leverage ratio denominator.
(2) Supplementary Leverage ratio denominator.
(3) Citi's binding CET1 Capital and Tier 1 Capital ratios were derived under the Basel III Standardized Approach as of December 31, 2022 and 2021, whereas Citi's binding Total Capital ratio was derived under the Basel III Advanced Approaches framework for both periods presented. Citibank's binding CET1 Capital and Tier 1 Capital ratios were derived under the Basel III Advanced Approaches framework as of December 31, 2022, and were derived under the Basel III Standardized Approach as of December 31, 2021. Citibank's binding Total Capital ratio was derived under the Basel III Advanced Approaches framework for both periods presented.

N/A Not applicable

As indicated in the table above, Citigroup and Citibank were "well capitalized" under the current federal bank regulatory agencies definitions as of December 31, 2022 and 2021.

Banking Subsidiaries—Constraints on Dividends

There are various legal limitations on the ability of Citigroup's subsidiary depository institutions to extend credit, pay dividends or otherwise supply funds to Citigroup and its non-bank subsidiaries. The approval of the Office of the Comptroller of the Currency is required if total dividends declared in any calendar year were to exceed amounts specified by the agency's regulations.

In determining the dividends, each subsidiary depository institution must also consider its effect on applicable risk-based capital and leverage ratio requirements, as well as policy statements of the federal bank regulatory agencies that indicate that banking organizations should generally pay dividends out of current operating earnings. Citigroup received $8.5 billion and $6.2 billion in dividends indirectly from Citibank through its holding company during 2022 and 2021, respectively.

20. CHANGES IN ACCUMULATED OTHER COMPREHENSIVE INCOME (LOSS) (AOCI)

Changes in each component of Citigroup's *Accumulated other comprehensive income (loss)* were as follows:

In millions of dollars	Net unrealized gains (losses) on debt securities	Debt valuation adjustment (DVA)[1]	Cash flow hedges[2]	Benefit plans[3]	CTA, net of hedges[4][5]	Excluded component of fair value hedges	Accumulated other comprehensive income (loss)
Balance, December 31, 2019	$ (265)	$ (944)	$ 123	$ (6,809)	$ (28,391)	$ (32)	$ (36,318)
Other comprehensive income before reclassifications	4,837	(490)	2,027	(287)	(250)	(15)	5,822
Increase (decrease) due to amounts reclassified from *AOCI*	(1,252)	15	(557)	232	—	—	(1,562)
Change, net of taxes	$ 3,585	$ (475)	$ 1,470	$ (55)	$ (250)	$ (15)	$ 4,260
Balance, December 31, 2020	$ 3,320	$ (1,419)	$ 1,593	$ (6,864)	$ (28,641)	$ (47)	$ (32,058)
Other comprehensive income before reclassifications	(3,556)	121	(679)	797	(2,537)	(11)	(5,865)
Increase (decrease) due to amounts reclassified from *AOCI*	(378)	111	(813)	215	12	11	(842)
Change, net of taxes	$ (3,934)	$ 232	$ (1,492)	$ 1,012	$ (2,525)	$ —	$ (6,707)
Balance, December 31, 2021	$ (614)	$ (1,187)	$ 101	$ (5,852)	$ (31,166)	$ (47)	$ (38,765)
Other comprehensive income before reclassifications	**(5,599)**	**2,047**	**(2,718)**	**(19)**	**(2,855)**	**49**	**(9,095)**
Increase (decrease) due to amounts reclassified from *AOCI*	**215**	**(18)**	**95**	**116**	**384**	**6**	**798**
Change, net of taxes	**$ (5,384)**	**$ 2,029**	**$ (2,623)**	**$ 97**	**$ (2,471)**	**$ 55**	**$ (8,297)**
Balance, December 31, 2022	**$ (5,998)**	**$ 842**	**$ (2,522)**	**$ (5,755)**	**$ (33,637)**	**$ 8**	**$ (47,062)**

(1) Reflects the after-tax valuation of Citi's fair value option liabilities. See "Market Valuation Adjustments" in Note 25.

(2) Primarily driven by Citi's pay floating/receive fixed interest rate swap programs that hedge certain floating rates on assets.

(3) Primarily reflects adjustments based on the quarterly actuarial valuations of the Company's significant pension and postretirement plans, annual actuarial valuations of all other plans and amortization of amounts previously recognized in other comprehensive income.

(4) Primarily reflects the movements in (by order of impact) the Indian rupee, South Korean won, Euro, Chinese yuan, Russian ruble, Japanese yen and British pound sterling against the U.S. dollar and changes in related tax effects and hedges for the year ended December 31, 2022. Primarily reflects the movements in (by order of impact) the Mexican peso, Euro, South Korean won, Chilean peso and Japanese yen against the U.S. dollar and changes in related tax effects and hedges for the year ended December 31, 2021. Primarily reflects the movements in (by order of impact) the Mexican peso, Brazilian real, South Korean won and Euro against the U.S. dollar and changes in related tax effects and hedges for the year ended December 31, 2020. Amounts recorded in the CTA component of *AOCI* remain in *AOCI* until the sale or substantial liquidation of the foreign entity, at which point such amounts related to the foreign entity are reclassified into earnings.

(5) December 31, 2022 reflects a reduction from an approximate $470 million (after-tax) ($620 million pretax) CTA loss (net of hedges) recorded in June 2022, associated with the closing of Citi's sale of its consumer banking business in Australia (see Note 2). The reduction from *AOCI* had a neutral impact on Citi's CET1 Capital.

The pretax and after-tax changes in each component of *Accumulated other comprehensive income (loss)* were as follows:

In millions of dollars	Pretax	Tax effect[(1)]	After-tax
Balance, December 31, 2019	$ (42,772)	$ 6,454	$ (36,318)
Change in net unrealized gains (losses) on debt securities	4,799	(1,214)	3,585
Debt valuation adjustment (DVA)	(616)	141	(475)
Cash flow hedges	1,925	(455)	1,470
Benefit plans	(78)	23	(55)
CTA	(227)	(23)	(250)
Excluded component of fair value hedges	(23)	8	(15)
Change	$ 5,780	$ (1,520)	$ 4,260
Balance, December 31, 2020	$ (36,992)	$ 4,934	$ (32,058)
Change in net unrealized gains (losses) on debt securities	(5,301)	1,367	(3,934)
Debt valuation adjustment (DVA)	296	(64)	232
Cash flow hedges	(1,969)	477	(1,492)
Benefit plans	1,252	(240)	1,012
CTA	(2,671)	146	(2,525)
Excluded component of fair value hedges	2	(2)	—
Change	$ (8,391)	$ 1,684	$ (6,707)
Balance, December 31, 2021	$ (45,383)	$ 6,618	$ (38,765)
Change in net unrealized gains (losses) on debt securities	**(7,178)**	**1,794**	**(5,384)**
Debt valuation adjustment (DVA)	**2,685**	**(656)**	**2,029**
Cash flow hedges	**(3,477)**	**854**	**(2,623)**
Benefit plans	**31**	**66**	**97**
CTA	**(2,004)**	**(467)**	**(2,471)**
Excluded component of fair value hedges	**73**	**(18)**	**55**
Change	**$ (9,870)**	**$ 1,573**	**$ (8,297)**
Balance, December 31, 2022	**$ (55,253)**	**$ 8,191**	**$ (47,062)**

(1) Income tax effects of these items are released from *AOCI* contemporaneously with the related gross pretax amount.

The Company recognized pretax (gains) losses related to amounts in *AOCI* reclassified to the Consolidated Statement of Income as follows:

	Increase (decrease) in AOCI due to amounts reclassified to Consolidated Statement of Income		
	Year ended December 31,		
In millions of dollars	**2022**	2021	2020
Realized (gains) losses on sales of investments	**$ (67)**	$ (665)	$ (1,756)
Gross impairment losses	**360**	181	109
Subtotal, pretax	**$ 293**	$ (484)	$ (1,647)
Tax effect	**(78)**	106	395
Net realized (gains) losses on investments, after-tax[1]	**$ 215**	$ (378)	$ (1,252)
Realized DVA (gains) losses on fair value option liabilities, pretax	**$ (25)**	$ 144	$ 20
Tax effect	**7**	(33)	(5)
Net realized DVA, after-tax	**$ (18)**	$ 111	$ 15
Interest rate contracts	**$ 125**	$ (1,075)	$ (734)
Foreign exchange contracts	**4**	4	4
Subtotal, pretax	**$ 129**	$ (1,071)	$ (730)
Tax effect	**(34)**	258	173
Amortization of cash flow hedges, after-tax[2]	**$ 95**	$ (813)	$ (557)
Amortization of unrecognized:			
Prior service cost (benefit)	**$ (23)**	$ (23)	$ (5)
Net actuarial loss	**221**	302	322
Curtailment/settlement impact[3]	**(37)**	11	(8)
Subtotal, pretax	**$ 161**	$ 290	$ 309
Tax effect	**(45)**	(75)	(77)
Amortization of benefit plans, after-tax[3]	**$ 116**	$ 215	$ 232
Excluded component of fair value hedges, pretax	**$ 9**	$ 15	$ —
Tax effect	**(3)**	(4)	—
Excluded component of fair value hedges, after-tax	**$ 6**	$ 11	$ —
CTA, pretax	**$ 438**	$ 19	$ —
Tax effect	**(54)**	(7)	—
CTA, after-tax[4]	**$ 384**	$ 12	$ —
Total amounts reclassified out of *AOCI*, pretax	**$ 1,005**	$ (1,087)	$ (2,048)
Total tax effect	**(207)**	245	486
Total amounts reclassified out of *AOCI*, after-tax	**$ 798**	$ (842)	$ (1,562)

(1) The pretax amount is reclassified to *Realized gains (losses) on sales of investments, net* and *Gross impairment losses* in the Consolidated Statement of Income. See Note 13 for additional details.
(2) See Note 23 for additional details.
(3) See Note 8 for additional details.
(4) The pretax amount is reclassified to *Discontinued operations* and *Other revenue* in the Consolidated Statement of Income, and results primarily from the substantial liquidation of a legacy U.K. consumer operation and divestitures of certain legacy foreign operations. See Note 2 for additional details.

21. PREFERRED STOCK

The following table summarizes the Company's preferred stock outstanding:

	Issuance date	Redeemable by issuer beginning	Dividend rate	Redemption price per depositary share/ preference share	Number of depositary shares	Carrying value (in millions of dollars) December 31, 2022	Carrying value (in millions of dollars) December 31, 2021
Series A[(1)]	October 29, 2012	January 30, 2023	5.950 %	$ 1,000	1,500,000	**$ 1,500**	$ 1,500
Series B[(2)]	December 13, 2012	February 15, 2023	5.900	1,000	750,000	**750**	750
Series D[(3)]	April 30, 2013	May 15, 2023	5.350	1,000	1,250,000	**1,250**	1,250
Series J[(4)]	September 19, 2013	September 30, 2023	7.125	25	38,000,000	**950**	950
Series K[(5)]	October 31, 2013	November 15, 2023	6.875	25	59,800,000	**1,495**	1,495
Series M[(6)]	April 30, 2014	May 15, 2024	6.300	1,000	1,750,000	**1,750**	1,750
Series P[(7)]	April 24, 2015	May 15, 2025	5.950	1,000	2,000,000	**2,000**	2,000
Series T[(8)]	April 25, 2016	August 15, 2026	6.250	1,000	1,500,000	**1,500**	1,500
Series U[(9)]	September 12, 2019	September 12, 2024	5.000	1,000	1,500,000	**1,500**	1,500
Series V[(10)]	January 23, 2020	January 30, 2025	4.700	1,000	1,500,000	**1,500**	1,500
Series W[(11)]	December 10, 2020	December 10, 2025	4.000	1,000	1,500,000	**1,500**	1,500
Series X[(12)]	February 18, 2021	February 18, 2026	3.875	1,000	2,300,000	**2,300**	2,300
Series Y[(13)]	October 20, 2021	October 20, 2026	4.150	1,000	1,000,000	**1,000**	1,000
						$ 18,995	$ 18,995

(1) Issued as depositary shares, each representing a 1/25th interest in a share of the corresponding series of non-cumulative perpetual preferred stock. Dividends are payable semiannually on January 30 and July 30 at a fixed rate until, but excluding, January 30, 2023, thereafter payable quarterly on January 30, April 30, July 30 and October 30 at a floating rate, in each case when, as and if declared by the Citi Board of Directors.

(2) Issued as depositary shares, each representing a 1/25th interest in a share of the corresponding series of non-cumulative perpetual preferred stock. Dividends are payable semiannually on February 15 and August 15 at a fixed rate until, but excluding, February 15, 2023, thereafter payable quarterly on February 15, May 15, August 15 and November 15 at a floating rate, in each case when, as and if declared by the Citi Board of Directors.

(3) Issued as depositary shares, each representing a 1/25th interest in a share of the corresponding series of non-cumulative perpetual preferred stock. Dividends are payable semiannually on May 15 and November 15 at a fixed rate until, but excluding, May 15, 2023, thereafter payable quarterly on February 15, May 15, August 15 and November 15 at a floating rate, in each case when, as and if declared by the Citi Board of Directors.

(4) Issued as depositary shares, each representing a 1/1,000th interest in a share of the corresponding series of non-cumulative perpetual preferred stock. Dividends are payable quarterly on March 30, June 30, September 30 and December 30 at a fixed rate until, but excluding, September 30, 2023, thereafter payable quarterly on the same dates at a floating rate, in each case when, as and if declared by the Citi Board of Directors.

(5) Issued as depositary shares, each representing a 1/1,000th interest in a share of the corresponding series of non-cumulative perpetual preferred stock. Dividends are payable quarterly on February 15, May 15, August 15 and November 15 at a fixed rate until, but excluding, November 15, 2023, thereafter payable quarterly on the same dates at a floating rate, in each case when, as and if declared by the Citi Board of Directors.

(6) Issued as depositary shares, each representing a 1/25th interest in a share of the corresponding series of non-cumulative perpetual preferred stock. Dividends are payable semiannually on May 15 and November 15 at a fixed rate until, but excluding, May 15, 2024, thereafter payable quarterly on February 15, May 15, August 15 and November 15 at a floating rate, in each case when, as and if declared by the Citi Board of Directors.

(7) Issued as depositary shares, each representing a 1/25th interest in a share of the corresponding series of non-cumulative perpetual preferred stock. Dividends are payable semiannually on May 15 and November 15 at a fixed rate until, but excluding, May 15, 2025, and thereafter payable quarterly on February 15, May 15, August 15 and November 15 at a floating rate, in each case when, as and if declared by the Citi Board of Directors.

(8) Issued as depositary shares, each representing a 1/25th interest in a share of the corresponding series of non-cumulative perpetual preferred stock. Dividends are payable semiannually on February 15 and August 15 at a fixed rate until, but excluding, August 15, 2026, thereafter payable quarterly on February 15, May 15, August 15 and November 15 at a floating rate, in each case when, as and if declared by the Citi Board of Directors.

(9) Issued as depositary shares, each representing a 1/25th interest in a share of the corresponding series of non-cumulative perpetual preferred stock. Dividends are payable semiannually on March 12 and September 12 at a fixed rate until, but excluding, September 12, 2024, thereafter payable quarterly on March 12, June 12, September 12 and December 12 at a floating rate, in each case when, as and if declared by the Citi Board of Directors.

(10) Issued as depositary shares, each representing a 1/25th interest in a share of the corresponding series of non-cumulative perpetual preferred stock. Dividends are payable semiannually on January 30 and July 30 at a fixed rate until, but excluding, January 30, 2025, thereafter payable quarterly on January 30, April 30, July 30 and October 30 at a floating rate, in each case when, as and if declared by the Citi Board of Directors.

(11) Issued as depositary shares, each representing a 1/25th interest in a share of the corresponding series of non-cumulative perpetual preferred stock. Dividends are payable quarterly on March 10, June 10, September 10 and December 10 at a fixed rate until, but excluding, December 10, 2025, thereafter payable quarterly on the same dates at a floating rate, in each case when, as and if declared by the Citi Board of Directors.

(12) Issued as depositary shares, each representing a 1/25th interest in a share of the corresponding series of non-cumulative perpetual preferred stock. Dividends are payable quarterly on February 18, May 18, August 18 and November 18 at a fixed rate until, but excluding, February 18, 2026, thereafter payable quarterly on the same dates at a floating rate, in each case when, as and if declared by the Citi Board of Directors.

(13) Issued as depositary shares, each representing a 1/25th interest in a share of the corresponding series of non-cumulative perpetual preferred stock. Dividends are payable quarterly on February 15, May 15, August 15 and November 15 at a fixed rate until, but excluding, November 15, 2026, thereafter payable quarterly on the same dates at a floating rate, in each case when, as and if declared by the Citi Board of Directors.

22. SECURITIZATIONS AND VARIABLE INTEREST ENTITIES

Uses of Special Purpose Entities

A special purpose entity (SPE) is an entity designed to fulfill a specific limited need of the company that organized it. The principal uses of SPEs by Citi are to assist clients in securitizing their financial assets and create investment products for clients and to obtain liquidity and optimize capital efficiency by securitizing certain of Citi's financial assets. SPEs may be organized in various legal forms, including trusts, partnerships or corporations. In a securitization, through the SPE's issuance of debt and equity instruments, certificates, commercial paper or other notes of indebtedness, the company transferring assets to the SPE converts all (or a portion) of those assets into cash before they would have been realized in the normal course of business. These issuances are recorded on the balance sheet of the SPE, which may or may not be consolidated onto the balance sheet of the company that organized the SPE.

Investors usually have recourse only to the assets in the SPE, but may also benefit from other credit enhancements, such as a collateral account, a line of credit or a liquidity facility, such as a liquidity put option or asset purchase agreement. Because of these enhancements, the SPE issuances typically obtain a more favorable credit rating than the transferor could obtain for its own debt issuances. This results in less expensive financing costs than unsecured debt. The SPE may also enter into derivative contracts in order to convert the yield or currency of the underlying assets to match the needs of the SPE investors or to limit or change the credit risk of the SPE. Citigroup may be the provider of certain credit enhancements as well as the counterparty to any related derivative contracts.

Most of Citigroup's SPEs are variable interest entities (VIEs).

Variable Interest Entities

VIEs are described in Note 1. Investors that finance the VIE through debt or equity interests or other counterparties providing other forms of support, such as guarantees, certain fee arrangements or certain types of derivative contracts, are variable interest holders in the entity.

The variable interest holder, if any, that has a controlling financial interest in a VIE is deemed to be the primary beneficiary and must consolidate the VIE.

The Company must evaluate each VIE to understand the purpose and design of the entity, the role the Company had in the entity's design and its involvement in the VIE's ongoing activities. The Company then must evaluate which activities most significantly impact the economic performance of the VIE and who has the power to direct such activities.

For those VIEs where the Company determines that it has the power to direct the activities that most significantly impact the VIE's economic performance, the Company must then evaluate its economic interests, if any, and determine whether it could absorb losses or receive benefits that could potentially be significant to the VIE. When evaluating whether the Company has an obligation to absorb losses that could potentially be significant, it considers the maximum exposure to such loss without consideration of probability. Such obligations could be in various forms, including, but not limited to, debt and equity investments, guarantees, liquidity agreements and certain derivative contracts.

In various other transactions, the Company may (i) act as a derivative counterparty (e.g., interest rate swap, cross-currency swap or purchaser of credit protection under a credit default swap or total return swap where the Company pays the total return on certain assets to the SPE), (ii) act as underwriter or placement agent, (iii) provide administrative, trustee or other services or (iv) make a market in debt securities or other instruments issued by VIEs. The Company generally considers such involvement, by itself, not to be variable interests and thus not an indicator of power or potentially significant benefits or losses.

Citigroup's involvement with consolidated and unconsolidated VIEs with which the Company holds significant variable interests or has continuing involvement through servicing a majority of the assets in a VIE is presented below:

	As of December 31, 2022							
				Maximum exposure to loss in significant unconsolidated VIEs[1]				
				Funded exposures[2]		Unfunded exposures		
In millions of dollars	Total involvement with SPE assets	Consolidated VIE/SPE assets	Significant unconsolidated VIE assets[3]	Debt investments	Equity investments	Funding commitments	Guarantees and derivatives	Total
Credit card securitizations	$ 32,021	$ 32,021	$ —	$ —	$ —	$ —	$ —	$ —
Mortgage securitizations[4]								
U.S. agency-sponsored	117,358	—	117,358	2,052	—	—	48	2,100
Non-agency-sponsored	67,704	—	67,704	3,294	—	—	—	3,294
Citi-administered asset-backed commercial paper conduits	19,621	19,621	—	—	—	—	—	—
Collateralized loan obligations (CLOs)	7,600	—	7,600	2,601	—	—	—	2,601
Asset-based financing[5]	242,348	9,672	232,676	40,121	1,022	10,726	—	51,869
Municipal securities tender option bond trusts (TOBs)	2,155	672	1,483	2	—	1,108	—	1,110
Municipal investments	22,167	3	22,164	2,731	3,143	3,420	—	9,294
Client intermediation	482	121	361	58	—	—	13	71
Investment funds	534	91	443	2	5	68	—	75
Other	—	—	—	—	—	—	—	—
Total	$ 511,990	$ 62,201	$ 449,789	$ 50,861	$ 4,170	$ 15,322	$ 61	$ 70,414

	As of December 31, 2021							
				Maximum exposure to loss in significant unconsolidated VIEs[1]				
				Funded exposures[2]		Unfunded exposures		
In millions of dollars	Total involvement with SPE assets	Consolidated VIE/SPE assets	Significant unconsolidated VIE assets[3]	Debt investments	Equity investments	Funding commitments	Guarantees and derivatives	Total
Credit card securitizations	$ 31,518	$ 31,518	$ —	$ —	$ —	$ —	$ —	$ —
Mortgage securitizations[4]								
U.S. agency-sponsored	113,641	—	113,641	1,582	—	—	43	1,625
Non-agency-sponsored	60,851	632	60,219	2,479	—	5	—	2,484
Citi-administered asset-backed commercial paper conduits	14,018	14,018	—	—	—	—	—	—
Collateralized loan obligations (CLOs)	8,302	—	8,302	2,636	—	—	—	2,636
Asset-based financing[5]	246,632	11,085	235,547	32,242	1,139	12,189	—	45,570
Municipal securities tender option bond trusts (TOBs)	3,251	905	2,346	2	—	1,498	—	1,500
Municipal investments	20,597	3	20,594	2,512	3,617	3,562	—	9,691
Client intermediation	904	297	607	75	—	—	224	299
Investment funds	498	179	319	—	—	12	1	13
Other	—	—	—	—	—	—	—	—
Total	$ 500,212	$ 58,637	$ 441,575	$ 41,528	$ 4,756	$ 17,266	$ 268	$ 63,818

(1) The definition of maximum exposure to loss is included in the text that follows this table.
(2) Included on Citigroup's December 31, 2022 and 2021 Consolidated Balance Sheet.
(3) A significant unconsolidated VIE is an entity in which the Company has any variable interest or continuing involvement considered to be significant, regardless of the likelihood of loss.
(4) Citigroup mortgage securitizations also include agency and non-agency (private label) re-securitization activities. These SPEs are not consolidated. See "Re-securitizations" below for further discussion.
(5) Included within this line are loans to third-party-sponsored private equity funds, which represent $69 billion and $100 billion in unconsolidated VIE assets and $498 million and $497 million in maximum exposure to loss as of December 31, 2022 and 2021, respectively.

The previous tables do not include:

- certain investment funds for which the Company provides investment management services and personal estate trusts for which the Company provides administrative, trustee and/or investment management services;
- certain third-party-sponsored private equity funds to which the Company provides secured credit facilities. The Company has no decision-making power and does not consolidate these funds, some of which may meet the definition of a VIE. The Company's maximum exposure to loss is generally limited to a loan or lending-related commitment. As of December 31, 2022 and 2021, the Company's maximum exposure to loss related to these transactions was $33.6 billion and $55.6 billion, respectively (see Notes 14 and 26 for more information on these positions);
- certain VIEs structured by third parties in which the Company holds securities in inventory, as these investments are made on arm's-length terms;
- certain positions in mortgage- and asset-backed securities held by the Company, which are classified as *Trading account assets* or *Investments*, in which the Company has no other involvement with the related securitization entity deemed to be significant (see Notes 13 and 25 for more information on these positions);
- certain representations and warranties exposures in Citigroup residential mortgage securitizations, in which the original mortgage loan balances are no longer outstanding; and
- VIEs such as preferred securities trusts used in connection with the Company's funding activities. The Company does not have a variable interest in these trusts.

The asset balances for consolidated VIEs represent the carrying amounts of the assets consolidated by the Company. The carrying amount may represent the amortized cost or the current fair value of the assets depending on the classification of the asset (e.g., loan or security) and the associated accounting model ascribed to that classification.

The asset balances for unconsolidated VIEs in which the Company has significant involvement represent the most current information available to the Company. In most cases, the asset balances represent an amortized cost basis without regard to impairments, unless fair value information is readily available to the Company.

The maximum funded exposure represents the balance sheet carrying amount of the Company's investment in the VIE. It reflects the initial amount of cash invested in the VIE, adjusted for any accrued interest and cash principal payments received. The carrying amount may also be adjusted for increases or declines in fair value or any impairment in value recognized in earnings. The maximum exposure of unfunded positions represents the remaining undrawn committed amount, including liquidity and credit facilities provided by the Company or the notional amount of a derivative instrument considered to be a variable interest. In certain transactions, the Company has entered into derivative instruments or other arrangements that are not considered variable interests in the VIE (e.g., interest rate swaps, cross-currency swaps or where the Company is the purchaser of credit protection under a credit default swap or total return swap where the Company pays the total return on certain assets to the SPE). Receivables under such arrangements are not included in the maximum exposure amounts.

The following tables present certain assets and liabilities of consolidated variable interest entities (VIEs), which are included on Citi's Consolidated Balance Sheet. The assets in the table below include those assets that can only be used to settle obligations of consolidated VIEs, presented on the following page, and are in excess of those obligations. In addition, the assets in the table below include third-party assets of consolidated VIEs only and exclude intercompany balances that eliminate in consolidation. The liabilities in the table below include third-party liabilities of consolidated VIEs only and exclude intercompany balances that eliminate in consolidation. The liabilities also exclude amounts where creditors or beneficial interest holders have recourse to the general credit of Citigroup.

	December 31,	
In millions of dollars	**2022**	2021
Assets of consolidated VIEs to be used to settle obligations of consolidated VIEs		
Cash and due from banks	**$ 61**	$ 260
Trading account assets	**9,153**	10,038
Investments	**594**	844
Loans, net of unearned income		
Consumer	**35,026**	34,677
Corporate	**19,782**	14,312
Loans, net of unearned income	**$ 54,808**	$ 48,989
Allowance for credit losses on loans (ACLL)	**(2,520)**	(2,668)
Total loans, net	**$ 52,288**	$ 46,321
Other assets	**105**	1,174
Total assets of consolidated VIEs to be used to settle obligations of consolidated VIEs	**$ 62,201**	$ 58,637

	December 31,	
In millions of dollars	**2022**	2021
Liabilities of consolidated VIEs for which creditors or beneficial interest holders do not have recourse to the general credit of Citigroup		
Short-term borrowings	**$ 9,807**	$ 8,376
Long-term debt	**10,324**	12,579
Other liabilities	**622**	694
Total liabilities of consolidated VIEs for which creditors or beneficial interest holders do not have recourse to the general credit of Citigroup	**$ 20,753**	$ 21,649

Funding Commitments for Significant Unconsolidated VIEs—Liquidity Facilities and Loan Commitments

The following table presents the notional amount of liquidity facilities and loan commitments that are classified as funding commitments in the VIE tables above:

	December 31, 2022		December 31, 2021	
In millions of dollars	**Liquidity facilities**	**Loan/equity commitments**	Liquidity facilities	Loan/equity commitments
Non-agency-sponsored mortgage securitizations	**$ —**	**$ —**	$ —	$ 5
Asset-based financing	**—**	**10,726**	—	12,189
Municipal securities tender option bond trusts (TOBs)	**1,108**	**—**	1,498	—
Municipal investments	**—**	**3,420**	—	3,562
Investment funds	**—**	**68**	—	12
Other	**—**	**—**	—	—
Total funding commitments	**$ 1,108**	**$ 14,214**	$ 1,498	$ 15,768

Consolidated VIEs

The Company engages in on-balance sheet securitizations, which are securitizations that do not qualify for sales treatment; thus, the assets remain on Citi's Consolidated Balance Sheet, and any proceeds received are recognized as secured liabilities. In general, the third-party investors in the obligations of consolidated VIEs have legal recourse only to the assets of the respective VIEs and do not have such recourse to the Company, except where Citi has provided a guarantee to the investors or is the counterparty to certain derivative transactions involving the VIE. Thus, Citigroup's maximum legal exposure to loss related to consolidated VIEs is significantly less than the carrying value of the consolidated VIE assets due to outstanding third-party financing. Intercompany assets and liabilities are excluded from Citi's Consolidated Balance Sheet. All VIE assets are restricted from being sold or pledged as collateral. The cash flows from these assets are the only source used to pay down the associated liabilities, which are non-recourse to Citi's general assets. See the Consolidated Balance Sheet for more information about these Consolidated VIE assets and liabilities.

Significant Interests in Unconsolidated VIEs—Balance Sheet Classification

The following table presents the carrying amounts and classification of significant variable interests in unconsolidated VIEs:

In billions of dollars	**December 31, 2022**	December 31, 2021
Cash	**$ —**	$ —
Trading account assets	**1.6**	1.4
Investments	**8.6**	8.8
Total loans, net of allowance	**44.2**	35.4
Other	**0.6**	0.8
Total assets	**$ 55.0**	$ 46.4

Credit Card Securitizations

The Company securitizes credit card receivables through trusts established to purchase the receivables. Citigroup transfers receivables into the trusts on a non-recourse basis. Credit card securitizations are revolving securitizations: as customers pay their credit card balances, the cash proceeds are used to purchase new receivables and replenish the receivables in the trust.

Substantially all of the Company's credit card securitization activity is through two trusts—Citibank Credit Card Master Trust (Master Trust) and Citibank Omni Trust (Omni Trust), with the substantial majority through the Master Trust. These trusts are consolidated entities because, as servicer, Citigroup has the power to direct the activities that most significantly impact the economic performance of the trusts. Citigroup holds a seller's interest and certain securities issued by the trusts, which could result in exposure to potentially significant losses or benefits from the trusts. Accordingly, the transferred credit card receivables remain on Citi's Consolidated Balance Sheet with no gain or loss recognized. The debt issued by the trusts to third parties is included on Citi's Consolidated Balance Sheet.

Citi utilizes securitizations as one of the sources of funding for its business in North America. The following table reflects amounts related to the Company's securitized credit card receivables:

In billions of dollars	**December 31, 2022**	December 31, 2021
Ownership interests in principal amount of trust credit card receivables		
Sold to investors via trust-issued securities	**$ 7.9**	$ 9.7
Retained by Citigroup as trust-issued securities	**6.4**	7.2
Retained by Citigroup via non-certificated interests	**19.5**	16.1
Total	**$ 33.8**	$ 33.0

The following table summarizes selected cash flow information related to Citigroup's credit card securitizations:

In billions of dollars	**2022**	2021	2020
Proceeds from new securitizations	**$ 0.3**	$ —	$ 0.3
Pay down of maturing notes	**(2.1)**	(6.0)	(4.3)

Managed Loans

After securitization of credit card receivables, the Company continues to maintain credit card customer account relationships and provides servicing for receivables transferred to the trusts. As a result, the Company considers the securitized credit card receivables to be part of the business it manages. As Citigroup consolidates the credit card trusts, all managed securitized card receivables are on-balance sheet.

Funding, Liquidity Facilities and Subordinated Interests

As noted above, Citigroup securitizes credit card receivables through two securitization trusts—Master Trust and Omni Trust. The liabilities of the trusts are included on the Consolidated Balance Sheet, excluding those retained by Citigroup.

Master Trust Liabilities (at Par Value)

The Master Trust issues fixed- and floating-rate term notes. Some of the term notes may be issued to multi-seller commercial paper conduits. The weighted average maturity of the third-party term notes issued by the Master Trust was 3.5 years as of December 31, 2022 and 3.6 years as of December 31, 2021.

In billions of dollars	**Dec. 31, 2022**	Dec. 31, 2021
Term notes issued to third parties	**$ 6.3**	$ 8.4
Term notes retained by Citigroup affiliates	**1.6**	2.2
Total Master Trust liabilities	**$ 7.9**	$ 10.6

Omni Trust Liabilities (at Par Value)

The Omni Trust issues fixed- and floating-rate term notes, some of which are purchased by multi-seller commercial paper conduits. The weighted average maturity of the third-party term notes issued by the Omni Trust was 2.2 years as of December 31, 2022 and 1.6 years as of December 31, 2021.

In billions of dollars	**Dec. 31, 2022**	Dec. 31, 2021
Term notes issued to third parties	**$ 1.6**	$ 1.3
Term notes retained by Citigroup affiliates	**4.8**	5.0
Total Omni Trust liabilities	**$ 6.4**	$ 6.3

Mortgage Securitizations

Citigroup provides a wide range of mortgage loan products to a diverse customer base. Once originated, the Company often securitizes these loans through the use of VIEs. These VIEs are funded through the issuance of trust certificates backed solely by the transferred assets. These certificates have the same life as the transferred assets. In addition to providing a source of liquidity and less expensive funding, securitizing these assets also reduces Citi's credit exposure to the borrowers. These mortgage loan securitizations are primarily non-recourse, thereby effectively transferring the risk of future credit losses to the purchasers of the securities issued by the trust.

Citi's U.S. consumer mortgage business generally retains the servicing rights and in certain instances retains investment securities, interest-only strips and residual interests in future cash flows from the trusts and also provides servicing for a limited number of *ICG* securitizations. Citi's *ICG* business may hold investment securities pursuant to credit risk retention rules or in connection with secondary market-making activities.

The Company securitizes mortgage loans generally through either a U.S. government-sponsored agency, such as Ginnie Mae, Fannie Mae or Freddie Mac (U.S. agency-sponsored mortgages), or private label (non-agency-sponsored mortgages) securitization. Citi is not the primary beneficiary of its U.S. agency-sponsored mortgage securitization entities because Citigroup does not have the power to direct the activities of the VIEs that most significantly impact the entities' economic performance. Therefore, Citi does not consolidate these U.S. agency-sponsored mortgage securitization entities. Substantially all of the consumer loans sold or securitized through non-consolidated trusts by Citigroup are U.S. prime residential mortgage loans. Retained interests in non-consolidated agency-sponsored mortgage securitization trusts are classified as *Trading account assets*, except for MSRs, which are included in *Other assets* on Citigroup's Consolidated Balance Sheet.

Citigroup does not consolidate certain non-agency-sponsored mortgage securitization entities because Citi is either not the servicer with the power to direct the significant activities of the entity or Citi is the servicer, but the servicing relationship is deemed to be a fiduciary relationship; therefore, Citi is not deemed to be the primary beneficiary of the entity.

In certain instances, the Company has (i) the power to direct the activities that most significantly impact the entities' economic performance and (ii) the obligation to either absorb losses or the right to receive benefits that could be potentially significant to its non-agency-sponsored mortgage securitization entities and, therefore, is the primary beneficiary and, thus, consolidates the VIE.

The following tables summarize selected cash flow information and retained interests related to Citigroup mortgage securitizations:

	2022		2021		2020	
In billions of dollars	**U.S. agency-sponsored mortgages**	**Non-agency-sponsored mortgages**	U.S. agency-sponsored mortgages	Non-agency-sponsored mortgages	U.S. agency-sponsored mortgages	Non-agency-sponsored mortgages
Principal securitized	**$ 6.9**	**$ 13.9**	$ 6.1	$ 25.2	$ 9.4	$ 11.3
Proceeds from new securitizations	**6.7**	**13.4**	6.4	25.4	10.0	11.4
Contractual servicing fees received	**0.1**	**—**	0.1	—	0.1	—
Cash flows received on retained interests and other net cash flows	**—**	**0.2**	—	0.1	—	—
Purchases of previously transferred financial assets	**0.1**	**—**	0.2	—	0.4	—

Note: Excludes re-securitization transactions.

For non-consolidated mortgage securitization entities where the transfer of loans to the VIE meets the conditions for sale accounting, Citi recognizes a gain or loss based on the difference between the carrying value of the transferred assets and the proceeds received (generally cash but may be beneficial interests or servicing rights).

Agency and non-agency securitization gains for the year ended December 31, 2022 were $1.3 million and $154.8 million, respectively.

Agency and non-agency securitization gains for the year ended December 31, 2021 were $3.9 million and $493.4 million, respectively, and $88.4 million and $139.4 million, respectively, for the year ended December 31, 2020.

	2022			2021		
		Non-agency-sponsored mortgages[1]			Non-agency-sponsored mortgages[1]	
In millions of dollars	**U.S. agency-sponsored mortgages**	**Senior interests[2]**	**Subordinated interests**	U.S. agency-sponsored mortgages	Senior interests	Subordinated interests
Carrying value of retained interests[3]	**$ 659**	**$ 1,119**	**$ 943**	$ 374	$ 1,452	$ 955

(1) Disclosure of non-agency-sponsored mortgages as senior and subordinated interests is indicative of the interests' position in the capital structure of the securitization.
(2) Senior interests in non-agency-sponsored mortgages include $28 million related to personal loan securitizations at December 31, 2022.
(3) Retained interests consist of Level 2 and Level 3 assets depending on the observability of significant inputs. See Note 25 for more information about fair value measurements.

Key assumptions used in measuring the fair value of retained interests at the date of sale or securitization of mortgage receivables were as follows:

	December 31, 2022		
		Non-agency-sponsored mortgages[1]	
	U.S. agency-sponsored mortgages	**Senior interests**	**Subordinated interests**
Weighted average discount rate	**8.8%**	**3.2 %**	**4.1 %**
Weighted average constant prepayment rate	**2.7%**	**6.0 %**	**11.4 %**
Weighted average anticipated net credit losses[2]	**NM**	**2.0 %**	**0.4 %**
Weighted average life	**9.0 years**	**5.5 years**	**5.6 years**

	December 31, 2021		
		Non-agency-sponsored mortgages[1]	
	U.S. agency-sponsored mortgages	Senior interests	Subordinated interests
Weighted average discount rate	8.7%	2.2 %	2.8 %
Weighted average constant prepayment rate	5.5%	6.3 %	11.0 %
Weighted average anticipated net credit losses[2]	NM	1.8 %	1.0 %
Weighted average life	7.4 years	3.9 years	5.4 years

(1) Disclosure of non-agency-sponsored mortgages as senior and subordinated interests is indicative of the interests' position in the capital structure of the securitization.
(2) Anticipated net credit losses represent estimated loss severity associated with defaulted mortgage loans underlying the mortgage securitizations disclosed above. Anticipated net credit losses, in this instance, do not represent total credit losses incurred to date, nor do they represent credit losses expected on retained interests in mortgage securitizations.
NM Anticipated net credit losses are not meaningful due to U.S. agency guarantees.

The interests retained by the Company range from highly rated and/or senior in the capital structure to unrated and/or residual interests. Key assumptions used in measuring the fair value of retained interests in securitizations of mortgage receivables at period end were as follows:

	December 31, 2022		
		Non-agency-sponsored mortgages[1]	
	U.S. agency-sponsored mortgages	**Senior interests**	**Subordinated interests**
Weighted average discount rate	**5.3%**	**13.8%**	**NM**
Weighted average constant prepayment rate	**5.8%**	**4.0%**	**NM**
Weighted average anticipated net credit losses[2]	**NM**	**1.0%**	**NM**
Weighted average life	**7.7 years**	**10.3 years**	**NM**

	December 31, 2021		
		Non-agency-sponsored mortgages[1]	
	U.S. agency-sponsored mortgages	Senior interests	Subordinated interests
Weighted average discount rate	3.7%	16.2%	4.0%
Weighted average constant prepayment rate	14.5%	6.8%	9.0%
Weighted average anticipated net credit losses[2]	NM	1.0%	2.0%
Weighted average life	5.1 years	8.8 years	18.0 years

(1) Disclosure of non-agency-sponsored mortgages as senior and subordinated interests is indicative of the interests' position in the capital structure of the securitization.

(2) Anticipated net credit losses represent estimated loss severity associated with defaulted mortgage loans underlying the mortgage securitizations disclosed above. Anticipated net credit losses, in this instance, do not represent total credit losses incurred to date, nor do they represent credit losses expected on retained interests in mortgage securitizations.

NM Anticipated net credit losses are not meaningful due to U.S. agency guarantees.

The sensitivity of the fair value to adverse changes of 10% and 20% in each of the key assumptions is presented in the tables below. The negative effect of each change is calculated independently, holding all other assumptions constant. Because the key assumptions may not be independent, the net effect of simultaneous adverse changes in the key assumptions may be less than the sum of the individual effects shown below.

	December 31, 2022		
		Non-agency-sponsored mortgages	
In millions of dollars	**U.S. agency-sponsored mortgages**	**Senior interests**	**Subordinated interests**
Discount rate			
Adverse change of 10%	**$ (19)**	**$ —**	**$ —**
Adverse change of 20%	**(37)**	**—**	**—**
Constant prepayment rate			
Adverse change of 10%	**(15)**	**—**	**—**
Adverse change of 20%	**(30)**	**—**	**—**
Anticipated net credit losses			
Adverse change of 10%	**NM**	**—**	**—**
Adverse change of 20%	**NM**	**—**	**—**

	December 31, 2021		
		Non-agency-sponsored mortgages	
In millions of dollars	U.S. agency-sponsored mortgages	Senior interests	Subordinated interests
Discount rate			
Adverse change of 10%	$ (6)	$ (1)	$ —
Adverse change of 20%	(11)	(1)	—
Constant prepayment rate			
Adverse change of 10%	(19)	—	—
Adverse change of 20%	(37)	—	—
Anticipated net credit losses			
Adverse change of 10%	NM	—	—
Adverse change of 20%	NM	—	—

NM Anticipated net credit losses are not meaningful due to U.S. agency guarantees.

The following table includes information about loan delinquencies and liquidation losses for assets held in non-consolidated, non-agency-sponsored securitization entities at December 31:

	Securitized assets		**90 days past due**		**Liquidation losses**	
In billions of dollars, except liquidation losses in millions	**2022**	2021	**2022**	2021	**2022**	2021
Securitized assets						
Residential mortgages[(1)]	**$ 30.8**	$ 29.2	**$ 0.5**	$ 0.4	**$ 2.9**	$ 10.6
Commercial and other	**28.8**	26.2	**—**	—	**—**	—
Total	**$ 59.6**	$ 55.4	**$ 0.5**	$ 0.4	**$ 2.9**	$ 10.6

(1) Securitized assets include $0.1 billion of personal loan securitizations as of December 31, 2022.

Mortgage Servicing Rights (MSRs)

In connection with the securitization of mortgage loans, Citi's U.S. consumer mortgage business generally retains the servicing rights, which entitle the Company to a future stream of cash flows based on the outstanding principal balances of the loans and the contractual servicing fee. Failure to service the loans in accordance with contractual requirements may lead to a termination of the servicing rights and the loss of future servicing fees.

These transactions create intangible assets referred to as MSRs, which are recorded at fair value on Citi's Consolidated Balance Sheet. The fair value of Citi's capitalized MSRs was $665 million and $404 million at December 31, 2022 and 2021, respectively. The MSRs correspond to principal loan balances of $51 billion and $47 billion as of December 31, 2022 and 2021, respectively.

The following table summarizes the changes in capitalized MSRs:

In millions of dollars	**2022**	2021
Balance, beginning of year	**$ 404**	$ 336
Originations	**120**	92
Changes in fair value of MSRs due to changes in inputs and assumptions	**201**	43
Other changes[(1)]	**(60)**	(67)
Sales of MSRs	**—**	—
Balance, as of December 31	**$ 665**	$ 404

(1) Represents changes due to customer payments and passage of time.

The fair value of the MSRs is primarily affected by changes in prepayments of mortgages that result from shifts in mortgage interest rates. Specifically, higher interest rates tend to lead to declining prepayments, which causes the fair value of the MSRs to increase. In managing this risk, Citigroup economically hedges a significant portion of the value of its MSRs through the use of interest rate derivative contracts, forward purchase and sale commitments of mortgage-backed securities and purchased securities, all classified as *Trading account assets*.

The Company receives fees during the course of servicing previously securitized mortgages. The amounts of these fees were as follows:

In millions of dollars	**2022**	2021	2020
Servicing fees	**$ 122**	$ 131	$ 142
Late fees	**4**	3	5
Total MSR fees	**$ 126**	$ 134	$ 147

In the Consolidated Statement of Income these fees are primarily classified as *Commissions and fees*, and changes in MSR fair values are classified as *Other revenue*.

Re-securitizations

The Company engages in re-securitization transactions in which debt securities are transferred to a VIE in exchange for new beneficial interests. Citi did not transfer non-agency (private label) securities to re-securitization entities during the years ended December 31, 2022 and 2021. These securities are backed by either residential or commercial mortgages and are often structured on behalf of clients.

As of December 31, 2022 and 2021, Citi held no retained interests in private label re-securitization transactions structured by Citi.

The Company also re-securitizes U.S. government-agency-guaranteed mortgage-backed (agency) securities. During the years ended December 31, 2022 and 2021, Citi transferred agency securities with a fair value of approximately $24.1 billion and $46.6 billion, respectively, to re-securitization entities.

As of December 31, 2022, the fair value of Citi-retained interests in agency re-securitization transactions structured by Citi totaled approximately $1.4 billion (including $802 million related to re-securitization transactions executed in 2022) compared to $1.2 billion as of December 31, 2021 (including $641 million related to re-securitization transactions executed in 2021), which is recorded in *Trading account assets*. The original fair values of agency re-securitization transactions in which Citi holds a retained interest as of December 31, 2022 and 2021 were approximately $79.4 billion and $78.4 billion, respectively.

As of December 31, 2022 and 2021, the Company did not consolidate any private label or agency re-securitization entities.

Citi-Administered Asset-Backed Commercial Paper Conduits

The Company is active in the asset-backed commercial paper conduit business as administrator of several multi-seller commercial paper conduits and also as a service provider to single-seller and other commercial paper conduits sponsored by third parties.

Citi's multi-seller commercial paper conduits are designed to provide the Company's clients access to low-cost funding in the commercial paper markets. The conduits purchase assets from or provide financing facilities to clients and are funded by issuing commercial paper to third-party investors. The conduits generally do not purchase assets originated by Citi. The funding of the conduits is facilitated by the liquidity support and credit enhancements provided by the Company.

As administrator to Citi's conduits, the Company is generally responsible for selecting and structuring assets purchased or financed by the conduits, making decisions regarding the funding of the conduits, including determining the tenor and other features of the commercial paper issued, monitoring the quality and performance of the conduits' assets and facilitating the operations and cash flows of the conduits. In return, the Company earns structuring fees from customers for individual transactions and earns an administration fee from the conduit, which is equal to the income from the client program and liquidity fees of the conduit after payment of conduit expenses. This administration fee is fairly stable, since most risks and rewards of the underlying assets are passed back to the clients. Once the asset pricing is negotiated, most ongoing income, costs and fees are relatively stable as a percentage of the conduit's size.

The conduits administered by Citi do not generally invest in liquid securities that are formally rated by third parties. The

assets are privately negotiated and structured transactions that are generally designed to be held by the conduit, rather than actively traded and sold. The yield earned by the conduit on each asset is generally tied to the rate on the commercial paper issued by the conduit, thus passing interest rate risk to the client. Each asset purchased by the conduit is structured with transaction-specific credit enhancement features provided by the third-party client seller, including over-collateralization, cash and excess spread collateral accounts, direct recourse or third-party guarantees. These credit enhancements are sized with the objective of approximating a credit rating of A or above, based on Citi's internal risk ratings. At December 31, 2022 and 2021, the commercial paper conduits administered by Citi had approximately $19.6 billion and $14 billion of purchased assets outstanding, respectively, and had incremental funding commitments with clients of approximately $13.9 billion and $18.3 billion, respectively.

Substantially all of the funding of the conduits is in the form of short-term commercial paper. At December 31, 2022 and 2021, the weighted average remaining lives of the commercial paper issued by the conduits were approximately 64 and 70 days, respectively.

The primary credit enhancement provided to the conduit investors is in the form of transaction-specific credit enhancements described above. Each asset purchased by the conduit is structured with transaction-specific credit enhancement features provided by the third-party client seller, including over-collateralization, cash and excess spread collateral accounts, direct recourse or third-party guarantees. These credit enhancements are sized with the objective of approximating a credit rating of A or above, based on Citi's internal risk ratings. In addition to the transaction-specific credit enhancements, the conduits, other than the government-guaranteed loan conduit, have obtained letters of credit from the Company, which equal at least 8% to 10% of the conduit's assets with a minimum of $200 million. The letters of credit provided by the Company to the conduits total approximately $1.9 billion as of December 31, 2022 and $1.3 billion as of December 31, 2021. The net result across multiseller conduits administered by the Company is that, in the event that defaulted assets exceed the transaction-specific credit enhancements described above, any losses in each conduit are allocated first to the Company and then to the commercial paper investors.

Citigroup also provides the conduits with two forms of liquidity agreements that are used to provide funding to the conduits in the event of a market disruption, among other events. Each asset of the conduits is supported by a transaction-specific liquidity facility in the form of an asset purchase agreement (APA). Under the APA, the Company has generally agreed to purchase non-defaulted eligible receivables from the conduit at par. The APA is not designed to provide credit support to the conduit, as it generally does not permit the purchase of defaulted or impaired assets. Any funding under the APA will likely subject the underlying conduit clients to increased interest costs. In addition, the Company provides the conduits with program-wide liquidity in the form of short-term lending commitments. Under these commitments, the Company has agreed to lend to the conduits in the event of a short-term disruption in the commercial paper market, subject to specified conditions. The Company receives fees for providing both types of liquidity agreements and considers these fees to be on fair market terms.

Finally, Citi is one of several named dealers in the commercial paper issued by the conduits and earns a market-based fee for providing such services. Along with third-party dealers, the Company makes a market in the commercial paper and may from time to time fund commercial paper pending sale to a third party. On specific dates with less liquidity in the market, the Company may hold in inventory commercial paper issued by conduits administered by the Company, as well as conduits administered by third parties. Separately, in the normal course of business, Citi purchases commercial paper, including commercial paper issued by Citigroup's conduits. At December 31, 2022 and 2021, the Company owned $8.6 billion and $4.9 billion, respectively, of the commercial paper issued by its administered conduits. The Company's investments were not driven by market illiquidity and the Company is not obligated under any agreement to purchase the commercial paper issued by the conduits.

The asset-backed commercial paper conduits are consolidated by Citi. The Company has determined that, through its roles as administrator and liquidity provider, it has the power to direct the activities that most significantly impact the entities' economic performance. These powers include its ability to structure and approve the assets purchased by the conduits, its ongoing surveillance and credit mitigation activities, its ability to sell or repurchase assets out of the conduits and its liability management. In addition, as a result of all the Company's involvement described above, it was concluded that Citi has an economic interest that could potentially be significant. However, the assets and liabilities of the conduits are separate and apart from those of Citigroup. No assets of any conduit are available to satisfy the creditors of Citigroup or any of its other subsidiaries.

Collateralized Loan Obligations (CLOs)

A collateralized loan obligation (CLO) is a VIE that purchases a portfolio of assets consisting primarily of non-investment grade corporate loans. CLOs issue multiple tranches of debt and equity to investors to fund the asset purchases and pay upfront expenses associated with forming the CLO. A third-party asset manager is contracted by the CLO to purchase the underlying assets from the open market and monitor the credit risk associated with those assets. Over the term of a CLO, the asset manager directs purchases and sales of assets in a manner consistent with the CLO's asset management agreement and indenture. In general, the CLO asset manager will have the power to direct the activities of the entity that most significantly impact the economic performance of the CLO. Investors in a CLO, through their ownership of debt and/or equity in it, can also direct certain activities of the CLO, including removing its asset manager under limited circumstances, optionally redeeming the notes, voting on amendments to the CLO's operating documents and other activities. A CLO has a finite life, typically 12 years.

Citi serves as a structuring and placement agent with respect to the CLOs. Typically, the debt and equity of the CLOs are sold to third-party investors. On occasion, certain Citi entities may purchase some portion of a CLO's liabilities

for investment purposes. In addition, Citi may purchase, typically in the secondary market, certain securities issued by the CLOs to support its market-making activities.

The Company generally does not have the power to direct the activities that most significantly impact the economic performance of the CLOs, as this power is generally held by a third-party asset manager of the CLO. As such, those CLOs are not consolidated.

The following tables summarize selected cash flow information and retained interests related to Citigroup CLOs:

In billions of dollars	**2022**	2021	2020
Principal securitized	**$ —**	$ —	$ 0.1
Proceeds from new securitizations	**—**	—	0.1
Cash flows received on retained interests and other net cash flows	**0.3**	1.1	—
Purchases of previously transferred financial assets	**—**	0.2	—

In millions of dollars	**Dec. 31, 2022**	Dec. 31, 2021	Dec. 31, 2020
Carrying value of retained interests	**$ 681**	$ 921	$ 1,611

All of Citi's retained interests were held-to-maturity securities as of December 31, 2022 and 2021.

Asset-Based Financing

The Company provides loans and other forms of financing to VIEs that hold assets. Those loans are subject to the same credit approvals as all other loans originated or purchased by the Company. Financings in the form of debt securities or derivatives are, in most circumstances, reported in *Trading account assets* and accounted for at fair value through earnings. The Company generally does not have the power to direct the activities that most significantly impact these VIEs' economic performance; thus, it does not consolidate them.

The primary types of Citi's asset-based financings, total assets of the unconsolidated VIEs with significant involvement and Citi's maximum exposure to loss are shown below. For Citi to realize the maximum loss, the VIE (borrower) would have to default with no recovery from the assets held by the VIE.

	December 31, 2022	
In millions of dollars	**Total unconsolidated VIE assets**	**Maximum exposure to unconsolidated VIEs**
Type		
Commercial and other real estate	**$ 43,236**	**$ 8,806**
Corporate loans	**23,120**	**15,077**
Other (including investment funds, airlines and shipping)	**166,320**	**27,986**
Total	**$ 232,676**	**$ 51,869**

	December 31, 2021	
In millions of dollars	Total unconsolidated VIE assets	Maximum exposure to unconsolidated VIEs
Type		
Commercial and other real estate	$ 32,932	$ 7,461
Corporate loans	18,257	12,581
Other (including investment funds, airlines and shipping)	184,358	25,528
Total	$ 235,547	$ 45,570

Municipal Securities Tender Option Bond (TOB) Trusts

Municipal TOB trusts may hold fixed- or floating-rate, taxable or tax-exempt securities issued by state and local governments and municipalities. TOB trusts are typically structured as single-issuer entities whose assets are purchased from either the Company or from other investors in the municipal securities market. TOB trusts finance the purchase of their municipal assets by issuing two classes of certificates: long-dated, floating rate certificates ("Floaters") that are putable pursuant to a liquidity facility and residual interest certificates ("Residuals"). The Floaters are purchased by third-party investors, typically tax-exempt money market funds. The Residuals are purchased by the original owner of the municipal securities that are being financed.

From Citigroup's perspective, there are two types of TOB trusts: customer and non-customer. Customer TOB trusts are those trusts utilized by customers of the Company to finance their securities, generally municipal securities. The Residuals issued by these trusts are purchased by the customer being financed. Non-customer TOB trusts are generally used by the Company to finance its own municipal securities investments; the Residuals issued by non-customer TOB trusts are purchased by the Company.

With respect to both customer and non-customer TOB trusts, Citi may provide remarketing agent services. If Floaters are optionally tendered and the Company, in its role as remarketing agent, is unable to find a new investor to purchase the optionally tendered Floaters within a specified period of time, Citigroup may, but is not obligated to, purchase the tendered Floaters into its own inventory. The level of the Company's inventory of such Floaters fluctuates.

For certain customer TOB trusts, Citi may also serve as a voluntary advance provider. In this capacity, the Company may, but is not obligated to, make loan advances to customer TOB trusts to purchase optionally tendered Floaters that have not otherwise been successfully remarketed to new investors. Such loans are secured by pledged Floaters. As of December 31, 2022, Citi had no outstanding voluntary advances to customer TOB trusts.

For certain non-customer trusts, the Company also provides credit enhancement. At December 31, 2022 and 2021, none of the municipal bonds owned by non-customer TOB trusts were subject to a credit guarantee provided by the Company.

Citigroup also provides liquidity services to many customer and non-customer trusts. If a trust is unwound early due to an event other than a credit event on the underlying municipal bonds, the underlying municipal bonds are sold out of the trust and bond sale proceeds are used to redeem the outstanding trust certificates. If this results in a shortfall between the bond sale proceeds and the redemption price of the tendered Floaters, the Company, pursuant to the liquidity agreement, would be obligated to make a payment to the trust to satisfy that shortfall. For certain customer TOB trusts, Citigroup has also executed a reimbursement agreement with the holder of the Residual, pursuant to which the Residual holder is obligated to reimburse the Company for any payment the Company makes under the liquidity arrangement. These reimbursement agreements may be subject to daily margining based on changes in the market value of the underlying municipal bonds. In cases where a third party provides liquidity to a non-customer TOB trust, a similar reimbursement arrangement may be executed, whereby the Company (or a consolidated subsidiary of the Company), as Residual holder, would absorb any losses incurred by the liquidity provider.

For certain other non-customer TOB trusts, Citi serves as tender option provider. The tender option provider arrangement allows Floater holders to put their interests directly to the Company at any time, subject to the requisite notice period requirements, at a price of par.

At December 31, 2022 and 2021, liquidity agreements provided with respect to customer TOB trusts totaled $1.1 billion and $1.5 billion, respectively, of which $0.7 billion and $0.6 billion, respectively, were offset by reimbursement agreements. For the remaining exposure related to TOB transactions, where the residual owned by the customer was at least 25% of the bond value at the inception of the transaction, no reimbursement agreement was executed.

Citi considers both customer and non-customer TOB trusts to be VIEs. Customer TOB trusts are not consolidated by the Company, as the power to direct the activities that most significantly impact the trust's economic performance rests with the customer Residual holder, which may unilaterally cause the sale of the trust's bonds.

Non-customer TOB trusts generally are consolidated because the Company holds the Residual interest and thus has the unilateral power to cause the sale of the trust's bonds.

The Company also provides other liquidity agreements or letters of credit to customer-sponsored municipal investment funds, which are not variable interest entities, and municipality-related issuers that totaled $1.4 billion as of December 31, 2022 and $2 billion as of December 31, 2021. These liquidity agreements and letters of credit are offset by reimbursement agreements with various term-out provisions.

Municipal Investments

Municipal investment transactions include debt and equity interests in partnerships that finance the construction and rehabilitation of low-income housing, facilitate lending in new or underserved markets or finance the construction or operation of renewable municipal energy facilities. Citi generally invests in these partnerships as a limited partner and earns a return primarily through the receipt of tax credits and grants earned from the investments made by the partnership. The Company may also provide construction loans or permanent loans for the development or operation of real estate properties held by partnerships. These entities are generally considered VIEs. The power to direct the activities of these entities is typically held by the general partner. Accordingly, these entities are not consolidated by Citigroup.

Client Intermediation

Client intermediation transactions represent a range of transactions designed to provide investors with specified returns based on the returns of an underlying security, referenced asset or index. These transactions include credit-linked notes and equity-linked notes. In these transactions, the VIE typically obtains exposure to the underlying security, referenced asset or index through a derivative instrument, such as a total-return swap or a credit-default swap. In turn, the VIE issues notes to investors that pay a return based on the specified underlying security, referenced asset or index. The VIE invests the proceeds in a financial asset or a guaranteed insurance contract that serves as collateral for the derivative contract over the term of the transaction. The Company's involvement in these transactions includes being the counterparty to the VIE's derivative instruments and investing in a portion of the notes issued by the VIE. In certain transactions, the investor's maximum risk of loss is limited and the Company absorbs risk of loss above a specified level. Citi does not have the power to direct the activities of the VIEs that most significantly impact their economic performance and thus it does not consolidate them.

Citi's maximum risk of loss in these transactions is defined as the amount invested in notes issued by the VIE and the notional amount of any risk of loss absorbed by Citi through a separate instrument issued by the VIE. The derivative instrument held by the Company may generate a receivable from the VIE (e.g., where the Company purchases credit protection from the VIE in connection with the VIE's issuance of a credit-linked note), which is collateralized by the assets owned by the VIE. These derivative instruments are not considered variable interests and any associated receivables are not included in the calculation of maximum exposure to the VIE.

Investment Funds

The Company is the investment manager for certain investment funds and retirement funds that invest in various asset classes including private equity, hedge funds, real estate, fixed income and infrastructure. Citigroup earns a management fee, which is a percentage of capital under management, and may earn performance fees. In addition, for some of these funds the Company has an ownership interest in the investment funds. Citi has also established a number of investment funds as opportunities for qualified employees to invest in private equity investments. The Company acts as investment manager for these funds and may provide employees with financing on both recourse and non-recourse bases for a portion of the employees' investment commitments.

23. DERIVATIVES

In the ordinary course of business, Citigroup enters into various types of derivative transactions, which include:

- *Futures and forward contracts*, which are commitments to buy or sell at a future date a financial instrument, commodity or currency at a contracted price that may be settled in cash or through delivery of an item readily convertible to cash.
- *Swap contracts*, which are commitments to settle in cash at a future date or dates that may range from a few days to a number of years, based on differentials between specified indices or financial instruments, as applied to a notional principal amount.
- *Option contracts*, which give the purchaser, for a premium, the right, but not the obligation, to buy or sell within a specified time a financial instrument, commodity or currency at a contracted price that may also be settled in cash, based on differentials between specified indices or prices.

Swaps, forwards and some option contracts are over-the-counter (OTC) derivatives that are bilaterally negotiated with counterparties and settled with those counterparties, except for swap contracts that are novated and "cleared" through central counterparties (CCPs). Futures contracts and other option contracts are standardized contracts that are traded on an exchange with a CCP as the counterparty from the inception of the transaction. Citigroup enters into derivative contracts relating to interest rate, foreign currency, commodity and other market/credit risks for the following reasons:

- *Trading Purposes*: Citigroup trades derivatives as an active market maker. Citigroup offers its customers derivatives in connection with their risk management actions to transfer, modify or reduce their interest rate, foreign exchange and other market/credit risks or for their own trading purposes. Citigroup also manages its derivative risk positions through offsetting trade activities, controls focused on price verification and daily reporting of positions to senior managers.
- *Hedging*: Citigroup uses derivatives in connection with its own risk management activities to hedge certain risks or reposition the risk profile of the Company. Hedging may be accomplished by applying hedge accounting in accordance with ASC 815, *Derivatives and Hedging*. For example, Citigroup issues fixed-rate long-term debt and then enters into a receive-fixed, pay-variable-rate interest rate swap with the same tenor and notional amount to synthetically convert the interest payments to a net variable-rate basis. This strategy is the most common form of an interest rate hedge, as it minimizes net interest cost in certain yield curve environments. Derivatives are also used to manage market risks inherent in specific groups of on-balance sheet assets and liabilities, including AFS securities, commodities and borrowings, as well as other interest-sensitive assets and liabilities. In addition, foreign exchange contracts are used to hedge non-U.S.-dollar-denominated debt, foreign currency-denominated AFS securities and net investment exposures.

Derivatives may expose Citigroup to market, credit or liquidity risks in excess of the amounts recorded on the Consolidated Balance Sheet. Market risk on a derivative product is the exposure created by potential fluctuations in interest rates, market prices, foreign exchange rates and other factors and is a function of the type of product, the volume of transactions, the tenor and terms of the agreement and the underlying volatility. Credit risk is the exposure to loss in the event of nonperformance by the other party to satisfy a derivative liability where the value of any collateral held by Citi is not adequate to cover such losses. The recognition in earnings of unrealized gains on derivative transactions is subject to management's assessment of the probability of counterparty default. Liquidity risk is the potential exposure that arises when the size of a derivative position may affect the ability to monetize the position in a reasonable period of time and at a reasonable cost in periods of high volatility and financial stress.

Derivative transactions are customarily documented under industry standard master netting agreements, which provide that following an event of default, the non-defaulting party may promptly terminate all transactions between the parties and determine the net amount due to be paid to, or by, the defaulting party. Events of default include (i) failure to make a payment on a derivative transaction that remains uncured following applicable notice and grace periods, (ii) breach of agreement that remains uncured after applicable notice and grace periods, (iii) breach of a representation, (iv) cross default, either to third-party debt or to other derivative transactions entered into between the parties, or, in some cases, their affiliates, (v) the occurrence of a merger or consolidation that results in the creditworthiness of a party becoming materially weaker and (vi) the cessation or repudiation of any applicable guarantee or other credit support document. Obligations under master netting agreements are often secured by collateral posted under an industry standard credit support annex to the master netting agreement. An event of default may also occur under a credit support annex if a party fails to make a collateral delivery that remains uncured following applicable notice and grace periods.

The netting and collateral rights incorporated in the master netting agreements are considered to be legally enforceable if a supportive legal opinion has been obtained from counsel of recognized standing that provides (i) the requisite level of certainty regarding enforceability and (ii) that the exercise of rights by the non-defaulting party to terminate and close-out transactions on a net basis under these agreements will not be stayed or avoided under applicable law upon an event of default, including bankruptcy, insolvency or similar proceeding.

A legal opinion may not be sought for certain jurisdictions where local law is silent or unclear as to the enforceability of such rights or where adverse case law or conflicting regulation may cast doubt on the enforceability of such rights. In some jurisdictions and for some counterparty types, the insolvency law may not provide the requisite level of certainty. For example, this may be the case for certain sovereigns, municipalities, central banks and U.S. pension plans.

Exposure to credit risk on derivatives is affected by market volatility, which may impair the ability of counterparties to satisfy their obligations to the Company. Credit limits are established and closely monitored for customers engaged in derivatives transactions. Citi considers the level of legal certainty regarding enforceability of its offsetting rights under master netting agreements and credit support annexes to be an important factor in its risk management process. Specifically, Citi generally transacts much lower volumes of derivatives under master netting agreements where Citi does not have the requisite level of legal certainty regarding enforceability, because such derivatives consume greater amounts of single counterparty credit limits than those executed under enforceable master netting agreements.

Cash collateral and security collateral in the form of G10 government debt securities are often posted by a party to a master netting agreement to secure the net open exposure of the other party; the receiving party is free to commingle/rehypothecate such collateral in the ordinary course of its business. Nonstandard collateral such as corporate bonds, municipal bonds, U.S. agency securities and/or MBS may also be pledged as collateral for derivative transactions. Security collateral posted to open and maintain a master netting agreement with a counterparty, in the form of cash and/or securities, may from time to time be segregated in an account at a third-party custodian pursuant to a tri-party account control agreement.

Information pertaining to Citigroup's derivatives activities, based on notional amounts, is presented in the table below. Derivative notional amounts are reference amounts from which contractual payments are derived and do not represent a complete measure of Citi's exposure to derivative transactions. Citi's derivative exposure arises primarily from market fluctuations (i.e., market risk), counterparty failure (i.e., credit risk) and/or periods of high volatility or financial stress (i.e., liquidity risk), as well as any market valuation adjustments that may be required on the transactions. Moreover, notional amounts do not reflect the netting of offsetting trades. For example, if Citi enters into a receive-fixed interest rate swap with $100 million notional, and offsets this risk with an identical but opposite pay-fixed position with a different counterparty, $200 million in derivative notionals is reported, although these offsetting positions may result in de minimis overall market risk.

In addition, aggregate derivative notional amounts can fluctuate from period to period in the normal course of business based on Citi's market share, levels of client activity and other factors. All derivatives are recorded in *Trading account assets/Trading account liabilities* on the Consolidated Balance Sheet.

Derivative Notionals

In millions of dollars	Hedging instruments under ASC 815		Trading derivative instruments	
	December 31, 2022	December 31, 2021	**December 31, 2022**	December 31, 2021
Interest rate contracts				
Swaps	**$ 255,280**	$ 267,035	**$ 23,780,711**	$ 21,873,538
Futures and forwards	**—**	—	**2,966,025**	2,383,702
Written options	**—**	—	**1,937,025**	1,584,451
Purchased options	**—**	—	**1,881,291**	1,428,376
Total interest rate contracts	**$ 255,280**	$ 267,035	**$ 30,565,052**	$ 27,270,067
Foreign exchange contracts				
Swaps	**$ 48,678**	$ 47,298	**$ 6,746,070**	$ 6,288,193
Futures, forwards and spot	**43,666**	50,926	**3,350,341**	4,316,242
Written options	**—**	—	**789,077**	664,942
Purchased options	**—**	—	**783,591**	651,958
Total foreign exchange contracts	**$ 92,344**	$ 98,224	**$ 11,669,079**	$ 11,921,335
Equity contracts				
Swaps	**$ —**	$ —	**$ 266,115**	$ 269,062
Futures and forwards	**—**	—	**76,935**	71,363
Written options	**—**	—	**482,266**	492,433
Purchased options	**—**	—	**387,766**	398,129
Total equity contracts	**$ —**	$ —	**$ 1,213,082**	$ 1,230,987
Commodity and other contracts				
Swaps	**$ —**	$ —	**$ 90,884**	$ 91,962
Futures and forwards	**1,571**	2,096	**165,314**	157,195
Written options	**—**	—	**45,862**	51,224
Purchased options	**—**	—	**48,197**	47,868
Total commodity and other contracts	**$ 1,571**	$ 2,096	**$ 350,257**	$ 348,249
Credit derivatives[(1)]				
Protection sold	**$ —**	$ —	**$ 593,136**	$ 572,486
Protection purchased	**—**	—	**641,639**	645,996
Total credit derivatives	**$ —**	$ —	**$ 1,234,775**	$ 1,218,482
Total derivative notionals	**$ 349,195**	$ 367,355	**$ 45,032,245**	$ 41,989,120

(1) Credit derivatives are arrangements designed to allow one party (protection purchaser) to transfer the credit risk of a "reference asset" to another party (protection seller). These arrangements allow a protection seller to assume the credit risk associated with the reference asset without directly purchasing that asset. The Company enters into credit derivative positions for purposes such as risk management, yield enhancement, reduction of credit concentrations and diversification of overall risk.

The following tables present the gross and net fair values of the Company's derivative transactions and the related offsetting amounts as of December 31, 2022 and 2021. Gross positive fair values are offset against gross negative fair values by counterparty, pursuant to enforceable master netting agreements. Under ASC 815-10-45, payables and receivables in respect of cash collateral received from or paid to a given counterparty pursuant to a credit support annex are included in the offsetting amount if a legal opinion supporting the enforceability of netting and collateral rights has been obtained. GAAP does not permit similar offsetting for security collateral.

In addition, the following tables reflect rule changes adopted by clearing organizations that require or allow entities to treat certain derivative assets, liabilities and the related variation margin as settlement of the related derivative fair values for legal and accounting purposes, as opposed to presenting gross derivative assets and liabilities that are subject to collateral, whereby the counterparties would also record a related collateral payable or receivable. The tables also present amounts that are not permitted to be offset, such as security collateral or cash collateral posted at third-party custodians, but which would be eligible for offsetting to the extent that an event of default has occurred and a legal opinion supporting enforceability of the netting and collateral rights has been obtained.

Derivative Mark-to-Market (MTM) Receivables/Payables

In millions of dollars at December 31, 2022	Derivatives classified in Trading account assets/liabilities[1][2]	
Derivatives instruments designated as ASC 815 hedges	**Assets**	**Liabilities**
Over-the-counter	**$ 468**	**$ 1**
Cleared	**129**	**101**
Interest rate contracts	**$ 597**	**$ 102**
Over-the-counter	**$ 2,288**	**$ 1,766**
Cleared	**3**	**3**
Foreign exchange contracts	**$ 2,291**	**$ 1,769**
Total derivatives instruments designated as ASC 815 hedges	**$ 2,888**	**$ 1,871**
Derivatives instruments not designated as ASC 815 hedges		
Over-the-counter	**$ 126,844**	**$ 119,854**
Cleared	**50,515**	**52,566**
Exchange traded	**248**	**98**
Interest rate contracts	**$ 177,607**	**$ 172,518**
Over-the-counter	**$ 184,869**	**$ 183,578**
Cleared	**502**	**643**
Exchange traded	**1**	**5**
Foreign exchange contracts	**$ 185,372**	**$ 184,226**
Over-the-counter	**$ 19,674**	**$ 21,871**
Cleared	**1**	**4**
Exchange traded	**22,732**	**21,908**
Equity contracts	**$ 42,407**	**$ 43,783**
Over-the-counter	**$ 27,285**	**$ 24,912**
Exchange traded	**1,039**	**1,406**
Commodity and other contracts	**$ 28,324**	**$ 26,318**
Over-the-counter	**$ 6,836**	**$ 5,807**
Cleared	**1,553**	**1,970**
Credit derivatives	**$ 8,389**	**$ 7,777**
Total derivatives instruments not designated as ASC 815 hedges	**$ 442,099**	**$ 434,622**
Total derivatives	**$ 444,987**	**$ 436,493**
Less: Netting agreements[3]	**$ (346,545)**	**$ (346,545)**
Less: Netting cash collateral received/paid[4]	**(23,136)**	**(30,032)**
Net receivables/payables included on the Consolidated Balance Sheet[5]	**$ 75,306**	**$ 59,916**
Additional amounts subject to an enforceable master netting agreement, but not offset on the Consolidated Balance Sheet		
Less: Cash collateral received/paid	**$ (1,455)**	**$ (2,272)**
Less: Non-cash collateral received/paid	**(5,923)**	**(13,475)**
Total net receivables/payables[5]	**$ 67,928**	**$ 44,169**

(1) The derivatives fair values are also presented in Note 25.

(2) Over-the-counter (OTC) derivatives are derivatives executed and settled bilaterally with counterparties without the use of an organized exchange or central clearing house. Cleared derivatives include derivatives executed bilaterally with a counterparty in the OTC market, but then novated to a central clearing house, whereby the central clearing house becomes the counterparty to both of the original counterparties. Exchange-traded derivatives include derivatives executed directly on an organized exchange that provides pre-trade price transparency.

(3) Represents the netting of balances with the same counterparty under enforceable netting agreements. Approximately $276 billion, $49 billion and $22 billion of the netting against trading account asset/liability balances is attributable to each of the OTC, cleared and exchange-traded derivatives, respectively.

(4) Represents the netting of cash collateral paid and received by counterparties under enforceable credit support agreements. Substantially all netting of cash collateral received and paid is against OTC derivative assets and liabilities, respectively.

(5) The net receivables/payables include approximately $14 billion of derivative asset and $11 billion of derivative liability fair values not subject to enforceable master netting agreements, respectively.

In millions of dollars at December 31, 2021	Derivatives classified in Trading account assets/liabilities[1][2]	
Derivatives instruments designated as ASC 815 hedges	Assets	Liabilities
Over-the-counter	$ 1,167	$ 6
Cleared	122	89
Interest rate contracts	$ 1,289	$ 95
Over-the-counter	$ 1,338	$ 1,472
Cleared	6	—
Foreign exchange contracts	$ 1,344	$ 1,472
Total derivatives instruments designated as ASC 815 hedges	$ 2,633	$ 1,567
Derivatives instruments not designated as ASC 815 hedges		
Over-the-counter	$ 152,524	$ 138,114
Cleared	11,579	11,821
Exchange traded	96	44
Interest rate contracts	$ 164,199	$ 149,979
Over-the-counter	$ 133,357	$ 133,548
Cleared	848	278
Foreign exchange contracts	$ 134,205	$ 133,826
Over-the-counter	$ 23,452	$ 28,352
Cleared	19	—
Exchange traded	21,781	21,332
Equity contracts	$ 45,252	$ 49,684
Over-the-counter	$ 29,279	$ 29,833
Exchange traded	1,065	1,546
Commodity and other contracts	$ 30,344	$ 31,379
Over-the-counter	$ 6,896	$ 6,959
Cleared	3,322	4,056
Credit derivatives	$ 10,218	$ 11,015
Total derivatives instruments not designated as ASC 815 hedges	$ 384,218	$ 375,883
Total derivatives	$ 386,851	$ 377,450
Less: Netting agreements[3]	$ (292,628)	$ (292,628)
Less: Netting cash collateral received/paid[4]	(24,447)	(29,306)
Net receivables/payables included on the Consolidated Balance Sheet[5]	$ 69,776	$ 55,516
Additional amounts subject to an enforceable master netting agreement, but not offset on the Consolidated Balance Sheet		
Less: Cash collateral received/paid	$ (907)	$ (538)
Less: Non-cash collateral received/paid	(5,777)	(13,607)
Total net receivables/payables[5]	$ 63,092	$ 41,371

(1) The derivative fair values are also presented in Note 25.

(2) Over-the-counter (OTC) derivatives are derivatives executed and settled bilaterally with counterparties without the use of an organized exchange or central clearing house. Cleared derivatives include derivatives executed bilaterally with a counterparty in the OTC market, but then novated to a central clearing house, whereby the central clearing house becomes the counterparty to both of the original counterparties. Exchange-traded derivatives include derivatives executed directly on an organized exchange that provides pre-trade price transparency.

(3) Represents the netting of balances with the same counterparty under enforceable netting agreements. Approximately $259 billion, $14 billion and $20 billion of the netting against trading account asset/liability balances is attributable to each of the OTC, cleared and exchange-traded derivatives, respectively.

(4) Represents the netting of cash collateral paid and received by counterparties under enforceable credit support agreements. Substantially all netting of cash collateral received and paid is against OTC derivative assets and liabilities, respectively.

(5) The net receivables/payables include approximately $10 billion of derivative asset and $11 billion of derivative liability fair values not subject to enforceable master netting agreements, respectively.

For the years ended December 31, 2022, 2021 and 2020, amounts recognized in *Principal transactions* in the Consolidated Statement of Income include certain derivatives not designated in a qualifying hedging relationship. Citigroup presents this disclosure by business classification, showing derivative gains and losses related to its trading activities together with gains and losses related to non-derivative instruments within the same trading portfolios, as this represents how these portfolios are risk managed. See Note 6 for further information.

The amounts recognized in *Other revenue* in the Consolidated Statement of Income related to derivatives not designated in a qualifying hedging relationship are shown below. The table below does not include any offsetting gains (losses) on the economically hedged items to the extent that such amounts are also recorded in *Other revenue*:

	Gains (losses) included in Other revenue		
	Year ended December 31,		
In millions of dollars	**2022**	2021	2020
Interest rate contracts	**$ 141**	$ (70)	$ 63
Foreign exchange	**(56)**	(102)	(57)
Total	**$ 85**	$ (172)	$ 6

Accounting for Derivative Hedging

Citigroup accounts for its hedging activities in accordance with ASC 815, *Derivatives and Hedging*. As a general rule, hedge accounting is permitted where the Company is exposed to a particular risk, such as interest rate or foreign exchange risk, that causes changes in the fair value of an asset or liability or variability in the expected future cash flows of an existing asset, liability or a forecasted transaction that may affect earnings.

Derivative contracts hedging the risks associated with changes in fair value are referred to as fair value hedges, while contracts hedging the variability of expected future cash flows are cash flow hedges. Hedges that utilize derivatives or debt instruments to manage the foreign exchange risk associated with equity investments in non-U.S.-dollar-functional-currency foreign subsidiaries (i.e., net investment in a foreign operation) are net investment hedges.

To qualify as an accounting hedge under the hedge accounting rules (versus an economic hedge where hedge accounting is not applied), a hedging relationship must be highly effective in offsetting the risk designated as being hedged. The hedging relationship must be formally documented at inception, detailing the particular risk management objective and strategy for the hedge. This includes the item and risk(s) being hedged, the hedging instrument being used and how effectiveness will be assessed. The effectiveness of these hedging relationships is evaluated at hedge inception and on an ongoing basis both on a retrospective and prospective basis, typically using quantitative measures of correlation, with hedge ineffectiveness measured and recorded in current earnings. Hedge effectiveness assessment methodologies are performed in a similar manner for similar hedges, and are used consistently throughout the hedging relationships. The assessment of effectiveness may exclude changes in the value of the hedged item that are unrelated to the risks being hedged and the changes in fair value of the derivative associated with time value. Citi excludes changes in the cross-currency basis associated with cross-currency swaps from the assessment of hedge effectiveness and records it in *Other comprehensive income*.

Discontinued Hedge Accounting

A hedging instrument must be highly effective in accomplishing the hedge objective of offsetting either changes in the fair value or cash flows of the hedged item for the risk being hedged. Management may voluntarily de-designate an accounting hedge at any time, but if a hedging relationship is not highly effective, it no longer qualifies for hedge accounting and must be de-designated. Subsequent changes in the fair value of the derivative are recognized in *Other revenue* or *Principal transactions*, similar to trading derivatives, with no offset recorded related to the hedged item.

For fair value hedges, any changes in the carrying value of the hedged item remain as part of the basis of the asset or liability and are ultimately realized as an element of the yield on the item. For cash flow hedges, changes in fair value of the end-user derivative remain in *Accumulated other comprehensive income (loss) (AOCI)* and are included in the earnings of future periods when the forecasted hedged cash flows impact earnings. However, if it becomes probable that some or all of the hedged forecasted transactions will not occur, any amounts that remain in *AOCI* related to these transactions must be immediately reflected in *Other revenue*.

The foregoing criteria are applied on a decentralized basis, consistent with the level at which market risk is managed, but are subject to various limits and controls. The underlying asset, liability or forecasted transaction may be an individual item or a portfolio of similar items.

Fair Value Hedges

Hedging of Benchmark Interest Rate Risk

Citigroup's fair value hedges, which include hedges of closed pools of assets, are primarily hedges of fixed-rate long-term debt or assets, such as available-for-sale debt securities or loans.

For qualifying fair value hedges of interest rate risk, the changes in the fair value of the derivative and the change in the fair value of the hedged item attributable to the hedged risk are presented within *Interest revenue* or *Interest expense* based on whether the hedged item is an asset or a liability.

Hedging of Foreign Exchange Risk

Citigroup hedges the change in fair value attributable to foreign exchange rate movements in available-for-sale debt securities and long-term debt that are denominated in currencies other than the functional currency of the entity holding the securities or issuing the debt. The hedging instrument is generally a forward foreign exchange contract or a cross-currency swap contract. Changes in the fair value of the forward points (i.e., the spot-forward difference) of forward contracts are excluded from the assessment of hedge effectiveness and are generally reflected directly in earnings over the life of the hedge. Citi also excludes changes in the fair value of cross-currency basis associated with cross-currency swaps from the assessment of hedge effectiveness and records them in *Other comprehensive income.*

Hedging of Commodity Price Risk

Citigroup hedges the change in fair value attributable to spot price movements in physical commodities inventories. The hedging instrument is a futures contract to sell the underlying commodity. In this hedge, the change in the carrying value of the hedged inventory is reflected in earnings, which offsets the change in the fair value of the futures contract that is also reflected in earnings. Although the entire change in the fair value of the hedging instrument is recorded in earnings, under certain hedge programs, Citigroup excludes changes in the fair value of the forward points (i.e., spot-forward difference) of the futures contract from the assessment of hedge effectiveness, and they are generally reflected directly in earnings over the life of the hedge. Under other hedge programs, Citi excludes changes in the fair value of forward points from the assessment of hedge effectiveness and records them in *Other comprehensive income*.

The following table summarizes the gains (losses) on the Company's fair value hedges:

	Gains (losses) on fair value hedges[1]					
	Year ended December 31,					
	2022		2021		2020	
In millions of dollars	**Other revenue**	**Net interest income**	Other revenue	Net interest income	Other revenue	Net interest income
Gain (loss) on the hedging derivatives included in assessment of the effectiveness of fair value hedges						
Interest rate hedges	**$ —**	**$ (8,322)**	$ —	$ (5,425)	$ —	$ 4,189
Foreign exchange hedges	**(1,375)**	**—**	(627)	—	1,442	—
Commodity hedges	**(1,870)**	**—**	(3,983)	—	(164)	—
Total gain (loss) on the hedging derivatives included in assessment of the effectiveness of fair value hedges	**$ (3,245)**	**$ (8,322)**	$ (4,610)	$ (5,425)	$ 1,278	$ 4,189
Gain (loss) on the hedged item in designated and qualifying fair value hedges						
Interest rate hedges	**$ —**	**$ 8,087**	$ —	$ 5,043	$ —	$ (4,537)
Foreign exchange hedges	**1,372**	**—**	628	—	(1,442)	—
Commodity hedges	**1,870**	**—**	3,973	—	164	—
Total gain (loss) on the hedged item in designated and qualifying fair value hedges	**$ 3,242**	**$ 8,087**	$ 4,601	$ 5,043	$ (1,278)	$ (4,537)
Net gain (loss) on the hedging derivatives excluded from assessment of the effectiveness of fair value hedges						
Interest rate hedges	**$ —**	**$ —**	$ —	$ (9)	$ —	$ (23)
Foreign exchange hedges[2]	**171**	**—**	79	—	(73)	—
Commodity hedges[3]	**94**	**—**	5	—	131	—
Total net gain (loss) on the hedging derivatives excluded from assessment of the effectiveness of fair value hedges	**$ 265**	**$ —**	$ 84	$ (9)	$ 58	$ (23)

(1) Gain (loss) amounts for interest rate risk hedges are included in *Interest revenue/Interest expense.* The accrued interest income on fair value hedges is recorded in *Net interest income* and is excluded from this table.

(2) Amounts related to the forward points (i.e., the spot-forward difference) that are excluded from the assessment of hedge effectiveness and are generally reflected directly in earnings under the mark-to-market approach. Amounts related to cross-currency basis, which are recognized in *AOCI*, are not reflected in the table above. The amount of cross-currency basis included in *AOCI* was $73 million and $2 million for the years ended December 31, 2022 and 2021, respectively.

(3) Amounts related to the forward points (i.e., the spot-forward difference) that are excluded from the assessment of hedge effectiveness reflected directly in earnings under the mark-to-market approach or recorded in *AOCI* under the amortization approach. The year ended December 31, 2022 includes gain (loss) of approximately $86 million and $8 million under the mark-to-market approach and amortization approach, respectively.

Cumulative Basis Adjustment

Upon electing to apply ASC 815 fair value hedge accounting, the carrying value of the hedged item is adjusted to reflect the cumulative changes in the hedged risk. This cumulative basis adjustment becomes part of the carrying amount of the hedged item until the hedged item is derecognized from the balance sheet. The table below presents the carrying amount of Citi's hedged assets and liabilities under qualifying fair value hedges at December 31, 2022 and 2021, along with the cumulative basis adjustments included in the carrying value of those hedged assets and liabilities that would reverse through earnings in future periods.

In millions of dollars

Balance sheet line item in which hedged item is recorded	Carrying amount of hedged asset/ liability	Cumulative basis adjustment increasing (decreasing) the carrying amount	
		Active	De-designated
As of December 31, 2022			
Debt securities AFS[1][3]	**$ 98,837**	**$ (2,976)**	**$ (333)**
Long-term debt	**144,549**	**(5,040)**	**(3,399)**
As of December 31, 2021			
Debt securities AFS[2][3]	$ 62,733	$ 149	$ 212
Long-term debt	149,305	623	3,936

(1) These amounts include a cumulative basis adjustment of $(91) million for active hedges and $(309) million for de-designated hedges as of December 31, 2022, related to certain prepayable financial assets previously designated as the hedged item in a fair value hedge using the last-of-layer approach. The Company designated approximately $3 billion as the hedged amount (from a closed portfolio of prepayable financial assets with a carrying value of $11 billion as of December 31, 2022) in a last-of-layer hedging relationship.

(2) These amounts include a cumulative basis adjustment of $24 million for active hedges and $(92) million for de-designated hedges as of December 31, 2021, related to certain prepayable financial assets previously designated as the hedged item in a fair value hedge using the last-of-layer approach. The Company designated approximately $6 billion as the hedged amount (from a closed portfolio of prepayable financial assets with a carrying value of $25 billion as of December 31, 2021) in a last-of-layer hedging relationship.

(3) Carrying amount represents the amortized cost.

Cash Flow Hedges

Citigroup hedges the variability of forecasted cash flows due to changes in contractually specified interest rates associated with floating-rate assets/liabilities and other forecasted transactions. Variable cash flows from those liabilities are synthetically converted to fixed-rate cash flows by entering into receive-variable, pay-fixed interest rate swaps and receive-variable, pay-fixed forward-starting interest rate swaps. Variable cash flows associated with certain assets are synthetically converted to fixed-rate cash flows by entering into receive-fixed, pay-variable interest rate swaps. These cash flow hedging relationships use either regression analysis or dollar-offset ratio analysis to assess whether the hedging relationships are highly effective at inception and on an ongoing basis.

For cash flow hedges, the entire change in the fair value of the hedging derivative is recognized in *AOCI* and then reclassified to earnings in the same period that the forecasted hedged cash flows impact earnings. The pretax change in *AOCI* from cash flow hedges is presented below:

In millions of dollars	**2022**		2021		2020	
Amount of gain (loss) recognized in *AOCI* on derivatives						
Interest rate contracts		**$ (3,640)**		$ (847)		$ 2,670
Foreign exchange contracts		**34**		(51)		(15)
Total gain (loss) recognized in *AOCI*		**$ (3,606)**		$ (898)		$ 2,655
	Other revenue	**Net interest income**	Other revenue	Net interest income	Other revenue	Net interest income
Amount of gain (loss) reclassified from *AOCI* to earnings[1]						
Interest rate contracts	**$ —**	**$ (125)**	$ —	$ 1,075	$ —	$ 734
Foreign exchange contracts	**(4)**	**—**	(4)	—	(4)	—
Total gain (loss) reclassified from *AOCI* into earnings	**$ (4)**	**$ (125)**	$ (4)	$ 1,075	$ (4)	$ 734
Net pretax change in cash flow hedges included within *AOCI*		**$ (3,477)**		$ (1,969)		$ 1,925

(1) All amounts reclassified into earnings for interest rate contracts are included in *Interest income/Interest expense (Net interest income)*. For all other hedges, the amounts reclassified to earnings are included primarily in *Other revenue* and *Net interest income* in the Consolidated Statement of Income.

The net gain (loss) associated with cash flow hedges expected to be reclassified from *AOCI* within 12 months of December 31, 2022 is approximately $(1.7) billion. The maximum length of time over which forecasted cash flows are hedged is 10 years.

The after-tax impact of cash flow hedges on *AOCI* is shown in Note 20.

Net Investment Hedges

Consistent with ASC 830-20, *Foreign Currency Matters—Foreign Currency Transactions*, ASC 815 allows the hedging of the foreign currency risk of a net investment in a foreign operation. Citigroup uses foreign currency forwards, cross-currency swaps, options and foreign currency-denominated debt instruments to manage the foreign exchange risk associated with Citigroup's equity investments in several non-U.S.-dollar-functional-currency foreign subsidiaries. Citi records the change in the fair value of these hedging instruments and the translation adjustment for the investments in these foreign subsidiaries in *Foreign currency translation adjustment* within *AOCI*.

For derivatives designated as net investment hedges, Citigroup follows the forward-rate method outlined in ASC 815-35-35. According to that method, all changes in fair value, including changes related to the forward-rate component of the foreign currency forward contracts and the time value of foreign currency options, are recorded in *Foreign currency translation adjustment* within *AOCI*.

For foreign currency-denominated debt instruments that are designated as hedges of net investments, the translation gain or loss that is recorded in *Foreign currency translation adjustment* is based on the spot exchange rate between the functional currency of the respective subsidiary and the U.S. dollar, which is the functional currency of Citigroup.

The pretax gain (loss) recorded in Foreign currency translation adjustment within *AOCI*, related to net investment hedges, was $370 million, $855 million and $(600) million for the years ended December 31, 2022, 2021 and 2020, respectively. The year ended December 31, 2022 includes a $36 million pretax loss related to net investment hedges, respectively, which were reclassified from *AOCI* into earnings (recorded in *Other revenue*).

Economic Hedges

Citigroup often uses economic hedges when hedge accounting would be too complex or operationally burdensome. End-user derivatives that are economic hedges are carried at fair value, with changes in value included in either *Principal transactions* or *Other revenue*.

For asset/liability management hedging, fixed-rate long-term debt is recorded at amortized cost under GAAP.

For other hedges that either do not meet the ASC 815 hedging criteria or for which management decides not to apply ASC 815 hedge accounting, the derivative is recorded at fair value on the balance sheet with the associated changes in fair value recorded in earnings, while the debt continues to be carried at amortized cost. Therefore, current earnings are affected by the interest rate shifts and other factors that cause a change in the swap's value, but for which no offsetting change in value is recorded on the debt.

Citigroup may alternatively elect to account for the debt at fair value under the fair value option. Once the irrevocable election is made upon issuance of the debt, the full change in fair value of the debt is reported in earnings. The changes in fair value of the related interest rate swap are also reflected in earnings, which provides a natural offset to the debt's fair value change. To the extent that the two amounts differ because the full change in the fair value of the debt includes risks not offset by the interest rate swap, the difference is automatically captured in current earnings.

Additional economic hedges include hedges of the credit risk component of commercial loans and loan commitments. Citigroup periodically evaluates its hedging strategies in other areas and may designate either an accounting hedge or an economic hedge after considering the relative costs and benefits. Economic hedges are also employed when the hedged item itself is marked-to-market through current earnings, such as hedges of commitments to originate one- to four-family mortgage loans to be HFS and MSRs.

Credit Derivatives

Citi is a market maker and trades a range of credit derivatives. Through these contracts, Citi either purchases or writes protection on either a single name or a portfolio of reference credits. Citi also uses credit derivatives to help mitigate credit risk in its corporate and consumer loan portfolios and other cash positions and to facilitate client transactions.

Citi monitors its counterparty credit risk in credit derivative contracts. As of December 31, 2022 and 2021, approximately 98% and 99%, respectively, of the gross receivables are from counterparties with which Citi maintains master netting agreements, collateral agreements or settles daily. A majority of Citi's top 15 counterparties (by receivable balance owed to Citi) are central clearing houses, banks, financial institutions or other dealers. Contracts with these counterparties do not include ratings-based termination events. However, counterparty ratings downgrades may have an incremental effect by lowering the threshold at which Citi may call for additional collateral.

The range of credit derivatives entered into includes credit default swaps, total return swaps, credit options and credit-linked notes.

A credit default swap is a contract in which, for a fee, a protection seller agrees to reimburse a protection buyer for any losses that occur due to a predefined credit event on a reference entity. These credit events are defined by the terms of the derivative contract and the reference entity and are generally limited to the market standard of failure to pay on indebtedness and bankruptcy of the reference entity and, in a more limited range of transactions, debt restructuring. Credit derivative transactions that reference emerging market entities also typically include additional credit events to cover the acceleration of indebtedness and the risk of repudiation or a payment moratorium. In certain transactions, protection may be provided on a portfolio of reference entities or asset-backed securities. If there is no credit event, as defined by the specific derivative contract, then the protection seller makes no payments to the protection buyer and receives only the contractually specified fee. However, if a credit event occurs as defined in the specific derivative contract sold, the protection seller will be required to make a payment to the protection buyer. Under certain contracts, the seller of protection may not be required to make a payment until a specified amount of losses has occurred with respect to the portfolio and/or may only be required to pay for losses up to a specified amount.

A total return swap typically transfers the total economic performance of a reference asset, which includes all associated

cash flows, as well as capital appreciation or depreciation. The protection buyer receives a floating rate of interest and any depreciation on the reference asset from the protection seller and, in return, the protection seller receives the cash flows associated with the reference asset plus any appreciation. Thus, according to the total return swap agreement, the protection seller will be obligated to make a payment any time the floating interest rate payment plus any depreciation of the reference asset exceeds the cash flows associated with the underlying asset. A total return swap may terminate upon a default of the reference asset or a credit event with respect to the reference entity, subject to the provisions of the related total return swap agreement between the protection seller and the protection buyer.

A credit option is a credit derivative that allows investors to trade or hedge changes in the credit quality of a reference entity. For example, in a credit spread option, the option writer assumes the obligation to purchase or sell credit protection on the reference entity at a specified "strike" spread level. The option purchaser buys the right to sell credit default protection on the reference entity to, or purchase it from, the option writer at the strike spread level. The payments on credit spread options depend either on a particular credit spread or the price of the underlying credit-sensitive asset or other reference entity. The options usually terminate if a credit event occurs with respect to the underlying reference entity.

A credit-linked note is a form of credit derivative structured as a debt security with an embedded credit default swap. The purchaser of the note effectively provides credit protection to the issuer by agreeing to receive a return that could be negatively affected by credit events on the underlying reference entity. If the reference entity defaults, the note may be cash settled or physically settled by delivery of a debt security of the reference entity. Thus, the maximum amount of the note purchaser's exposure is the amount paid for the credit-linked note.

The following tables summarize the key characteristics of Citi's credit derivatives portfolio by counterparty and derivative form:

	Fair values		Notionals	
In millions of dollars at December 31, 2022	**Receivable[1]**	**Payable[2]**	**Protection purchased**	**Protection sold**
By industry of counterparty				
Banks	**$ 1,835**	**$ 2,479**	**$ 100,628**	**$ 96,143**
Broker-dealers	**1,893**	**1,478**	**48,760**	**44,148**
Non-financial	**47**	**15**	**1,562**	**1,585**
Insurance and other financial institutions	**4,614**	**3,805**	**490,689**	**451,260**
Total by industry of counterparty	**$ 8,389**	**$ 7,777**	**$ 641,639**	**$ 593,136**
By instrument				
Credit default swaps and options	**$ 6,867**	**$ 7,360**	**$ 623,981**	**$ 586,504**
Total return swaps and other	**1,522**	**417**	**17,658**	**6,632**
Total by instrument	**$ 8,389**	**$ 7,777**	**$ 641,639**	**$ 593,136**
By rating of reference entity				
Investment grade	**$ 3,796**	**$ 2,970**	**$ 499,339**	**$ 462,873**
Non-investment grade	**4,593**	**4,807**	**142,300**	**130,263**
Total by rating of reference entity	**$ 8,389**	**$ 7,777**	**$ 641,639**	**$ 593,136**
By maturity				
Within 1 year	**$ 1,753**	**$ 1,801**	**$ 147,031**	**$ 148,721**
From 1 to 5 years	**4,577**	**4,134**	**443,113**	**407,293**
After 5 years	**2,059**	**1,842**	**51,495**	**37,122**
Total by maturity	**$ 8,389**	**$ 7,777**	**$ 641,639**	**$ 593,136**

(1) The fair value amount receivable is composed of $5,094 million under protection purchased and $3,295 million under protection sold.
(2) The fair value amount payable is composed of $3,573 million under protection purchased and $4,204 million under protection sold.

	Fair values		Notionals	
In millions of dollars at December 31, 2021	Receivable[1]	Payable[2]	Protection purchased	Protection sold
By industry of counterparty				
Banks	$ 2,375	$ 3,031	$ 108,415	$ 103,756
Broker-dealers	1,962	1,139	44,364	40,068
Non-financial	113	306	2,785	2,728
Insurance and other financial institutions	5,768	6,539	490,432	425,934
Total by industry of counterparty	$ 10,218	$ 11,015	$ 645,996	$ 572,486
By instrument				
Credit default swaps and options	$ 9,923	$ 10,234	$ 628,136	$ 565,131
Total return swaps and other	295	781	17,860	7,355
Total by instrument	$ 10,218	$ 11,015	$ 645,996	$ 572,486
By rating of reference entity				
Investment grade	$ 4,149	$ 4,258	$ 511,652	$ 448,944
Non-investment grade	6,069	6,757	134,344	123,542
Total by rating of reference entity	$ 10,218	$ 11,015	$ 645,996	$ 572,486
By maturity				
Within 1 year	$ 878	$ 1,462	$ 133,866	$ 115,603
From 1 to 5 years	6,674	6,638	454,617	413,174
After 5 years	2,666	2,915	57,513	43,709
Total by maturity	$ 10,218	$ 11,015	$ 645,996	$ 572,486

(1) The fair value amount receivable is composed of $3,705 million under protection purchased and $6,513 million under protection sold.
(2) The fair value amount payable is composed of $7,354 million under protection purchased and $3,661 million under protection sold.

Fair values included in the above tables are prior to application of any netting agreements and cash collateral. For notional amounts, Citi generally has a mismatch between the total notional amounts of protection purchased and sold, and it may hold the reference assets directly rather than entering into offsetting credit derivative contracts as and when desired. The open risk exposures from credit derivative contracts are largely matched after certain cash positions in reference assets are considered and after notional amounts are adjusted, either to a duration-based equivalent basis or to reflect the level of subordination in tranched structures. The ratings of the credit derivatives portfolio presented in the tables and used to evaluate payment/performance risk are based on the assigned internal or external ratings of the reference asset or entity. Where external ratings are used, investment-grade ratings are considered to be "Baa/BBB" and above, while anything below is considered non-investment grade. Citi's internal ratings are in line with the related external rating system.

Citigroup evaluates the payment/performance risk of the credit derivatives for which it stands as a protection seller based on the credit rating assigned to the underlying reference credit. Credit derivatives written on an underlying non-investment-grade reference entity represent greater payment risk to the Company. The non-investment-grade category in the table above also includes credit derivatives where the underlying reference entity has been downgraded subsequent to the inception of the derivative.

The maximum potential amount of future payments under credit derivative contracts presented in the table above is based on the notional value of the derivatives. The Company believes that the notional amount for credit protection sold is not representative of the actual loss exposure based on historical experience. This amount has not been reduced by the value of the reference assets and the related cash flows. In accordance with most credit derivative contracts, should a credit event occur, the Company usually is liable for the difference between the protection sold and the value of the reference assets. Furthermore, the notional amount for credit protection sold has not been reduced for any cash collateral paid to a given counterparty, as such payments would be calculated after netting all derivative exposures, including any credit derivatives with that counterparty in accordance with a related master netting agreement. Due to such netting processes, determining the amount of collateral that corresponds to credit derivative exposures alone is not possible. The Company actively monitors open credit-risk exposures and manages this exposure by using a variety of strategies, including purchased credit derivatives, cash collateral or direct holdings of the referenced assets. This risk mitigation activity is not captured in the table above.

Credit Risk-Related Contingent Features in Derivatives

Certain derivative instruments contain provisions that require the Company to either post additional collateral or immediately settle any outstanding liability balances upon the occurrence of a specified event related to the credit risk of the Company. These events, which are defined by the existing derivative contracts, are primarily downgrades in the credit ratings of the Company and its affiliates.

The fair value (excluding CVA) of all derivative instruments with credit risk-related contingent features that were in a net liability position at December 31, 2022 and 2021 was $18 billion and $19 billion, respectively. The Company posted $15 billion and $16 billion as collateral for this exposure in the normal course of business as of December 31, 2022 and 2021, respectively.

A downgrade could trigger additional collateral or cash settlement requirements for the Company and certain affiliates. In the event that Citigroup and Citibank were downgraded a single notch by all three major rating agencies as of December 31, 2022, the Company could be required to post an additional $0.9 billion as either collateral or settlement of the derivative transactions. In addition, the Company could be required to segregate with third-party custodians collateral previously received from existing derivative counterparties in the amount of $15.0 million upon the single notch downgrade, resulting in aggregate cash obligations and collateral requirements of approximately $0.9 billion.

Derivatives Accompanied by Financial Asset Transfers

The Company executes total return swaps that provide it with synthetic exposure to substantially all of the economic return of the securities or other financial assets referenced in the contract. In certain cases, the derivative transaction is accompanied by the Company's transfer of the referenced financial asset to the derivative counterparty, most typically in response to the derivative counterparty's desire to hedge, in whole or in part, its synthetic exposure under the derivative contract by holding the referenced asset in funded form. In certain jurisdictions these transactions qualify as sales, resulting in derecognition of the securities transferred (see Note 1 for further discussion of the related sale conditions for transfers of financial assets). For a significant portion of the transactions, the Company has also executed another total return swap where the Company passes on substantially all of the economic return of the referenced securities to a different third party seeking the exposure. In those cases, the Company is not exposed, on a net basis, to changes in the economic return of the referenced securities.

These transactions generally involve the transfer of the Company's liquid government bonds, convertible bonds or publicly traded corporate equity securities from the trading portfolio and are executed with third-party financial institutions. The accompanying derivatives are typically total return swaps. The derivatives are cash settled and subject to ongoing margin requirements.

When the conditions for sale accounting are met, the Company reports the transfer of the referenced financial asset as a sale and separately reports the accompanying derivative transaction. These transactions generally do not result in a gain or loss on the sale of the security, because the transferred

security was held at fair value in the Company's trading portfolio. For transfers of financial assets accounted for as a sale by the Company, and for which the Company has retained substantially all of the economic exposure to the transferred asset through a total return swap executed with the same counterparty in contemplation of the initial sale (and still outstanding), the asset amounts derecognized and the gross cash proceeds received as of the date of derecognition were $1.4 billion and $2.9 billion as of December 31, 2022 and 2021, respectively.

At December 31, 2022, the fair value of these previously derecognized assets was $1.4 billion. The fair value of the total return swaps as of December 31, 2022 was $27 million recorded as gross derivative assets and $32 million recorded as gross derivative liabilities. At December 31, 2021 the fair value of these previously derecognized assets was $2.9 billion, and the fair value of the total return swaps was $13 million recorded as gross derivative assets and $58 million recorded as gross derivative liabilities.

The balances for the total return swaps are on a gross basis, before the application of counterparty and cash collateral netting, and are included primarily as equity derivatives in the tabular disclosures in this Note.

24. CONCENTRATIONS OF CREDIT RISK

Concentrations of credit risk exist when changes in economic, industry or geographic factors similarly affect groups of counterparties whose aggregate credit exposure is material in relation to Citigroup's total credit exposure. Although Citigroup's portfolio of financial instruments is broadly diversified along industry, product and geographic lines, material transactions are completed with other financial institutions, particularly in the securities trading, derivatives and foreign exchange businesses.

In connection with the Company's efforts to maintain a diversified portfolio, the Company limits its exposure to any one geographic region, country or individual creditor and monitors this exposure on a continuous basis. At December 31, 2022, Citigroup's most significant concentration of credit risk was with the U.S. government and its agencies. The Company's exposure, which primarily results from trading assets and investments issued by the U.S. government and its agencies, amounted to $431.6 billion and $414.5 billion at December 31, 2022 and 2021, respectively. The German, Japanese and United Kingdom governments and their agencies, which are rated investment grade by both Moody's and S&P, were the next largest exposures. The Company's exposure to Germany amounted to $48.3 billion and $48.9 billion at December 31, 2022 and 2021, respectively. The Company's exposure to Japan amounted to $40.0 billion and $30.1 billion at December 31, 2022 and 2021, respectively. The Company's exposure to the United Kingdom amounted to $31.7 billion and $31.1 billion at December 31, 2022 and 2021, respectively. The foreign government exposures are composed of investment securities, loans and trading assets.

The Company's exposure to states and municipalities amounted to $20.1 billion and $22.0 billion at December 31, 2022 and 2021, respectively, and was composed of trading assets, investment securities, derivatives and lending activities.

25. FAIR VALUE MEASUREMENT

ASC 820-10, *Fair Value Measurement*, defines fair value, establishes a consistent framework for measuring fair value and requires disclosures about fair value measurements. Fair value is defined as the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date, and therefore represents an exit price. Among other things, the standard requires the Company to maximize the use of observable inputs and minimize the use of unobservable inputs when measuring fair value.

Under ASC 820-10, the probability of counterparty default is factored into the valuation of derivative and other positions, and the impact of Citigroup's own credit risk is also factored into the valuation of derivatives and other liabilities that are measured at fair value.

Fair Value Hierarchy

ASC 820-10 specifies a hierarchy of inputs based on whether the inputs are observable or unobservable. Observable inputs are developed using market data and reflect market participant assumptions, while unobservable inputs reflect the Company's market assumptions. These two types of inputs have created the following fair value hierarchy:

- Level 1: Quoted prices for *identical* instruments in active markets.
- Level 2: Quoted prices for *similar* instruments in active markets, quoted prices for identical or similar instruments in markets that are not active and model-derived valuations in which all significant inputs and significant value drivers are *observable* in the market.
- Level 3: Valuations derived from valuation techniques in which one or more significant inputs or significant value drivers are *unobservable*.

As required under the fair value hierarchy, the Company considers relevant and observable market inputs in its valuations where possible.

The fair value hierarchy classification approach typically utilizes rules-based and data-driven selection criteria to determine whether an instrument is classified as Level 1, Level 2 or Level 3:

- The determination of whether an instrument is quoted in an active market and therefore considered a Level 1 instrument is based upon the frequency of observed transactions and the quality of independent market data available on the measurement date.
- A Level 2 classification is assigned where there is observability of prices/market inputs to models, or where any unobservable inputs are not significant to the valuation. The determination of whether an input is considered observable is based on the availability of independent market data and its corroboration, for example through observed transactions in the market.
- Otherwise, an instrument is classified as Level 3.

Determination of Fair Value

For assets and liabilities carried at fair value, the Company measures fair value using the procedures set out below, irrespective of whether the assets and liabilities are measured at fair value as a result of an election, a non-recurring lower-of-cost-or-market (LOCOM) adjustment, or because they are required to be measured at fair value.

When available, the Company uses quoted market prices from active markets to determine fair value and classifies such items as Level 1. In some specific cases where a market price is available, the Company will apply practical expedients (such as matrix pricing) to calculate fair value, in which case the items may be classified as Level 2.

The Company may also apply a price-based methodology that utilizes, where available, quoted prices or other market information obtained from recent trading activity in positions with the same or similar characteristics to the position being valued. If relevant and observable prices are available, those valuations may be classified as Level 2. However, when there are one or more significant unobservable "price" inputs, those valuations will be classified as Level 3. Furthermore, when a quoted price is considered stale, a significant adjustment to the price of a similar security may be necessary to reflect differences in the terms of the actual security or loan being valued, or alternatively, when prices from independent sources may be insufficient to corroborate a valuation, the "price" inputs are considered unobservable and the fair value measurements are classified as Level 3.

If quoted market prices are not available, fair value is based upon internally developed valuation techniques that use, where possible, current market-based parameters, such as interest rates, currency rates and option volatilities. Items valued using such internally generated valuation techniques are classified according to the lowest level input or value driver that is significant to the valuation. Thus, an item may be classified as Level 3 even though there may be some significant inputs that are readily observable.

Fair value estimates from internal valuation techniques are verified, where possible, to prices obtained from independent vendors or brokers. Vendors' and brokers' valuations may be based on a variety of inputs ranging from observed prices to proprietary valuation models, and the Company assesses the quality and relevance of this information in determining the estimate of fair value. The following section describes the valuation methodologies used by the Company to measure various financial instruments at fair value. Where appropriate, the description includes details of the valuation models, the key inputs to those models and any significant assumptions.

Market Valuation Adjustments

Generally, the unit of account for a financial instrument is the individual financial instrument. The Company applies market valuation adjustments that are consistent with the unit of account, which does not include adjustment due to the size of the Company's position, except as follows. ASC 820-10 permits an exception, through an accounting policy election, to measure the fair value of a portfolio of financial assets and financial liabilities on the basis of the net open risk position when certain criteria are met. Citi has elected to measure

certain portfolios of financial instruments that meet those criteria, such as derivatives, on the basis of the net open risk position. The Company applies market valuation adjustments, including adjustments to account for the size of the net open risk position, consistent with market participant assumptions.

Valuation adjustments are applied to items classified as Level 2 or Level 3 in the fair value hierarchy to ensure that the fair value reflects the price at which the net open risk position could be exited. These valuation adjustments are based on the bid/offer spread for an instrument in the market. When Citi has elected to measure certain portfolios of financial investments, such as derivatives, on the basis of the net open risk position, the valuation adjustment may take into account the size of the position.

Credit valuation adjustments (CVA) and funding valuation adjustments (FVA) are applied to the relevant population of over-the-counter (OTC) derivative instruments where adjustments to reflect counterparty credit risk, own credit risk and term funding risk are required to estimate fair value. This principally includes derivatives with a base valuation (e.g., discounted using overnight indexed swap (OIS)) requiring adjustment for these effects, such as uncollateralized interest rate swaps. The CVA represents a portfolio-level adjustment to reflect the risk premium associated with the counterparty's (assets) or Citi's (liabilities) non-performance risk.

The FVA represents a market funding risk premium inherent in the uncollateralized portion of a derivative portfolio and in certain collateralized derivative portfolios that do not include standard credit support annexes (CSAs), such as where the CSA does not permit the reuse of collateral received. Citi's FVA methodology leverages the existing CVA methodology to estimate a funding exposure profile. The calculation of this exposure profile considers collateral agreements in which the terms do not permit the Company to reuse the collateral received, including where counterparties post collateral to third-party custodians. Citi's CVA and FVA methodologies consist of two steps:

- First, the exposure profile for each counterparty is determined using the terms of all individual derivative positions and a Monte Carlo simulation or other quantitative analysis to generate a series of expected cash flows at future points in time. The calculation of this exposure profile considers the effect of credit risk mitigants and sources of funding, including pledged cash or other collateral and any legal right of offset that exists with a counterparty through arrangements such as netting agreements. Individual derivative contracts that are subject to an enforceable master netting agreement with a counterparty are aggregated as a netting set for this purpose, since it is those aggregate net cash flows that are subject to nonperformance risk. This process identifies specific, point-in-time future cash flows that are subject to nonperformance and term funding risk, rather than using the current recognized net asset or liability as a basis to measure the CVA and FVA.
- Second, for CVA, market-based views of default probabilities derived from observed credit spreads in the credit default swap (CDS) market are applied to the expected future cash flows determined in step one. Citi's own credit CVA is determined using Citi-specific CDS spreads for the relevant tenor. Generally, counterparty CVA is determined using CDS spread indices for each credit rating and tenor. For certain identified netting sets where individual analysis is practicable (e.g., exposures to counterparties with liquid CDSs), counterparty-specific CDS spreads are used. For FVA, a term structure of spreads is applied to the expected funding exposures (e.g., the market liquidity spread used to represent the term funding premium associated with certain OTC derivatives).

The CVA and FVA are designed to incorporate a market view of the credit and funding risk, respectively, inherent in the derivative portfolio. However, most unsecured derivative instruments are negotiated bilateral contracts and are not commonly transferred to third parties. Derivative instruments are normally settled contractually or, if terminated early, are terminated at a value negotiated bilaterally between the counterparties. Thus, the CVA and FVA may not be realized upon a settlement or termination in the normal course of business. In addition, all or a portion of these adjustments may be reversed or otherwise adjusted in future periods in the event of changes in the credit or funding risk associated with the derivative instruments.

The table below summarizes the CVA and FVA applied to the fair value of derivative instruments at December 31, 2022 and 2021:

	Credit and funding valuation adjustments contra-liability (contra-asset)	
In millions of dollars	**December 31, 2022**	December 31, 2021
Counterparty CVA	**$ (816)**	$ (705)
Asset FVA	**(622)**	(433)
Citigroup (own credit) CVA	**607**	379
Liability FVA	**263**	110
Total CVA and FVA—derivative instruments	**$ (568)**	$ (649)

The table below summarizes pretax gains (losses) related to changes in CVA on derivative instruments, net of hedges, FVA on derivatives and debt valuation adjustments (DVA) on Citi's own fair value option (FVO) liabilities for the years indicated:

	Credit/funding/debt valuation adjustments gain (loss)		
In millions of dollars	**2022**	2021	2020
Counterparty CVA	**$ (227)**	$ 79	$ (101)
Asset FVA	**(102)**	96	(95)
Own credit CVA	**157**	(33)	133
Liability FVA	**155**	(22)	(6)
Total CVA and FVA—derivative instruments	**$ (17)**	$ 120	$ (69)
DVA related to own FVO liabilities[1]	**$ 2,685**	$ 296	$ (616)
Total CVA, DVA and FVA	**$ 2,668**	$ 416	$ (685)

(1) See Note 20.

Securities Purchased Under Agreements to Resell and Securities Sold Under Agreements to Repurchase

No quoted prices exist for these instruments, since fair value is determined using a discounted cash flow technique. Cash flows are estimated based on the terms of the contract, taking into account any embedded derivatives or other features. These cash flows are discounted using interest rates appropriate to the maturity of the instrument as well as the nature of the underlying collateral. Generally, when such instruments are recorded at fair value, they are classified within Level 2 of the fair value hierarchy, as the inputs used in the valuation are readily observable. However, certain long-dated positions are classified within Level 3 of the fair value hierarchy.

Trading Account Assets and Liabilities—Trading Securities and Trading Loans

When available, the Company uses quoted market prices in active markets to determine the fair value of trading securities; such items are classified as Level 1 of the fair value hierarchy. Examples include government securities and exchange-traded equity securities.

For bonds and secondary market loans traded over the counter, the Company generally determines fair value utilizing various valuation techniques, including discounted cash flows, price-based and internal models. Fair value estimates from these internal valuation techniques are verified, where possible, to prices obtained from independent sources, including third-party vendors. A price-based methodology utilizes, where available, quoted prices or other market information obtained from recent trading activity of assets with similar characteristics to the bond or loan being valued. The yields used in discounted cash flow models are derived from the same price information. Trading securities and loans priced using such methods are generally classified as Level 2. However, when the primary inputs to the valuation are unobservable, or prices from independent sources are insufficient to corroborate valuation, a loan or security is generally classified as Level 3. Fair value estimates from these internal valuation techniques are verified, where possible, to prices obtained from independent sources, including third-party vendors.

When the Company's principal exit market for a portfolio of loans is through securitization, the Company uses the securitization price as a key input into the fair value of the loan portfolio. The securitization price is determined from the assumed proceeds of a hypothetical securitization within the current market environment. Where such a price verification is possible, loan portfolios are typically classified as Level 2 in the fair value hierarchy.

For most of the subprime mortgage backed security (MBS) exposures, fair value is determined utilizing observable transactions where available, or other valuation techniques such as discounted cash flow analysis utilizing valuation assumptions derived from similar, more observable securities as market proxies. The valuation of certain asset-backed security (ABS) CDO positions is inferred through the net asset value of the underlying assets of the ABS CDO.

Trading Account Assets and Liabilities—Derivatives

Exchange-traded derivatives, measured at fair value using quoted (i.e., exchange) prices in active markets, where available, are classified as Level 1 of the fair value hierarchy.

Derivatives without a quoted price in an active market and derivatives executed over the counter are valued using internal valuation techniques. These derivative instruments are classified as either Level 2 or Level 3 depending on the observability of the significant inputs to the model.

The valuation techniques depend on the type of derivative and the nature of the underlying instrument. The principal techniques used to value these instruments are discounted cash flows and internal models, such as derivative pricing models (e.g., Black-Scholes and Monte Carlo simulations).

The key inputs depend upon the type of derivative and the nature of the underlying instrument and include interest rate yield curves, foreign exchange rates, volatilities and correlation.

Investments

The investments category includes available-for-sale debt and marketable equity securities whose fair values are generally determined by utilizing similar procedures described for trading securities above or, in some cases, using vendor pricing as the primary source.

Also included in investments are nonpublic investments in private equity and real estate entities. Determining the fair value of nonpublic securities involves a significant degree of management judgment, as no quoted prices exist and such securities are not generally traded. In addition, there may be transfer restrictions on private equity securities. The Company's process for determining the fair value of such securities utilizes commonly accepted valuation techniques, including guideline public company analysis and comparable transactions. In determining the fair value of nonpublic securities, the Company also considers events such as a proposed sale of the investee company, initial public offerings, equity issuances or other observable transactions. Private

equity securities are generally classified as Level 3 of the fair value hierarchy.

In addition, the Company holds investments in certain alternative investment funds that calculate NAV per share, including hedge funds, private equity funds and real estate funds. Investments in funds are generally classified as non-marketable equity securities carried at fair value. The fair values of these investments are estimated using the NAV per share of the Company's ownership interest in the funds where it is not probable that the investment will be realized at a price other than the NAV. Consistent with the provisions of ASU 2015-07, these investments are categorized within the fair value hierarchy and are not included in the tables below. See Note 13 for additional information.

Short-Term Borrowings and Long-Term Debt

Where fair value accounting has been elected, the fair value of non-structured liabilities is determined by utilizing internal models using the appropriate discount rate for the applicable maturity. Such instruments are classified as Level 2 of the fair value hierarchy when all significant inputs are readily observable.

The Company determines the fair value of hybrid financial instruments, including structured liabilities, using the appropriate derivative valuation methodology (described above in "Trading Account Assets and Liabilities—Derivatives") given the nature of the embedded risk profile. Such instruments are classified as Level 2 or Level 3 depending on the observability of significant inputs to the model.

Items Measured at Fair Value on a Recurring Basis

The following tables present for each of the fair value hierarchy levels the Company's assets and liabilities that are measured at fair value on a recurring basis at December 31, 2022 and 2021. The Company may hedge positions that have been classified in the Level 3 category with other financial instruments (hedging instruments) that may be classified as Level 3, but also with financial instruments classified as Level 1 or Level 2. The effects of these hedges are presented gross in the following tables:

Fair Value Levels

In millions of dollars at December 31, 2022	Level 1	Level 2	Level 3	Gross inventory	Netting[1]	Net balance
Assets						
Securities borrowed and purchased under agreements to resell	$ —	$ 350,145	$ 149	$ 350,294	$ (110,767)	$ 239,527
Trading non-derivative assets						
Trading mortgage-backed securities						
U.S. government-sponsored agency guaranteed	—	34,878	600	35,478	—	35,478
Residential	1	1,821	166	1,988	—	1,988
Commercial	—	798	145	943	—	943
Total trading mortgage-backed securities	$ 1	$ 37,497	$ 911	$ 38,409	$ —	$ 38,409
U.S. Treasury and federal agency securities	$ 63,067	$ 4,513	$ 1	$ 67,581	$ —	$ 67,581
State and municipal	—	2,256	7	2,263	—	2,263
Foreign government	38,383	25,850	119	64,352	—	64,352
Corporate	1,593	11,955	394	13,942	—	13,942
Equity securities	43,990	10,179	192	54,361	—	54,361
Asset-backed securities	—	1,597	668	2,265	—	2,265
Other trading assets[2]	24	14,963	648	15,635	—	15,635
Total trading non-derivative assets	$ 147,058	$ 108,810	$ 2,940	$ 258,808	$ —	$ 258,808
Trading derivatives						
Interest rate contracts	$ 297	$ 174,156	$ 3,751	$ 178,204		
Foreign exchange contracts	—	186,897	766	187,663		
Equity contracts	20	40,683	1,704	42,407		
Commodity contracts	—	26,823	1,501	28,324		
Credit derivatives	—	7,484	905	8,389		
Total trading derivatives—before netting and collateral	$ 317	$ 436,043	$ 8,627	$ 444,987		
Netting agreements					$ (346,545)	
Netting of cash collateral received					(23,136)	
Total trading derivatives—after netting and collateral	$ 317	$ 436,043	$ 8,627	$ 444,987	$ (369,681)	$ 75,306
Investments						
Mortgage-backed securities						
U.S. government-sponsored agency guaranteed	$ —	$ 11,232	$ 30	$ 11,262	$ —	$ 11,262
Residential	—	444	41	485	—	485
Commercial	—	2	—	2	—	2
Total investment mortgage-backed securities	$ —	$ 11,678	$ 71	$ 11,749	$ —	$ 11,749
U.S. Treasury and federal agency securities	$ 91,851	$ 439	$ —	$ 92,290	$ —	$ 92,290
State and municipal	—	1,637	586	2,223	—	2,223
Foreign government	58,419	74,250	608	133,277	—	133,277
Corporate	2,230	2,343	343	4,916	—	4,916
Marketable equity securities	254	165	10	429	—	429
Asset-backed securities	—	1,029	1	1,030	—	1,030
Other debt securities	—	4,194	—	4,194	—	4,194
Non-marketable equity securities[3]	—	9	430	439	—	439
Total investments	$ 152,754	$ 95,744	$ 2,049	$ 250,547	$ —	$ 250,547

Table continues on the next page.

In millions of dollars at December 31, 2022	Level 1	Level 2	Level 3	Gross inventory	Netting[1]	Net balance
Loans	$ —	$ 3,999	$ 1,361	$ 5,360	$ —	$ 5,360
Mortgage servicing rights	—	—	665	665	—	665
Non-trading derivatives and other financial assets measured on a recurring basis	$ 4,310	$ 6,291	$ 57	$ 10,658	$ —	$ 10,658
Total assets	$ 304,439	$ 1,001,032	$ 15,848	$ 1,321,319	$ (480,448)	$ 840,871
Total as a percentage of gross assets[4]	23.0 %	75.8 %	1.2 %			
Liabilities						
Interest-bearing deposits	$ —	$ 1,860	$ 15	$ 1,875	$ —	$ 1,875
Securities loaned and sold under agreements to repurchase	—	155,822	1,031	156,853	(85,967)	70,886
Trading account liabilities						
Securities sold, not yet purchased	97,559	13,111	50	110,720	—	110,720
Other trading liabilities	—	8	3	11	—	11
Total trading liabilities	$ 97,559	$ 13,119	$ 53	$ 110,731	$ —	$ 110,731
Trading derivatives						
Interest rate contracts	$ 175	$ 169,049	$ 3,396	$ 172,620		
Foreign exchange contracts	—	185,279	716	185,995		
Equity contracts	70	40,905	2,808	43,783		
Commodity contracts	2	25,093	1,223	26,318		
Credit derivatives	—	6,715	1,062	7,777		
Total trading derivatives—before netting and collateral	$ 247	$ 427,041	$ 9,205	$ 436,493		
Netting agreements					$ (346,545)	
Netting of cash collateral paid					(30,032)	
Total trading derivatives—after netting and collateral	$ 247	$ 427,041	$ 9,205	$ 436,493	$ (376,577)	$ 59,916
Short-term borrowings	$ —	$ 6,184	$ 38	$ 6,222	$ —	$ 6,222
Long-term debt	—	69,878	36,117	105,995	—	105,995
Total non-trading derivatives and other financial liabilities measured on a recurring basis	$ 4,197	$ 240	$ 2	$ 4,439	$ —	$ 4,439
Total liabilities	$ 102,003	$ 674,144	$ 46,461	$ 822,608	$ (462,544)	$ 360,064
Total as a percentage of gross liabilities[4]	12.4 %	82.0 %	5.6 %			

(1) Represents netting of (i) the amounts due under securities purchased under agreements to resell and the amounts owed under securities sold under agreements to repurchase and (ii) derivative exposures covered by a qualifying master netting agreement and cash collateral offsetting.

(2) Includes positions related to investments in unallocated precious metals, as discussed in Note 26. Also includes physical commodities accounted for at the lower of cost or fair value and unfunded credit products.

(3) Amounts exclude $27 million of investments measured at net asset value (NAV) in accordance with ASU 2015-07, *Fair Value Measurement (Topic 820): Disclosures for Investments in Certain Entities That Calculate Net Asset Value per Share (or Its Equivalent)*.

(4) Because the amount of the cash collateral paid/received has not been allocated to the Level 1, 2 and 3 subtotals, these percentages are calculated based on total assets and liabilities measured at fair value on a recurring basis, excluding the cash collateral paid/received on derivatives.

Fair Value Levels

In millions of dollars at December 31, 2021	Level 1	Level 2	Level 3	Gross inventory	Netting[1]	Net balance
Assets						
Securities borrowed and purchased under agreements to resell	$ —	$ 342,030	$ 231	$ 342,261	$ (125,795)	$216,466
Trading non-derivative assets						
Trading mortgage-backed securities						
U.S. government-sponsored agency guaranteed	—	34,534	496	35,030	—	35,030
Residential	1	643	104	748	—	748
Commercial	—	778	81	859	—	859
Total trading mortgage-backed securities	$ 1	$ 35,955	$ 681	$ 36,637	$ —	$ 36,637
U.S. Treasury and federal agency securities	$ 44,900	$ 3,230	$ 4	$ 48,134	$ —	$ 48,134
State and municipal	—	1,995	37	2,032	—	2,032
Foreign government	39,176	31,485	23	70,684	—	70,684
Corporate	1,544	16,156	412	18,112	—	18,112
Equity securities	53,833	10,047	174	64,054	—	64,054
Asset-backed securities	—	981	613	1,594	—	1,594
Other trading assets[2]	—	20,346	576	20,922	—	20,922
Total trading non-derivative assets	$ 139,454	$ 120,195	$ 2,520	$ 262,169	$ —	$262,169
Trading derivatives						
Interest rate contracts	$ 90	$ 161,500	$ 3,898	$ 165,488		
Foreign exchange contracts	—	134,912	637	135,549		
Equity contracts	41	43,904	1,307	45,252		
Commodity contracts	—	28,547	1,797	30,344		
Credit derivatives	—	9,299	919	10,218		
Total trading derivatives—before netting and collateral	$ 131	$ 378,162	$ 8,558	$ 386,851		
Netting agreements					$ (292,628)	
Netting of cash collateral received[3]					(24,447)	
Total trading derivatives—after netting and collateral	$ 131	$ 378,162	$ 8,558	$ 386,851	$ (317,075)	$ 69,776
Investments						
Mortgage-backed securities						
U.S. government-sponsored agency guaranteed	$ —	$ 33,165	$ 51	$ 33,216	$ —	$ 33,216
Residential	—	286	94	380	—	380
Commercial	—	25	—	25	—	25
Total investment mortgage-backed securities	$ —	$ 33,476	$ 145	$ 33,621	$ —	$ 33,621
U.S. Treasury and federal agency securities	$ 122,271	$ 168	$ 1	$ 122,440	$ —	$122,440
State and municipal	—	1,849	772	2,621	—	2,621
Foreign government	56,842	61,112	786	118,740	—	118,740
Corporate	2,861	2,871	188	5,920	—	5,920
Marketable equity securities	350	177	16	543	—	543
Asset-backed securities	—	300	3	303	—	303
Other debt securities	—	4,877	—	4,877	—	4,877
Non-marketable equity securities[4]	—	28	316	344	—	344
Total investments	$ 182,324	$ 104,858	$ 2,227	$ 289,409	$ —	$289,409

Table continues on the next page.

In millions of dollars at December 31, 2021	Level 1	Level 2	Level 3	Gross inventory	Netting[1]	Net balance
Loans	$ —	$ 5,371	$ 711	$ 6,082	$ —	$ 6,082
Mortgage servicing rights	—	—	404	404	—	404
Non-trading derivatives and other financial assets measured on a recurring basis	$ 4,075	$ 8,194	$ 73	$ 12,342	$ —	$ 12,342
Total assets	$ 325,984	$ 958,810	$14,724	$ 1,299,518	$ (442,870)	$856,648
Total as a percentage of gross assets[5]	29.0 %	69.9 %	1.1 %			
Liabilities						
Interest-bearing deposits	$ —	$ 1,483	$ 183	$ 1,666	$ —	$ 1,666
Securities loaned and sold under agreements to repurchase	—	174,318	643	174,961	(118,267)	56,694
Trading account liabilities						
Securities sold, not yet purchased	82,675	23,268	65	106,008	—	106,008
Other trading liabilities	—	5	—	5	—	5
Total trading account liabilities	$ 82,675	$ 23,273	$ 65	$ 106,013	$ —	$106,013
Trading derivatives						
Interest rate contracts	$ 56	$ 147,846	$ 2,172	$ 150,074		
Foreign exchange contracts	—	134,572	726	135,298		
Equity contracts	60	46,177	3,447	49,684		
Commodity contracts	—	30,004	1,375	31,379		
Credit derivatives	—	10,065	950	11,015		
Total trading derivatives—before netting and collateral	$ 116	$ 368,664	$ 8,670	$ 377,450		
Netting agreements					$ (292,628)	
Netting of cash collateral paid[3]					(29,306)	
Total trading derivatives—after netting and collateral	$ 116	$ 368,664	$ 8,670	$ 377,450	$ (321,934)	$ 55,516
Short-term borrowings	$ —	$ 7,253	$ 105	$ 7,358	$ —	$ 7,358
Long-term debt	—	57,100	25,509	82,609	—	82,609
Non-trading derivatives and other financial liabilities measured on a recurring basis	$ 3,574	$ —	$ 1	$ 3,575	$ —	$ 3,575
Total liabilities	$ 86,365	$ 632,091	$35,176	$ 753,632	$ (440,201)	$313,431
Total as a percentage of gross liabilities[5]	11.5 %	83.9 %	4.7 %			

(1) Represents netting of (i) the amounts due under securities purchased under agreements to resell and the amounts owed under securities sold under agreements to repurchase and (ii) derivative exposures covered by a qualifying master netting agreement and cash collateral offsetting.

(2) Includes positions related to investments in unallocated precious metals, as discussed in Note 26. Also includes physical commodities accounted for at the lower of cost or fair value and unfunded credit products.

(3) Represents the netting of cash collateral paid and received by counterparties under enforceable credit support agreements. Substantially all netting of cash collateral received and paid is against OTC derivative assets and liabilities, respectively.

(4) Amounts exclude $145 million of investments measured at NAV in accordance with ASU 2015-07, *Fair Value Measurement (Topic 820): Disclosures for Investments in Certain Entities That Calculate Net Asset Value per Share (or Its Equivalent).*

(5) Because the amount of the cash collateral paid/received has not been allocated to the Level 1, 2 and 3 subtotals, these percentages are calculated based on total assets and liabilities measured at fair value on a recurring basis, excluding the cash collateral paid/received on derivatives.

Changes in Level 3 Fair Value Category

The following tables present the changes in the Level 3 fair value category for the years ended December 31, 2022 and 2021. The gains and losses presented below include changes in the fair value related to both observable and unobservable inputs.

The Company often hedges positions with offsetting positions that are classified in a different level. For example, the gains and losses for assets and liabilities in the Level 3 category presented in the tables below do not reflect the effect of offsetting losses and gains on hedging instruments that may be classified in the Level 1 and Level 2 categories. In addition, the Company hedges items classified in the Level 3 category with instruments also classified in Level 3 of the fair value hierarchy. The hedged items and related hedges are presented gross in the following tables:

Level 3 Fair Value Rollforward

In millions of dollars	Dec. 31, 2021	Net realized/unrealized gains (losses) included in[1]		Transfers		Purchases	Issuances	Sales	Settlements	Dec. 31, 2022	Unrealized gains (losses) still held[3]
		Principal transactions	Other[1][2]	into Level 3	out of Level 3						
Assets											
Securities borrowed and purchased under agreements to resell	$ 231	$ 12	$ —	$ 3	$ —	$ 252	$ —	$ —	$ (349)	$ 149	$ 18
Trading non-derivative assets											
Trading mortgage-backed securities											
U.S. government-sponsored agency guaranteed	496	(81)	—	244	(475)	969	—	(553)	—	600	(59)
Residential	104	(5)	—	112	(87)	187	—	(145)	—	166	(1)
Commercial	81	(13)	—	167	(78)	37	—	(49)	—	145	(3)
Total trading mortgage-backed securities	$ 681	$ (99)	$ —	$ 523	$ (640)	$ 1,193	$ —	$ (747)	$ —	$ 911	$ (63)
U.S. Treasury and federal agency securities	$ 4	$ (4)	$ —	$ 2	$ (1)	$ 1	$ —	$ —	$ (1)	$ 1	$ (1)
State and municipal	37	9	—	77	(35)	16	—	(97)	—	7	—
Foreign government	23	(41)	—	308	(326)	248	—	(93)	—	119	(22)
Corporate	412	101	—	499	(451)	1,068	—	(1,235)	—	394	(136)
Marketable equity securities	174	45	—	161	(105)	155	—	(238)	—	192	(42)
Asset-backed securities	613	(41)	—	243	(239)	835	—	(743)	—	668	(36)
Other trading assets	576	249	—	407	(594)	774	27	(779)	(12)	648	(122)
Total trading non-derivative assets	$ 2,520	$ 219	$ —	$ 2,220	$ (2,391)	$ 4,290	$ 27	$ (3,932)	$ (13)	$ 2,940	$ (422)
Trading derivatives, net[4]											
Interest rate contracts	$ 1,726	$ 176	$ —	$ 33	$ (792)	$ (163)	$ 7	$ 79	$ (711)	$ 355	$ (588)
Foreign exchange contracts	(89)	734	—	(422)	(22)	124	20	(459)	164	50	(81)
Equity contracts	(2,140)	1,604	—	(572)	673	176	—	(370)	(475)	(1,104)	1,057
Commodity contracts	422	822	—	194	(716)	100	—	(211)	(333)	278	413
Credit derivatives	(31)	(266)	—	(7)	131	(36)	—	—	52	(157)	(198)
Total trading derivatives, net[4]	$ (112)	$ 3,070	$ —	$ (774)	$ (726)	$ 201	$ 27	$ (961)	$ (1,303)	$ (578)	$ 603

Table continues on the next page.

In millions of dollars	Dec. 31, 2021	Net realized/unrealized gains (losses) included in[1]		Transfers		Purchases	Issuances	Sales	Settlements	Dec. 31, 2022	Unrealized gains (losses) still held[3]
		Principal transactions	Other[1][2]	into Level 3	out of Level 3						
Investments											
Mortgage-backed securities											
U.S. government-sponsored agency guaranteed	$ 51	$ —	$ (7)	$ 1	$ (10)	$ 7	$ —	$ (12)	$ —	$ 30	$ (24)
Residential	94	—	(5)	—	(42)	3	—	(9)	—	41	(5)
Commercial	—	—	—	—	—	—	—	—	—	—	—
Total investment mortgage-backed securities	$ 145	$ —	$ (12)	$ 1	$ (52)	$ 10	$ —	$ (21)	$ —	$ 71	$ (29)
U.S. Treasury and federal agency securities	$ 1	$ —	$ (1)	$ —	$ —	$ —	$ —	$ —	$ —	$ —	$ —
State and municipal	772	—	(65)	82	(164)	2	—	(41)	—	586	(49)
Foreign government	786	—	(72)	256	(276)	706	—	(792)	—	608	(23)
Corporate	188	—	(4)	197	(4)	24	—	(58)	—	343	(2)
Marketable equity securities	16	—	(7)	—	—	1	—	—	—	10	—
Asset-backed securities	3	—	22	41	(1)	—	—	(64)	—	1	(5)
Other debt securities	—	—	—	—	—	82	—	(82)	—	—	—
Non-marketable equity securities	316	—	(11)	11	(12)	155	—	(29)	—	430	4
Total investments	$ 2,227	$ —	$ (150)	$ 588	$ (509)	$ 980	$ —	$(1,087)	$ —	$ 2,049	$ (104)
Loans	$ 711	$ —	$ 15	$ 426	$ (208)	$ —	$ 569	$ —	$ (152)	$ 1,361	$ 145
Mortgage servicing rights	404	—	201	—	—	—	120	—	(60)	665	199
Other financial assets measured on a recurring basis	73	—	(12)	29	(26)	46	39	(26)	(66)	57	—
Liabilities											
Interest-bearing deposits	$ 183	$ —	$ 6	$ 8	$ (122)	$ —	$ 20	$ —	$ (68)	$ 15	$ —
Securities loaned and sold under agreements to repurchase	643	86	—	3	(3)	453	196	—	(175)	1,031	7
Trading account liabilities											
Securities sold, not yet purchased	65	2	—	55	(36)	135	—	—	(167)	50	(65)
Other trading liabilities	—	(3)	—	—	—	—	—	—	—	3	—
Short-term borrowings	105	109	—	46	(69)	—	96	—	(31)	38	(14)
Long-term debt	25,509	9,796	—	9,873	(7,612)	—	18,847	—	(704)	36,117	7,805
Other financial liabilities measured on a recurring basis	1	—	(6)	5	(5)	—	2	—	(7)	2	—

(1) Net realized/unrealized gains (losses) are presented as increase (decrease) to Level 3 assets, and as (increase) decrease to Level 3 liabilities. Changes in fair value of available-for-sale debt securities are recorded in *AOCI*, unless related to credit impairment, while gains and losses from sales are recorded in *Realized gains (losses) from sales of investments* in the Consolidated Statement of Income.

(2) Unrealized gains (losses) on MSRs are recorded in *Other revenue* in the Consolidated Statement of Income.

(3) Represents the amount of total gains or losses for the period, included in earnings (and *AOCI* for changes in fair value of available-for-sale debt securities and DVA on fair value option liabilities), attributable to the change in fair value relating to assets and liabilities classified as Level 3 that are still held at December 31, 2022.

(4) Total Level 3 trading derivative assets and liabilities have been netted in these tables for presentation purposes only.

In millions of dollars	Dec. 31, 2020	Net realized/unrealized gains (losses) included in[1]		Transfers		Purchases	Issuances	Sales	Settlements	Dec. 31, 2021	Unrealized gains (losses) still held[3]
		Principal transactions	Other[1][2]	into Level 3	out of Level 3						
Assets											
Securities borrowed and purchased under agreements to resell	$ 320	$ (36)	$ —	$ 45	$ (49)	$ 362	$ —	$ —	$ (411)	$ 231	$ —
Trading non-derivative assets											
Trading mortgage-backed securities											
U.S. government-sponsored agency guaranteed	27	8	—	355	(131)	447	—	(210)	—	496	11
Residential	340	25	—	89	(96)	282	—	(536)	—	104	13
Commercial	136	23	—	96	(58)	62	—	(178)	—	81	—
Total trading mortgage-backed securities	$ 503	$ 56	$ —	$ 540	$ (285)	$ 791	$ —	$ (924)	$ —	$ 681	$ 24
U.S. Treasury and federal agency securities	$ —	$ —	$ —	$ 4	$ —	$ —	$ —	$ —	$ —	$ 4	$ —
State and municipal	94	(4)	—	20	(29)	17	—	(61)	—	37	(6)
Foreign government	51	29	—	143	(129)	83	—	(154)	—	23	(2)
Corporate	375	74	—	461	(384)	867	—	(981)	—	412	(38)
Marketable equity securities	73	67	—	156	(52)	118	—	(188)	—	174	23
Asset-backed securities	1,606	371	—	173	(297)	1,313	—	(2,553)	—	613	(43)
Other trading assets	945	97	—	158	(457)	980	4	(1,147)	(4)	576	(37)
Total trading non-derivative assets	$ 3,647	$ 690	$ —	$ 1,655	$ (1,633)	$ 4,169	$ 4	$ (6,008)	$ (4)	$ 2,520	$ (79)
Trading derivatives, net[4]											
Interest rate contracts	$ 1,614	$ (376)	$ —	$ 102	$ 562	$ 27	$ (84)	$ —	$ (119)	$ 1,726	$ 4
Foreign exchange contracts	52	(8)	—	(57)	104	220	—	(326)	(74)	(89)	7
Equity contracts	(3,213)	964	—	(1,101)	1,923	364	—	(364)	(713)	(2,140)	(729)
Commodity contracts	292	474	—	174	(454)	162	—	(238)	12	422	261
Credit derivatives	48	(136)	—	(96)	40	—	—	—	113	(31)	(130)
Total trading derivatives, net[4]	$ (1,207)	$ 918	$ —	$ (978)	$ 2,175	$ 773	$ (84)	$ (928)	$ (781)	$ (112)	$ (587)
Investments											
Mortgage-backed securities											
U.S. government-sponsored agency guaranteed	$ 30	$ —	$ 2	$ 42	$ (10)	$ 3	$ —	$ (16)	$ —	$ 51	$ 2
Residential	—	—	—	54	(12)	52	—	—	—	94	(1)
Commercial	—	—	—	—	—	—	—	—	—	—	—
Total investment mortgage-backed securities	$ 30	$ —	$ 2	$ 96	$ (22)	$ 55	$ —	$ (16)	$ —	$ 145	$ 1
U.S. Treasury and federal agency securities	$ —	$ —	$ —	$ 1	$ —	$ —	$ —	$ —	$ —	$ 1	$ —
State and municipal	834	—	(21)	58	(108)	49	—	(40)	—	772	(12)
Foreign government	268	—	(49)	512	(565)	871	—	(251)	—	786	(2)
Corporate	60	—	(14)	183	(44)	37	—	(34)	—	188	2
Marketable equity securities	—	—	—	16	—	—	—	—	—	16	—
Asset-backed securities	1	—	(21)	36	—	—	—	(13)	—	3	(2)
Other debt securities	—	—	—	—	—	—	—	—	—	—	—
Non-marketable equity securities	349	—	(27)	2	—	—	—	(8)	—	316	(6)
Total investments	$ 1,542	$ —	$ (130)	$ 904	$ (739)	$ 1,012	$ —	$ (362)	$ —	$ 2,227	$ (19)

Table continues on the next page.

In millions of dollars	Dec. 31, 2020	Net realized/unrealized gains (losses) included in[1]		Transfers		Purchases	Issuances	Sales	Settlements	Dec. 31, 2021	Unrealized gains (losses) still held[3]
		Principal transactions	Other[1][2]	into Level 3	out of Level 3						
Loans	$ 1,985	$ —	$ 90	$ 311	$ (2,071)	$ —	$ 529	$ —	$ (133)	$ 711	$ (77)
Mortgage servicing rights	336	—	43	—	—	—	92	—	(67)	404	52
Other financial assets measured on a recurring basis	—	—	6	65	(27)	58	—	(26)	(3)	73	—
Liabilities											
Interest-bearing deposits	$ 206	$ —	$ (18)	$ —	$ (44)	$ —	$ 38	$ —	$ (35)	$ 183	$ (19)
Securities loaned and sold under agreements to repurchase	631	(9)	—	183	(483)	488	—	—	(185)	643	32
Trading account liabilities											
Securities sold, not yet purchased	214	48	—	87	(34)	59	—	—	(213)	65	(4)
Other trading liabilities	26	26	—	—	—	—	—	—	—	—	—
Short-term borrowings	219	43	—	137	(57)	—	49	—	(200)	105	(2)
Long-term debt	25,210	2,774	—	8,611	(9,771)	—	10,262	—	(6,029)	25,509	1,756
Other financial liabilities measured on a recurring basis	1	—	(3)	—	(4)	—	14	—	(13)	1	—

(1) Net realized/unrealized gains (losses) are presented as increase (decrease) to Level 3 assets, and as (increase) decrease to Level 3 liabilities. Changes in fair value of available-for-sale debt securities are recorded in *AOCI*, unless related to credit impairment, while gains and losses from sales are recorded in *Realized gains (losses) from sales of investments* in the Consolidated Statement of Income.

(2) Unrealized gains (losses) on MSRs are recorded in *Other revenue* in the Consolidated Statement of Income.

(3) Represents the amount of total gains or losses for the period, included in earnings (and *AOCI* for changes in fair value of available-for-sale debt securities and DVA on fair value option liabilities), attributable to the change in fair value relating to assets and liabilities classified as Level 3 that are still held at December 31, 2021.

(4) Total Level 3 derivative assets and liabilities have been netted in these tables for presentation purposes only.

Level 3 Fair Value Transfers

The following were the significant Level 3 transfers for the period December 31, 2021 to December 31, 2022:

- During the 12 months ended December 31, 2022, transfers of *Long-term debt* were $9.9 billion from Level 2 to Level 3. Of the $9.9 billion transfer in, approximately $7.0 billion related to interest rate option volatility inputs becoming unobservable and/or significant relative to their overall valuation, and $2.9 billion related to equity and credit derivative inputs (in addition to other volatility inputs, e.g., interest rate volatility inputs) becoming unobservable and/or significant to their overall valuation. In other instances, market changes have resulted in some inputs becoming more observable, and some unobservable inputs becoming less significant to the overall valuation of the instruments (e.g., when an option becomes deep-in or deep-out of the money). This has resulted in $7.6 billion of certain structured long-term debt products being transferred from Level 3 to Level 2 during the 12 months ended December 31, 2022.

The following were the significant Level 3 transfers for the period December 31, 2020 to December 31, 2021:

- During the 12 months ended December 31, 2021, transfers of *Loans* of $2.1 billion from Level 3 to Level 2 were primarily driven by equity forward and volatility inputs that have been assessed as not significant to the overall valuation of certain hybrid loan instruments, including equity options and long dated equity call spreads.
- During the 12 months ended December 31, 2021, transfers of *Equity contracts* of $1.1 billion from Level 2 to Level 3 were due to equity forward and volatility inputs becoming an unobservable and/or significant input relative to the overall valuation of equity options and equity swaps. In other instances, market changes have resulted in observable equity forward and volatility inputs becoming an insignificant input to the overall valuation of the instrument (e.g., when an option becomes deep-in or deep-out of the money). This has resulted in $1.9 billion of certain equity contracts being transferred from Level 3 to Level 2.
- During the 12 months ended December 31, 2021, transfers of *Long-term debt* were $8.6 billion from Level 2 to Level 3. Of the $8.6 billion transfer in, approximately $7.2 billion related to interest rate option volatility inputs becoming unobservable and/or significant relative to their overall valuation, and $1.0 billion related to equity volatility inputs (in addition to other volatility inputs, e.g., interest rate volatility inputs) becoming unobservable and/or significant to their overall valuation. In other instances, market changes have resulted in some inputs becoming more observable, and some unobservable inputs becoming less significant to the overall valuation of the instruments (e.g., when an option becomes deep-in or deep-out of the money). This has resulted in $9.8 billion of certain structured long-term debt products being transferred from Level 3 to Level 2 during the 12 months ended December 31, 2021.

Valuation Techniques and Inputs for Level 3 Fair Value Measurements

The Company's Level 3 inventory consists of both cash instruments and derivatives of varying complexity.

The following tables present the valuation techniques covering the majority of Level 3 inventory and the most significant unobservable inputs used in Level 3 fair value measurements. Methodologies are applied consistently. Changes in listed inputs period versus period represent variables that become more, or less, significant, hence their addition or removal from the table below. Differences between this table and amounts presented in the Level 3 Fair Value Rollforward table above represent individually immaterial items that have been measured using a variety of valuation techniques other than those listed.

As of December 31, 2022	**Fair value[1]** *(in millions)*	**Methodology**	**Input**	**Low[2][3]**	**High[2][3]**	**Weighted average[4]**
Assets						
Securities borrowed and purchased under agreements to resell	**$ 146**	Model-based	Credit spread	**15 bps**	**15 bps**	**15 bps**
			Interest rate	**2.61 %**	**2.61 %**	**2.61 %**
Mortgage-backed securities	**$ 228**	Price-based	Price	**$ 1.04**	**$ 99.71**	**$ 51.51**
	732	Yield analysis	Yield	**4.41 %**	**20.30 %**	**9.74 %**
State and municipal, foreign government, corporate and other debt securities	**$ 2,360**	Price-based	Price	**$ 0.01**	**$ 994.68**	**$ 245.85**
Marketable equity securities[5]	**$ 147**	Price-based	Price	**$ —**	**$ 9,087.76**	**$ 114.29**
	31	Model-based	WAL	**2.24 years**	**2.24 years**	**2.24 years**
			Recovery *(in millions)*	**$ 7,148**	**$ 7,148**	**$ 7,148**
Asset-backed securities	**$ 304**	Price-based	Price	**$ 10.50**	**$ 145.00**	**$ 74.97**
	308	Yield analysis	Yield	**5.76 %**	**18.58 %**	**9.34 %**
Non-marketable equities	**$ 287**	Comparables analysis	Illiquidity discount	**8.60 %**	**17.00 %**	**10.16 %**
	101	Price-based	PE ratio	**14.00x**	**15.70x**	**15.16x**
			Cost of capital	**8.10 %**	**17.50 %**	**10.44 %**
			Revenue multiple	**3.60x**	**13.90x**	**12.40x**
Derivatives—gross[6]						
Interest rate contracts (gross)	**$ 7,108**	Model-based	IR normal volatility	**0.33 %**	**1.82 %**	**0.96 %**
Foreign exchange contracts (gross)	**$ 1,437**	Model-based	IR normal volatility	**0.33 %**	**1.47 %**	**0.67 %**
			IR Basis	**(4.23)%**	**9.68 %**	**(0.03)%**
			Equity volatility	**0.05 %**	**300.72 %**	**33.91 %**
			Credit spread	**116 bps**	**626 bps**	**594 bps**
Equity contracts (gross)[7]	**$ 4,430**	Model-based	Equity volatility	**0.05 %**	**300.72 %**	**41.47 %**
			Equity forward	**68.34 %**	**271.61 %**	**103.50 %**
			Equity-FX correlation	**(95.00)%**	**50.00 %**	**(16.33)%**
			Equity-Equity correlation	**(3.98)%**	**98.68 %**	**85.63 %**
			WAL	**2.24 years**	**2.24 years**	**2.24 years**
			Recovery *(in millions)*	**$7,148**	**$7,148**	**$7,148**
			Equity-IR correlation	**(18.83)%**	**60.00 %**	**32.37 %**
Commodity and other contracts (gross)	**$ 2,724**	Model-based	Forward price	**14.27 %**	**385.50 %**	**106.08 %**
			Commodity volatility	**10.43 %**	**151.50 %**	**33.55 %**
			Commodity correlation	**(32.00)%**	**91.94 %**	**36.70 %**
Credit derivatives (gross)	**$ 1,520**	Model-based	Credit spread	**2.50 bps**	**955.10 bps**	**101.27 bps**
	439	Price-based	Recovery rate	**25.00 %**	**75.00 %**	**42.27 %**
			Credit correlation	**25.00 %**	**80.00 %**	**42.38 %**
			Price	**$ 31.71**	**$ 99.00**	**$ 78.75**

As of December 31, 2022	Fair value[1] (in millions)	Methodology	Input	Low[2][3]	High[2][3]	Weighted average[4]
			Credit spread volatility	**35.58 %**	**64.79 %**	**40.47 %**
Non-trading derivatives and other financial assets and liabilities measured on a recurring basis (gross)	**$ 57**	Price-based	Price	**$ 80.16**	**$ 105.32**	**$ 92.65**
Loans and leases	**$ 1,059**	Model-based	Equity volatility	**0.05 %**	**300.72 %**	**42.62 %**
	304	Price-based	Forward price	**14.27 %**	**324.85 %**	**105.07 %**
			Price	**$0.01**	**$100.53**	**$84.77**
			Equity forward	**68.34 %**	**271.61 %**	**103.49 %**
Mortgage servicing rights	**$ 580**	Cash flow	Yield	**(0.40)%**	**13.20 %**	**5.36 %**
	84	Model-based	WAL	**3.92 years**	**9.33 years**	**7.71 years**
Liabilities						
Interest-bearing deposits	**$ 15**	Model-based	Forward price	**100.00 %**	**101.30 %**	**100.07 %**
Securities loaned and sold under agreements to repurchase	**$ 970**	Model-based	Interest rate	**4.01 %**	**4.97 %**	**4.07 %**
Trading account liabilities						
Securities sold, not yet purchased and other trading liabilities	**$ 47**	Price-based	Price	**$ —**	**$ 9,087.76**	**$ 41.22**
	6	Model-based	FX volatility	**2.00 %**	**40.00 %**	**12.85 %**
Short-term borrowings and long-term debt	**$ 36,155**	Model-based	IR normal volatility	**0.33 %**	**1.82 %**	**0.89 %**

As of December 31, 2021	Fair value[1] (in millions)	Methodology	Input	Low[2][3]	High[2][3]	Weighted average[4]
Assets						
Securities borrowed and purchased under agreements to resell	$ 231	Model-based	Credit spread	15 bps	15 bps	15 bps
			Interest rate	0.26 %	0.72 %	0.50 %
Mortgage-backed securities	$ 279	Price-based	Price	$ 4	$ 118	$ 79
	526	Yield analysis	Yield	1.43 %	23.79 %	7.25 %
State and municipal, foreign government, corporate and other debt securities	$ 2,264	Price-based	Price	$ —	$ 995	$ 193
	415	Model-based	Equity volatility	0.08 %	290.64 %	53.94 %
Marketable equity securities[5]	$ 128	Price-based	Price	$ —	$ 73,000	$ 6,477
	43	Model-based	WAL	1.73 years	1.73 years	1.73 years
			Recovery (in millions)	$ 7,148	$ 7,148	$ 7,148
Asset-backed securities	$ 386	Price-based	Price	$ 5	$ 754	$ 87
	208	Yield analysis	Yield	2.43 %	19.35 %	8.18 %
Non-marketable equities	$ 121	Price-based	Illiquidity discount	10.00 %	36.00 %	26.43 %
	112	Comparables analysis	PE ratio	11.00x	29.00x	15.42x
	83	Model-based	Price	$ 3	$ 2,601	$ 2,029
			Adjustment factor	0.33x	0.44x	0.34x
			Revenue multiple	19.80x	30.00x	20.48x
			Cost of capital	17.50 %	20.00 %	17.57 %
Derivatives—gross[6]						
Interest rate contracts (gross)	$ 6,054	Model-based	IR normal volatility	0.24 %	0.94 %	0.70 %
Foreign exchange contracts (gross)	$ 1,364	Model-based	IR normal volatility	0.24 %	0.74 %	0.58 %
			FX volatility	2.13 %	107.42 %	11.21 %

As of December 31, 2021	Fair value[1] *(in millions)*	Methodology	Input	Low[2][3]	High[2][3]	Weighted average[4]
			Credit spread	140 bps	696 bps	639 bps
Equity contracts (gross)[7]	$ 4,690	Model-based	Equity volatility	0.08 %	290.64 %	47.67 %
			Equity forward	57.99 %	165.83 %	89.45 %
			Equity-FX correlation	(95.00)%	80.00 %	(16.00)%
			Equity-Equity correlation	(6.49)%	99.00 %	85.61 %
Commodity and other contracts (gross)	$ 3,172	Model-based	Forward price	8.00 %	599.44 %	123.22 %
			Commodity volatility	10.87 %	188.30 %	26.85 %
			Commodity correlation	(50.52)%	89.83 %	(7.11)%
Credit derivatives (gross)	$ 1,480	Model-based	Credit spread	1.00 bps	874.72 bps	68.83 bps
	427	Price-based	Recovery rate	20.00 %	75.00 %	44.72 %
			Upfront points	2.74 %	99.96 %	59.37 %
			Price	$ 40	$ 103	$ 80
			Credit correlation	30.00 %	80.00 %	54.57 %
Non-trading derivatives and other financial assets and liabilities measured on a recurring basis (gross)	$ 69	Price-based	Price	$ 94	$ 2,598	$ 591
Loans and leases	$ 691	Model-based	Equity volatility	22.48 %	85.44 %	50.56 %
			Forward price	26.95 %	333.08 %	106.97 %
			Commodity volatility	10.87 %	188.30 %	26.85 %
			Commodity correlation	(50.52)%	89.83 %	(7.11)%
Mortgage servicing rights	$ 331	Cash flow	Yield	(1.20)%	12.10 %	4.51 %
	73	Model-based	WAL	2.75 years	5.86 years	5.14 years
Liabilities						
Interest-bearing deposits	$ 183	Model-based	IR normal volatility	0.34 %	0.88 %	0.68 %
			Equity volatility	0.08 %	290.64 %	54.05 %
			Equity forward	57.99 %	165.83 %	89.39 %
Securities loaned and sold under agreements to repurchase	$ 643	Model-based	Interest rate	0.12 %	1.95 %	1.47 %
Trading account liabilities						
Securities sold, not yet purchased and other trading liabilities	$ 63	Price-based	Price	$ —	$ 12,875	$ 1,707
Short-term borrowings and long-term debt	$ 25,514	Model-based	IR normal volatility	0.07 %	0.88 %	0.60 %
			Equity volatility	0.08 %	290.64 %	53.21 %
			Equity-IR correlation	(3.53)%	60.00 %	32.12 %
			Equity-FX correlation	(95.00)%	80.00 %	(15.98)%
			FX volatility	0.06 %	41.76 %	9.38 %

(1) The tables above include the fair values for the items listed and may not foot to the total population for each category.
(2) Some inputs are shown as zero due to rounding.
(3) When the low and high inputs are the same, there is either a constant input applied to all positions, or the methodology involving the input applies to only one large position.
(4) Weighted averages are calculated based on the fair values of the instruments.
(5) For equity securities, the price inputs are expressed on an absolute basis, not as a percentage of the notional amount.
(6) Both trading and non-trading account derivatives—assets and liabilities—are presented on a gross absolute value basis.
(7) Includes hybrid products.

Uncertainty of Fair Value Measurements Relating to Unobservable Inputs

Valuation uncertainty arises when there is insufficient or dispersed market data to allow a precise determination of the exit value of a fair-valued position or portfolio in today's market. This is especially prevalent in Level 3 fair value instruments, where uncertainty exists in valuation inputs that may be both unobservable and significant to the instrument's (or portfolio's) overall fair value measurement. The uncertainties associated with key unobservable inputs on the Level 3 fair value measurements may not be independent of one another. In addition, the amount and direction of the uncertainty on a fair value measurement for a given change in an unobservable input depends on the nature of the instrument as well as whether the Company holds the instrument as an asset or a liability. For certain instruments, the pricing, hedging and risk management are sensitive to the correlation between various inputs rather than on the analysis and aggregation of the individual inputs.

The following section describes some of the most significant unobservable inputs used by the Company in Level 3 fair value measurements.

Correlation

Correlation is a measure of the extent to which two or more variables change in relation to each other. A variety of correlation-related assumptions are required for a wide range of instruments, including equity and credit baskets, foreign exchange options, Credit Index Tranches and many other instruments. For almost all of these instruments, correlations are not directly observable in the market and must be calculated using alternative sources, including historical information. Estimating correlation can be especially difficult where it may vary over time, and calculating correlation information from market data requires significant assumptions regarding the informational efficiency of the market (e.g., swaption markets). Uncertainty therefore exists when an estimate of the appropriate level of correlation as an input into some fair value measurements is required.

Changes in correlation levels can have a substantial impact, favorable or unfavorable, on the value of an instrument, depending on its nature. A change in the default correlation of the fair value of the underlying bonds comprising a CDO structure would affect the fair value of the senior tranche. For example, an increase in the default correlation of the underlying bonds would reduce the fair value of the senior tranche, because highly correlated instruments produce greater losses in the event of default and a portion of these losses would become attributable to the senior tranche. That same change in default correlation would have a different impact on junior tranches of the same structure.

Volatility

Volatility represents the speed and severity of market price changes and is a key factor in pricing options. Volatility generally depends on the tenor of the underlying instrument and the strike price or level defined in the contract. Volatilities for certain combinations of tenor and strike are not observable and need to be estimated using alternative methods, such as comparable instruments, historical analysis or other sources of market information. This leads to uncertainty around the final fair value measurement of instruments with unobservable volatilities.

The general relationship between changes in the value of an instrument (or a portfolio) to changes in volatility also depends on changes in interest rates and the level of the underlying index. Generally, long option positions (assets) benefit from increases in volatility, whereas short option positions (liabilities) will suffer losses. Some instruments are more sensitive to changes in volatility than others. For example, an at-the-money option would experience a greater percentage change in its fair value than a deep-in-the-money option. In addition, the fair value of an option with more than one underlying security (e.g., an option on a basket of equities) depends on the volatility of the individual underlying securities as well as their correlations.

Yield

In some circumstances, the yield of an instrument is not observable in the market and must be estimated from historical data or from yields of similar securities. This estimated yield may need to be adjusted to capture the characteristics of the security being valued. Whenever the amount of the adjustment is significant to the value of the security, the fair value measurement is classified as Level 3.

Adjusted yield is generally used to discount the projected future principal and interest cash flows on instruments, such as asset-backed securities. Adjusted yield is impacted by changes in the interest rate environment and relevant credit spreads.

Prepayment

Voluntary unscheduled payments (prepayments) change the future cash flows for the investor and thereby change the fair value of the security. The effect of prepayments is more pronounced for residential mortgage-backed securities. Prepayment is generally negatively correlated with delinquency and interest rate. A combination of low prepayments and high delinquencies amplifies each input's negative impact on a mortgage security's valuation. As prepayment speeds change, the weighted average life of the security changes, which impacts the valuation either positively or negatively, depending upon the nature of the security and the direction of the change in the weighted average life.

Recovery

Recovery is the proportion of the total outstanding balance of a bond or loan that is expected to be collected in a liquidation scenario. For many credit securities (e.g., commercial mortgage-backed securities), the expected recovery amount of a defaulted property is typically unknown until a liquidation of the property is imminent. The assumed recovery of a security may differ from its actual recovery that will be observable in the future. Generally, an increase in the recovery rate assumption increases the fair value of the security. An increase in loss severity, the inverse of the recovery rate, reduces the amount of principal available for distribution and, as a result, decreases the fair value of the security.

Credit Spread

Credit spread is a component of the security representing its credit quality. Credit spread reflects the market perception of changes in prepayment, delinquency and recovery rates, therefore capturing the impact of other variables on the fair value. Changes in credit spread affect the fair value of securities differently depending on the characteristics and maturity profile of the security. For example, credit spread is a more significant driver of the fair value measurement of a high-yield bond as compared to an investment-grade bond. Generally, the credit spread for an investment-grade bond is also more observable and less volatile than its high-yield counterpart.

Items Measured at Fair Value on a Nonrecurring Basis

Certain assets and liabilities are measured at fair value on a nonrecurring basis and, therefore, are not included in the tables above. These include assets measured at cost that have been written down to fair value during the periods as a result of an impairment. These also include non-marketable equity securities that have been measured using the measurement alternative and are either (i) written down to fair value during the periods as a result of an impairment or (ii) adjusted upward or downward to fair value as a result of a transaction observed during the periods for an identical or similar investment in the same issuer. In addition, these assets include loans held-for-sale and other real estate owned that are measured at the lower of cost or market value.

The following tables present the carrying amounts of all assets that were still held for which a nonrecurring fair value measurement was recorded:

In millions of dollars	**Fair value**	**Level 2**	**Level 3**
December 31, 2022			
Loans HFS[(1)]	**$ 2,336**	**$ 457**	**$ 1,879**
Other real estate owned	**1**	**—**	**1**
Loans[(2)]	**69**	**—**	**69**
Non-marketable equity securities measured using the measurement alternative	**597**	**—**	**597**
Total assets at fair value on a nonrecurring basis	**$ 3,003**	**$ 457**	**$ 2,546**

In millions of dollars	Fair value	Level 2	Level 3
December 31, 2021			
Loans HFS[(1)]	$ 2,298	$ 986	$ 1,312
Other real estate owned	11	—	11
Loans[(2)]	144	—	144
Non-marketable equity securities measured using the measurement alternative	655	104	551
Total assets at fair value on a nonrecurring basis	$ 3,108	$ 1,090	$ 2,018

(1) Net of fair value amounts on the unfunded portion of loans HFS recognized as *Other liabilities* on the Consolidated Balance Sheet.

(2) Represents impaired loans held for investment whose carrying amount is based on the fair value of the underlying collateral less costs to sell, primarily real estate.

The fair value of loans HFS is determined where possible using quoted secondary-market prices. If no such quoted price exists, the fair value of a loan is determined using quoted prices for a similar asset or assets, adjusted for the specific attributes of that loan. Fair value for the other real estate owned is based on appraisals. For loans whose carrying amount is based on the fair value of the underlying collateral, the fair values depend on the type of collateral. Fair value of the collateral is typically estimated based on quoted market prices if available, appraisals or other internal valuation techniques.

Where the fair value of the related collateral is based on an appraised value, the loan is generally classified as Level 3. In addition, for corporate loans, appraisals of the collateral are often based on sales of similar assets; however, because the prices of similar assets require significant adjustments to reflect the unique features of the underlying collateral, these fair value measurements are generally classified as Level 3.

The fair value of non-marketable equity securities under the measurement alternative is based on observed transaction prices for the identical or similar investment of the same issuer, or an internal valuation technique in the case of an impairment. Where there are insufficient market observations to conclude the inputs are observable, where significant adjustments are made to the observed transaction prices or when an internal valuation technique is used, the security is classified as Level 3. Fair value may differ from the observed transaction price due to a number of factors, including marketability adjustments and differences in rights and obligations when the observed transaction is not for the identical investment held by Citi.

Valuation Techniques and Inputs for Level 3 Nonrecurring Fair Value Measurements

The following tables present the valuation techniques covering the majority of Level 3 nonrecurring fair value measurements and the most significant unobservable inputs used in those measurements:

As of December 31, 2022	**Fair value[1] *(in millions)***	**Methodology**	**Input**	**Low[2]**	**High**	**Weighted average[3]**
Loans held-for-sale	**$ 1,830**	Price-based	Price	**$ 0.88**	**$ 100.23**	**$ 65.91**
Other real estate owned	**$ 1**	Price-based	Appraised value[4]	**$ 30,000**	**$ 441,750**	**$ 310,552**
Loans[5]	**$ 45**	Recovery analysis	Appraised value[4]	**$ 12,000**	**$ 14,022,820**	**$ 3,714,342**
	24	Appraised value				
Non-marketable equity securities measured using the measurement alternative	**$ 234**		Revenue multiple	**4.95x**	**73.10x**	**19.68x**
	363		Price	**$ 0.46**	**$ 2,416.43**	**$ 557.86**

As of December 31, 2021	Fair value[1] *(in millions)*	Methodology	Input	Low[2]	High	Weighted average[3]
Loans held-for-sale	$ 1,312	Price-based	Price	$ 89	$ 100	$ 99
Other real estate owned	$ 4	Price-based	Appraised value[4]	$ 14,000	$ 2,392,464	$ 1,660,120
	5	Recovery analysis				
Loans[5]	$ 120	Recovery analysis	Appraised value[4]	$ 10,000	$ 3,900,000	$ 247,018
	24	Price-based	Price	$ 3	$ 75	$ 35
			Recovery rate	84.00 %	100.00 %	84.00 %
Non-marketable equity securities measured using the measurement alternative	$ 551	Price-based	Price	$ 6	$ 1,339	$ 52

(1) The table above includes the fair values for the items listed and may not foot to the total population for each category.
(2) Some inputs are shown as zero due to rounding.
(3) Weighted averages are calculated based on the fair values of the instruments.
(4) Appraised values are disclosed in whole dollars.
(5) Represents impaired loans held for investment whose carrying amount is based on the fair value of the underlying collateral less costs to sell, primarily real estate.

Nonrecurring Fair Value Changes

The following tables present total nonrecurring fair value measurements for the period, included in earnings, attributable to the change in fair value relating to assets that were still held:

	Year ended December 31,	
In millions of dollars	**2022**	2021
Loans HFS	**$ (58)**	$ (31)
Other real estate owned	**—**	—
Loans[1]	**13**	9
Non-marketable equity securities measured using the measurement alternative	**315**	468
Total nonrecurring fair value gains (losses)	**$ 270**	$ 446

(1) Represents loans held for investment whose carrying amount is based on the fair value of the underlying collateral less costs to sell, primarily real estate.

Estimated Fair Value of Financial Instruments Not Carried at Fair Value

The following tables present the carrying value and fair value of Citigroup's financial instruments that are not carried at fair value. The tables below therefore exclude items measured at fair value on a recurring basis presented in the tables above.

The disclosure also excludes leases, affiliate investments, pension and benefit obligations, certain insurance contracts and tax-related items. Also, as required, the disclosure excludes the effect of taxes, any premium or discount that could result from offering for sale at one time the entire holdings of a particular instrument, excess fair value associated with deposits with no fixed maturity and other expenses that would be incurred in a market transaction. In addition, the tables exclude the values of non-financial assets and liabilities, as well as a wide range of franchise, relationship and intangible values, which are integral to a full assessment of Citigroup's financial position and the value of its net assets.

Fair values vary from period to period based on changes in a wide range of factors, including interest rates, credit quality and market perceptions of value, and as existing assets and liabilities run off and new transactions are entered into.

	December 31, 2022		**Estimated fair value**		
In billions of dollars	**Carrying value**	**Estimated fair value**	**Level 1**	**Level 2**	**Level 3**
Assets					
Investments, net of allowance	**$ 274.3**	**$ 249.2**	**$ 123.2**	**$ 123.1**	**$ 2.9**
Securities borrowed and purchased under agreements to resell	**125.9**	**125.9**	**—**	**125.9**	**—**
Loans[1][2]	**634.5**	**634.9**	**—**	**—**	**634.9**
Other financial assets[2][3]	**427.1**	**427.1**	**320.0**	**22.0**	**85.1**
Liabilities					
Deposits	**$ 1,364.1**	**$ 1,345.4**	**$ —**	**$ 1,159.4**	**$ 186.0**
Securities loaned and sold under agreements to repurchase	**131.6**	**131.6**	**—**	**131.6**	**—**
Long-term debt[4]	**165.6**	**160.5**	**—**	**151.1**	**9.4**
Other financial liabilities[5]	**142.4**	**142.4**	**—**	**26.5**	**115.9**

	December 31, 2021		Estimated fair value		
In billions of dollars	Carrying value	Estimated fair value	Level 1	Level 2	Level 3
Assets					
Investments, net of allowance	$ 221.9	$ 221.0	$ 111.8	$ 106.4	$ 2.8
Securities borrowed and purchased under agreements to resell	110.8	110.8	—	106.4	4.4
Loans[1][2]	644.8	659.6	—	—	659.6
Other financial assets[2][3]	351.9	351.9	242.1	19.9	89.9
Liabilities					
Deposits	$ 1,315.6	$ 1,316.2	$ —	$ 1,153.9	$ 162.3
Securities loaned and sold under agreements to repurchase	134.6	134.6	—	134.5	0.1
Long-term debt[4]	171.8	184.6	—	171.9	12.7
Other financial liabilities[5]	111.1	111.1	—	17.0	94.1

(1) The carrying value of loans is net of the allowance for credit losses on loans of $17.0 billion for December 31, 2022 and $16.5 billion for December 31, 2021. In addition, the carrying values exclude $0.4 billion and $0.5 billion of lease finance receivables at December 31, 2022 and 2021 respectively.
(2) Includes items measured at fair value on a nonrecurring basis.
(3) Includes cash and due from banks, deposits with banks, brokerage receivables, reinsurance recoverables and other financial instruments included in *Other assets* on the Consolidated Balance Sheet, for all of which the carrying value is a reasonable estimate of fair value.
(4) The carrying value includes long-term debt balances under qualifying fair value hedges.
(5) Includes brokerage payables, separate and variable accounts, short-term borrowings (carried at cost) and other financial instruments included in *Other liabilities* on the Consolidated Balance Sheet, for all of which the carrying value is a reasonable estimate of fair value.

The estimated fair values of the Company's corporate unfunded lending commitments at December 31, 2022 and 2021 were off-balance sheet liabilities of $13.7 billion and $8.1 billion, respectively, substantially all of which are classified as Level 3. The Company does not estimate the fair values of consumer unfunded lending commitments, which are generally cancellable by providing notice to the borrower.

26. FAIR VALUE ELECTIONS

The Company may elect to report most financial instruments and certain other items at fair value on an instrument-by-instrument basis with changes in fair value reported in earnings, other than DVA (see below). The election is made upon the initial recognition of an eligible financial asset, financial liability or firm commitment or when certain specified reconsideration events occur. The fair value election may not otherwise be revoked once an election is made. The changes in fair value are recorded in current earnings. Movements in DVA are reported as a component of *AOCI*. Additional discussion regarding the applicable areas in which fair value elections were made is presented in Note 25.

The Company has elected fair value accounting for its mortgage servicing rights (MSRs). See Note 22 for additional details on Citi's MSRs.

The following table presents the changes in fair value of those items for which the fair value option has been elected:

	Changes in fair value—gains (losses) for the years ended December 31,	
In millions of dollars	**2022**	2021
Assets		
Securities borrowed and purchased under agreements to resell	**$ (109)**	$ (87)
Trading account assets	**(296)**	59
Investments	**—**	—
Loans		
Certain corporate loans	**(1,763)**	(171)
Certain consumer loans	**(1)**	—
Total loans	**$ (1,764)**	$ (171)
Other assets		
MSRs	**$ 201**	$ 43
Certain mortgage loans HFS[1]	**(455)**	70
Total other assets	**$ (254)**	$ 113
Total assets	**$ (2,423)**	$ (86)
Liabilities		
Interest-bearing deposits	**$ 42**	$ (118)
Securities loaned and sold under agreements to repurchase	**110**	66
Trading account liabilities	**(239)**	17
Short-term borrowings[2]	**1,424**	675
Long-term debt[2]	**15,589**	386
Total liabilities	**$ 16,926**	$ 1,026

(1) Includes gains (losses) associated with interest rate lock commitments for those loans that have been originated and elected under the fair value option.
(2) Includes DVA that is included in *AOCI*. See Notes 20 and 25.

Own Debt Valuation Adjustments (DVA)
Own debt valuation adjustments are recognized on Citi's liabilities for which the fair value option has been elected using Citi's credit spreads observed in the bond market. Changes in fair value of fair value option liabilities related to changes in Citigroup's own credit spreads (DVA) are reflected as a component of *AOCI*. See Note 20 for additional information.

Among other variables, the fair value of liabilities for which the fair value option has been elected (other than non-recourse debt and similar liabilities) is impacted by the narrowing or widening of the Company's credit spreads.

The estimated changes in the fair value of these non-derivative liabilities due to such changes in the Company's own credit spread (or instrument-specific credit risk) were a gain of $2,685 million and $296 million for the years ended December 31, 2022 and 2021, respectively. Changes in fair value resulting from changes in instrument-specific credit risk were estimated by incorporating the Company's current credit spreads observable in the bond market into the relevant valuation technique used to value each liability as described above.

The Fair Value Option for Financial Assets and Financial Liabilities

Selected Portfolios of Securities Purchased Under Agreements to Resell, Securities Borrowed, Securities Sold Under Agreements to Repurchase, Securities Loaned and Certain Uncollateralized Short-Term Borrowings
The Company elected the fair value option for certain portfolios of fixed income securities purchased under agreements to resell and fixed income securities sold under agreements to repurchase, securities borrowed, securities loaned and certain uncollateralized short-term borrowings held primarily by broker-dealer entities in the United States, the United Kingdom and Japan. In each case, the election was made because the related interest rate risk is managed on a portfolio basis, primarily with offsetting derivative instruments that are accounted for at fair value through earnings.

Changes in fair value for transactions in these portfolios are recorded in *Principal transactions*. The related interest revenue and interest expense are measured based on the contractual rates specified in the transactions and are reported as *Interest revenue* and *Interest expense* in the Consolidated Statement of Income.

Certain Loans and Other Credit Products
Citigroup has also elected the fair value option for certain other originated and purchased loans, including certain unfunded loan products, such as guarantees and letters of credit, executed by Citigroup's lending and trading businesses. None of these credit products are highly leveraged financing commitments. Significant groups of transactions include loans and unfunded loan products that are expected to be either sold or securitized in the near term, or transactions where the economic risks are hedged with derivative instruments, such as purchased credit default swaps or total return swaps where the Company pays the total return on the underlying loans to a third party. Citigroup has elected the fair value option to mitigate accounting mismatches in cases where hedge accounting is complex and to achieve operational simplifications. Fair value was not elected for most lending transactions across the Company.

The following table provides information about certain credit products carried at fair value:

	December 31, 2022		December 31, 2021	
In millions of dollars	**Trading assets**	**Loans**	Trading assets	Loans
Carrying amount reported on the Consolidated Balance Sheet	**$ 6,011**	**$ 5,360**	$ 9,530	$ 6,082
Aggregate unpaid principal balance in excess of (less than) fair value	**167**	**51**	(100)	226
Balance of non-accrual loans or loans more than 90 days past due	**—**	**2**	—	1
Aggregate unpaid principal balance in excess of (less than) fair value for non-accrual loans or loans more than 90 days past due	**—**	**1**	—	—

In addition to the amounts reported above, $729 million and $719 million of unfunded commitments related to certain credit products selected for fair value accounting were outstanding as of December 31, 2022 and 2021, respectively.

Changes in the fair value of funded and unfunded credit products are classified in *Principal transactions* in Citi's Consolidated Statement of Income. Related interest revenue is measured based on the contractual interest rates and reported as *Interest revenue* on *Trading account assets* or loan interest depending on the balance sheet classifications of the credit products. The changes in fair value for the years ended December 31, 2022 and 2021 due to instrument-specific credit risk totaled to losses of $155 million and $21 million, respectively. Changes in fair value due to instrument-specific credit risk are estimated based on changes in borrower-specific credit spreads and recovery assumptions.

Certain Investments in Unallocated Precious Metals

Citigroup invests in unallocated precious metals accounts (e.g., gold, silver, platinum and palladium) as part of its commodity and foreign currency trading activities or to economically hedge certain exposures from issuing structured liabilities. Under ASC 815, the investment is bifurcated into a debt host contract and a commodity forward derivative instrument. Citigroup elects the fair value option for the debt host contract, and reports the debt host contract within *Trading account assets* on the Company's Consolidated Balance Sheet. The total carrying amount of debt host contracts across unallocated precious metals accounts was approximately $0.3 billion and $0.3 billion at December 31, 2022 and 2021, respectively. The amounts are expected to fluctuate based on trading activity in future periods.

As part of its commodity and foreign currency trading activities, Citi trades unallocated precious metals investments and executes forward purchase and forward sale derivative contracts with trading counterparties. When Citi sells an unallocated precious metals investment, Citi's receivable from its depository bank is repaid and Citi derecognizes its investment in the unallocated precious metal. The forward purchase or sale contract with the trading counterparty indexed to unallocated precious metals is accounted for as a derivative, at fair value through earnings. As of December 31, 2022, there were approximately $18.6 billion and $10.8 billion of notional amounts of such forward purchase and forward sale derivative contracts outstanding, respectively.

Certain Investments in Private Equity and Real Estate Ventures

Citigroup invests in private equity and real estate ventures for the purpose of earning investment returns and for capital appreciation. The Company has elected the fair value option for certain of these ventures, because such investments are considered similar to many private equity or hedge fund activities in Citi's investment companies, which are reported at fair value. The fair value option brings consistency in the accounting and evaluation of these investments. All investments (debt and equity) in such private equity and real estate entities are accounted for at fair value. These investments are classified as *Investments* on Citigroup's Consolidated Balance Sheet.

Changes in the fair values of these investments are classified in *Other revenue* in the Company's Consolidated Statement of Income.

Certain Mortgage Loans Held-for-Sale (HFS)

Citigroup has elected the fair value option for certain purchased and originated prime fixed-rate and conforming adjustable-rate first mortgage loans HFS. These loans are intended for sale or securitization and are hedged with derivative instruments. The Company has elected the fair value option to mitigate accounting mismatches in cases where hedge accounting is complex and to achieve operational simplifications.

The following table provides information about certain mortgage loans HFS carried at fair value:

In millions of dollars	**December 31, 2022**	December 31, 2021
Carrying amount reported on the Consolidated Balance Sheet	**$ 793**	$ 3,035
Aggregate fair value in excess of (less than) unpaid principal balance	**(10)**	70
Balance of non-accrual loans or loans more than 90 days past due	**1**	—
Aggregate unpaid principal balance in excess of fair value for non-accrual loans or loans more than 90 days past due	**—**	—

The changes in the fair values of these mortgage loans are reported in *Other revenue* in the Company's Consolidated Statement of Income. There was no net change in fair value during the years ended December 31, 2022 and 2021 due to instrument-specific credit risk. Changes in fair value due to instrument-specific credit risk are estimated based on changes in the borrower default, prepayment and recovery forecasts in addition to instrument-specific credit spread. Related interest income continues to be measured based on the contractual interest rates and reported as *Interest revenue* in the Consolidated Statement of Income.

Certain Debt Liabilities

The Company has elected the fair value option for certain debt liabilities, because these exposures are considered to be trading-related positions and, therefore, are managed on a fair value basis. These positions are classified as *Long-term debt* on the Company's Consolidated Balance Sheet.

The following table provides information about the carrying value of notes carried at fair value, disaggregated by type of risk:

In billions of dollars	**December 31, 2022**	December 31, 2021
Interest rate linked	**$ 53.4**	$ 38.9
Foreign exchange linked	**0.1**	—
Equity linked	**42.5**	36.1
Commodity linked	**5.0**	3.9
Credit linked	**5.0**	3.7
Total	**$ 106.0**	$ 82.6

The portion of the changes in fair value attributable to changes in Citigroup's own credit spreads (DVA) is reflected as a component of *AOCI* while all other changes in fair value are reported in *Principal transactions*. Changes in the fair value of these liabilities include accrued interest, which is also included in the change in fair value reported in *Principal transactions*.

Certain Non-Structured Liabilities

The Company has elected the fair value option for certain non-structured liabilities with fixed and floating interest rates. The Company has elected the fair value option where the interest rate risk of such liabilities may be economically hedged with derivative contracts or the proceeds are used to purchase financial assets that will also be accounted for at fair value through earnings. The elections have been made to mitigate accounting mismatches and to achieve operational simplifications. These positions are reported in *Short-term borrowings* and *Long-term debt* on the Company's Consolidated Balance Sheet. The portion of the changes in fair value attributable to changes in Citigroup's own credit spreads (i.e., DVA) is reflected as a component of *AOCI* while all other changes in fair value are reported in *Principal transactions*.

Interest expense on non-structured liabilities is measured based on the contractual interest rates and reported as *Interest expense* in the Consolidated Statement of Income.

The following table provides information about long-term debt carried at fair value:

In millions of dollars	**December 31, 2022**	December 31, 2021
Carrying amount reported on the Consolidated Balance Sheet	**$ 105,995**	$ 82,609
Aggregate unpaid principal balance in excess of (less than) fair value	**(2,944)**	(2,459)

The following table provides information about short-term borrowings carried at fair value:

In millions of dollars	**December 31, 2022**	December 31, 2021
Carrying amount reported on the Consolidated Balance Sheet	**$ 6,222**	$ 7,358
Aggregate unpaid principal balance in excess of (less than) fair value	**(9)**	(644)

27. PLEDGED ASSETS, RESTRICTED CASH, COLLATERAL, GUARANTEES AND COMMITMENTS

Pledged Assets

In connection with Citi's financing and trading activities, Citi has pledged assets to collateralize its obligations under repurchase agreements, secured financing agreements, secured liabilities of consolidated VIEs and other borrowings. The approximate carrying values of the significant components of pledged assets recognized on Citi's Consolidated Balance Sheet included the following:

In millions of dollars	**December 31, 2022**	December 31, 2021
Investment securities	**$ 246,252**	$ 252,192
Loans	**261,450**	232,319
Trading account assets	**135,978**	140,980
Total	**$ 643,680**	$ 625,491

Restricted Cash

Citigroup defines restricted cash (as cash subject to withdrawal restrictions) to include cash deposited with central banks that must be maintained to meet minimum regulatory requirements, and cash set aside for the benefit of customers or for other purposes such as compensating balance arrangements or debt retirement. Restricted cash may include minimum reserve requirements at certain central banks and cash segregated to satisfy rules regarding the protection of customer assets as required by Citigroup broker-dealers' primary regulators, including the SEC, the Commodity Futures Trading Commission and the United Kingdom's Prudential Regulation Authority.

Restricted cash is included on the Consolidated Balance Sheet within the following balance sheet lines:

In millions of dollars	**December 31, 2022**	December 31, 2021
Cash and due from banks	**$ 4,820**	$ 2,786
Deposits with banks, net of allowance	**12,156**	10,636
Total	**$ 16,976**	$ 13,422

In addition to the restricted cash amounts shown above, approximately $1.8 billion held at the Russia National Settlements Depository is subject to restrictions imposed by the Russian government. This restricted amount is reported within *Other assets* on the Consolidated Balance Sheet.

Collateral

At December 31, 2022 and 2021, the approximate fair value of securities collateral received by Citi that may be resold or repledged, excluding the impact of allowable netting, was $725.5 billion and $650.8 billion, respectively. This collateral was received in connection with resale agreements, securities borrowings and loans, securities for securities lending transactions, derivative transactions and margined broker loans.

At December 31, 2022 and 2021, a substantial portion of the collateral received by Citi had been sold or repledged in connection with repurchase agreements, securities sold, not yet purchased, securities lendings, pledges to clearing organizations, segregation requirements under securities laws and regulations, derivative transactions and bank loans.

In addition, at December 31, 2022 and 2021, Citi had pledged $502.0 billion and $481.0 billion, respectively, of collateral that may not be sold or repledged by the secured parties.

Guarantees

Citi provides a variety of guarantees and indemnifications to its customers to enhance their credit standing and enable them to complete a wide range of business transactions. For certain contracts meeting the definition of a guarantee, the guarantor must recognize, at inception, a liability for the fair value of the obligation undertaken in issuing the guarantee.

In addition, the guarantor must disclose the maximum potential amount of future payments that the guarantor could be required to make under the guarantee, if there were a total default by the guaranteed parties. The determination of the maximum potential future payments is based on the notional amount of the guarantees without consideration of possible recoveries under recourse provisions or from collateral held or pledged. As such, Citi believes such amounts bear no relationship to the anticipated losses, if any, on these guarantees.

The following tables present information about Citi's guarantees:

	Maximum potential amount of future payments			
In billions of dollars at December 31, 2022	**Expire within 1 year**	**Expire after 1 year**	**Total amount outstanding**	**Carrying value** *(in millions of dollars)*
Financial standby letters of credit	**$ 31.3**	**$ 58.3**	**$ 89.6**	**$ 905**
Performance guarantees	**6.1**	**5.6**	**11.7**	**65**
Derivative instruments considered to be guarantees	**18.5**	**30.0**	**48.5**	**353**
Loans sold with recourse	**—**	**1.7**	**1.7**	**13**
Securities lending indemnifications[1]	**95.9**	**—**	**95.9**	**—**
Credit card merchant processing[2]	**129.6**	**—**	**129.6**	**1**
Credit card arrangements with partners	**—**	**0.6**	**0.6**	**7**
Other	**0.1**	**8.4**	**8.5**	**32**
Total	**$ 281.5**	**$ 104.6**	**$ 386.1**	**$ 1,376**

	Maximum potential amount of future payments			
In billions of dollars at December 31, 2021	Expire within 1 year	Expire after 1 year	Total amount outstanding	Carrying value *(in millions of dollars)*
Financial standby letters of credit	$ 34.3	$ 58.4	$ 92.7	$ 791
Performance guarantees	6.6	6.4	13.0	47
Derivative instruments considered to be guarantees	14.6	48.9	63.5	514
Loans sold with recourse	—	1.7	1.7	15
Securities lending indemnifications[1]	121.9	—	121.9	—
Credit card merchant processing[2]	119.4	—	119.4	1
Credit card arrangements with partners	—	0.8	0.8	7
Other	2.0	12.0	14.0	34
Total	$ 298.8	$ 128.2	$ 427.0	$ 1,409

(1) The carrying values of securities lending indemnifications were not material for either period presented, as the probability of potential liabilities arising from these guarantees is minimal.

(2) At December 31, 2022 and 2021, this maximum potential exposure was estimated to be approximately $130 billion and $119 billion, respectively. However, Citi believes that the maximum exposure is not representative of the actual potential loss exposure based on its historical experience. This contingent liability is unlikely to arise, as most products and services are delivered when purchased and amounts are refunded when items are returned to merchants.

Financial Standby Letters of Credit

Citi issues standby letters of credit, which substitute its own credit for that of the borrower. If a letter of credit is drawn down, the borrower is obligated to repay Citi. Standby letters of credit protect a third party from defaults on contractual obligations. Financial standby letters of credit include (i) guarantees of payment of insurance premiums and reinsurance risks that support industrial revenue bond underwriting, (ii) settlement of payment obligations to clearing houses, including futures and over-the-counter derivatives clearing (see further discussion below), (iii) support options and purchases of securities in lieu of escrow deposit accounts and (iv) letters of credit that backstop loans, credit facilities, promissory notes and trade acceptances.

Performance Guarantees

Performance guarantees and letters of credit are issued to guarantee a customer's tender bid on a construction or systems-installation project or to guarantee completion of such projects in accordance with contract terms. They are also issued to support a customer's obligation to supply specified products, commodities or maintenance or warranty services to a third party.

Derivative Instruments Considered to Be Guarantees

Derivatives are financial instruments whose cash flows are based on a notional amount and an underlying instrument, reference credit or index, where there is little or no initial investment and whose terms require or permit net settlement. See Note 23 for a discussion of Citi's derivatives activities.

Derivative instruments considered to be guarantees include only those instruments that require Citi to make payments to the counterparty based on changes in an underlying instrument that is related to an asset, a liability or an equity security held by the guaranteed party. More specifically, derivative instruments considered to be guarantees include certain over-the-counter written put options where the counterparty is not a bank, hedge fund or broker-dealer (such counterparties are considered to be dealers in these markets and may, therefore, not hold the underlying instruments). Credit derivatives sold by Citi are excluded from the tables above as they are disclosed separately in Note 23. In instances where Citi's maximum potential future payment is unlimited, the notional amount of the contract is disclosed.

Loans Sold with Recourse

Loans sold with recourse represent Citi's obligations to reimburse the buyers for loan losses under certain circumstances. Recourse refers to the clause in a sales agreement under which a seller/lender will fully reimburse the buyer/investor for any losses resulting from the purchased loans. This may be accomplished by the sellers taking back any loans that become delinquent.

In addition to the amounts shown in the tables above, Citi has recorded a repurchase reserve for its potential repurchases or make-whole liability regarding residential mortgage representation and warranty claims related to its whole loan sales to U.S. government-sponsored agencies and, to a lesser extent, private investors. The repurchase reserve was approximately $10 million and $19 million at December 31, 2022 and 2021, respectively, and these amounts are included in *Other liabilities* on the Consolidated Balance Sheet.

Securities Lending Indemnifications

Owners of securities frequently lend those securities for a fee to other parties who may sell them short or deliver them to another party to satisfy some other obligation. Banks may administer such securities lending programs for their clients. Securities lending indemnifications are issued by the bank to guarantee that a securities lending customer will be made whole in the event that the security borrower does not return the security subject to the lending agreement and collateral held is insufficient to cover the market value of the security.

Credit Card Merchant Processing

Credit card merchant processing guarantees represent the Company's indirect obligations in connection with (i) providing transaction processing services to various merchants with respect to its private label cards and (ii) potential liability for bank card transaction processing services. The nature of the liability in either case arises as a result of a billing dispute between a merchant and a cardholder that is ultimately resolved in the cardholder's favor. The merchant is liable to refund the amount to the cardholder. In general, if the credit card processing company is unable to collect this amount from the merchant, the credit card processing company bears the loss for the amount of the credit or refund paid to the cardholder.

With regard to (i) above, Citi has the primary contingent liability with respect to its portfolio of private label merchants. The risk of loss is mitigated as the cash flows between Citi and the merchant are settled on a net basis, and Citi has the right to offset any payments with cash flows otherwise due to the merchant. To further mitigate this risk, Citi may delay settlement, require a merchant to make an escrow deposit, include event triggers to provide Citi with more financial and operational control in the event of the financial deterioration of the merchant or require various credit enhancements (including letters of credit and bank guarantees). In the unlikely event that a private label merchant is unable to deliver products, services or a refund to its private label cardholders, Citi is contingently liable to credit or refund cardholders.

With regard to (ii) above, Citi has a potential liability for bank card transactions where Citi provides the transaction processing services as well as those where a third party provides the services and Citi acts as a secondary guarantor, should that processor fail to perform.

Citi's maximum potential contingent liability related to both bank card and private label merchant processing services is estimated to be the total volume of credit card transactions that meet the requirements to be valid charge-back transactions at any given time. At December 31, 2022 and 2021, this maximum potential exposure was estimated to be $129.6 billion and $119.4 billion, respectively.

However, Citi believes that the maximum exposure is not representative of the actual potential loss exposure based on its historical experience. This contingent liability is unlikely to arise, as most products and services are delivered when purchased and amounts are refunded when items are returned to merchants. Citi assesses the probability and amount of its

contingent liability related to merchant processing based on the financial strength of the primary guarantor, the extent and nature of unresolved charge-backs and its historical loss experience. At December 31, 2022 and 2021, the losses incurred and the carrying amounts of Citi's contingent obligations related to merchant processing activities were immaterial.

Credit Card Arrangements with Partners

Citi, in one of its credit card partner arrangements, provides guarantees to the partner regarding the volume of certain customer originations during the term of the agreement. To the extent that such origination targets are not met, the guarantees serve to compensate the partner for certain payments that otherwise would have been generated in connection with such originations.

Other Guarantees and Indemnifications

Credit Card Protection Programs

Citi, through its credit card businesses, provides various cardholder protection programs on several of its card products, including programs that provide insurance coverage for rental cars, coverage for certain losses associated with purchased products, price protection for certain purchases and protection for lost luggage. These guarantees are not included in the table, since the total outstanding amount of the guarantees and Citi's maximum exposure to loss cannot be quantified. The protection is limited to certain types of purchases and losses, and it is not possible to quantify the purchases that would qualify for these benefits at any given time. Citi assesses the probability and amount of its potential liability related to these programs based on the extent and nature of its historical loss experience. At December 31, 2022 and 2021, the actual and estimated losses incurred and the carrying value of Citi's obligations related to these programs were immaterial.

Other Representation and Warranty Indemnifications

In the normal course of business, Citi provides standard representations and warranties to counterparties in contracts in connection with numerous transactions and also provides indemnifications, including indemnifications that protect the counterparties to the contracts in the event that additional taxes are owed, due either to a change in the tax law or an adverse interpretation of the tax law. Counterparties to these transactions provide Citi with comparable indemnifications. While such representations, warranties and indemnifications are essential components of many contractual relationships, they do not represent the underlying business purpose for the transactions. The indemnification clauses are often standard contractual terms related to Citi's own performance under the terms of a contract and are entered into in the normal course of business based on an assessment that the risk of loss is remote. Often these clauses are intended to ensure that terms of a contract are met at inception. No compensation is received for these standard representations and warranties, and it is not possible to determine their fair value because they rarely, if ever, result in a payment. In many cases, there are no stated or notional amounts included in the indemnification clauses, and the contingencies potentially triggering the obligation to indemnify have not occurred and are not expected to occur. As a result, these indemnifications are not included in the tables above.

Value-Transfer Networks (Including Exchanges and Clearing Houses) (VTNs)

Citi is a member of, or shareholder in, hundreds of value-transfer networks (VTNs) (payment, clearing and settlement systems as well as exchanges) around the world. As a condition of membership, many of these VTNs require that members stand ready to pay a pro rata share of the losses incurred by the organization due to another member's default on its obligations. Citi's potential obligations may be limited to its membership interests in the VTNs, contributions to the VTN's funds, or, in certain narrow cases, to the full pro rata share. The maximum exposure is difficult to estimate as this would require an assessment of claims that have not yet occurred; however, Citi believes the risk of loss is remote given historical experience with the VTNs. Accordingly, Citi's participation in VTNs is not reported in the guarantees tables above, and there are no amounts reflected on the Consolidated Balance Sheet as of December 31, 2022 or 2021 for potential obligations that could arise from Citi's involvement with VTN associations.

Long-Term Care Insurance Indemnification

In 2000, Travelers Life & Annuity (Travelers), then a subsidiary of Citi, entered into a reinsurance agreement to transfer the risks and rewards of its long-term care (LTC) business to GE Life (now Genworth Financial Inc., or Genworth), then a subsidiary of the General Electric Company (GE). As part of this transaction, the reinsurance obligations were provided by two regulated insurance subsidiaries of GE Life, which funded two collateral trusts with securities. Presently, as discussed below, the trusts are referred to as the Genworth Trusts.

As part of GE's spin-off of Genworth in 2004, GE retained the risks and rewards associated with the 2000 Travelers reinsurance agreement by providing a reinsurance contract to Genworth through GE's Union Fidelity Life Insurance Company (UFLIC) subsidiary that covers the Travelers LTC policies. In addition, GE provided a capital maintenance agreement in favor of UFLIC that is designed to assure that UFLIC will have the funds to pay its reinsurance obligations. As a result of these reinsurance agreements and the spin-off of Genworth, Genworth has reinsurance protection from UFLIC (supported by GE) and has reinsurance obligations in connection with the Travelers LTC policies. As noted below, the Genworth reinsurance obligations now benefit Brighthouse Financial, Inc. (Brighthouse). While neither Brighthouse nor Citi are direct beneficiaries of the capital maintenance agreement between GE and UFLIC, Brighthouse and Citi benefit indirectly from the existence of the capital maintenance agreement, which helps assure that UFLIC will continue to have funds necessary to pay its reinsurance obligations to Genworth.

In connection with Citi's 2005 sale of Travelers to MetLife Inc. (MetLife), Citi provided an indemnification to MetLife for losses (including policyholder claims) relating to the LTC business for the entire term of the Travelers LTC

policies, which, as noted above, are reinsured by subsidiaries of Genworth. In 2017, MetLife spun off its retail insurance business to Brighthouse. As a result, the Travelers LTC policies now reside with Brighthouse. The original reinsurance agreement between Travelers (now Brighthouse) and Genworth remains in place and Brighthouse is the sole beneficiary of the Genworth Trusts. The Genworth Trusts are designed to provide collateral to Brighthouse in an amount equal to the statutory liabilities of Brighthouse in respect of the Travelers LTC policies. The assets in the Genworth Trusts are evaluated and adjusted periodically to ensure that the fair value of the assets continues to provide collateral in an amount equal to these estimated statutory liabilities, as the liabilities change over time.

If both (i) Genworth fails to perform under the original Travelers/GE Life reinsurance agreement for any reason, including its insolvency or the failure of UFLIC to perform under its reinsurance contract or GE to perform under the capital maintenance agreement, and (ii) the assets of the two Genworth Trusts are insufficient or unavailable, then Citi, through its LTC reinsurance indemnification, must reimburse Brighthouse for any losses incurred in connection with the LTC policies. Since both events would have to occur before Citi would become responsible for any payment to Brighthouse pursuant to its indemnification obligation, and the likelihood of such events occurring is currently not probable, there is no liability reflected on the Consolidated Balance Sheet as of December 31, 2022 and 2021 related to this indemnification. However, if both events become reasonably possible (meaning more than remote but less than probable), Citi will be required to estimate and disclose a reasonably possible loss or range of loss to the extent that such an estimate could be made. In addition, if both events become probable, Citi will be required to accrue for such liability in accordance with applicable accounting principles.

Futures and Over-the-Counter Derivatives Clearing

Citi provides clearing services on central clearing parties (CCP) for clients that need to clear exchange-traded and over-the-counter (OTC) derivatives contracts with CCPs. Based on all relevant facts and circumstances, Citi has concluded that it acts as an agent for accounting purposes in its role as clearing member for these client transactions. As such, Citi does not reflect the underlying exchange-traded or OTC derivatives contracts in its Consolidated Financial Statements. See Note 23 for a discussion of Citi's derivatives activities that are reflected in its Consolidated Financial Statements.

As a clearing member, Citi collects and remits cash and securities collateral (margin) between its clients and the respective CCP. In certain circumstances, Citi collects a higher amount of cash (or securities) from its clients than it needs to remit to the CCPs. This excess cash is then held at depository institutions such as banks or carry brokers.

There are two types of margin: initial and variation. Where Citi obtains benefits from or controls cash initial margin (e.g., retains an interest spread), cash initial margin collected from clients and remitted to the CCP or depository institutions is reflected within *Brokerage payables* (payables to customers) and *Brokerage receivables* (receivables from brokers, dealers and clearing organizations) or *Cash and due from banks*, respectively.

However, for exchange-traded and OTC-cleared derivatives contracts where Citi does not obtain benefits from or control the client cash balances, the client cash initial margin collected from clients and remitted to the CCP or depository institutions is not reflected on Citi's Consolidated Balance Sheet. These conditions are met when Citi has contractually agreed with the client that (i) Citi will pass through to the client all interest paid by the CCP or depository institutions on the cash initial margin, (ii) Citi will not utilize its right as a clearing member to transform cash margin into other assets, (iii) Citi does not guarantee and is not liable to the client for the performance of the CCP or the depository institution and (iv) the client cash balances are legally isolated from Citi's bankruptcy estate. The total amount of cash initial margin collected and remitted in this manner was approximately $18.0 billion and $18.7 billion as of December 31, 2022 and 2021, respectively.

Variation margin due from clients to the respective CCP, or from the CCP to clients, reflects changes in the value of the client's derivative contracts for each trading day. As a clearing member, Citi is exposed to the risk of non-performance by clients (e.g., failure of a client to post variation margin to the CCP for negative changes in the value of the client's derivative contracts). In the event of non-performance by a client, Citi would move to close out the client's positions. The CCP would typically utilize initial margin posted by the client and held by the CCP, with any remaining shortfalls required to be paid by Citi as clearing member. Citi generally holds incremental cash or securities margin posted by the client, which would typically be expected to be sufficient to mitigate Citi's credit risk in the event that the client fails to perform.

As required by ASC 860-30-25-5, securities collateral posted by clients is not recognized on Citi's Consolidated Balance Sheet.

Carrying Value—Guarantees and Indemnifications

At December 31, 2022 and 2021, the total carrying amounts of the liabilities related to the guarantees and indemnifications included in the tables above amounted to approximately $1.4 billion and $1.4 billion, respectively. The carrying value of financial and performance guarantees is included in *Other liabilities.* For loans sold with recourse, the carrying value of the liability is included in *Other liabilities*.

Collateral

Cash collateral available to Citi to reimburse losses realized under these guarantees and indemnifications amounted to $51.8 billion and $56.5 billion at December 31, 2022 and 2021, respectively. Securities and other marketable assets held as collateral amounted to $63.7 billion and $84.2 billion at December 31, 2022 and 2021, respectively. The majority of collateral is held to reimburse losses realized under securities lending indemnifications. In addition, letters of credit in favor of Citi held as collateral amounted to $3.7 billion and $4.1 billion at December 31, 2022 and 2021, respectively. Other property may also be available to Citi to cover losses under certain guarantees and indemnifications; however, the value of such property has not been determined.

Performance Risk

Citi evaluates the performance risk of its guarantees based on the assigned referenced counterparty internal or external ratings. Where external ratings are used, investment-grade ratings are considered to be Baa/BBB and above, while anything below is considered non-investment grade. Citi's internal ratings are in line with the related external rating system. On certain underlying referenced assets or entities, ratings are not available. Such referenced assets are included in the "not rated" category. The maximum potential amount of the future payments related to the outstanding guarantees is determined to be the notional amount of these contracts, which is the par amount of the assets guaranteed.

Presented in the tables below are the maximum potential amounts of future payments that are classified based on internal and external credit ratings. The determination of the maximum potential future payments is based on the notional amount of the guarantees without consideration of possible recoveries under recourse provisions or from collateral held or pledged. As such, Citi believes such amounts bear no relationship to the anticipated losses, if any, on these guarantees.

	Maximum potential amount of future payments			
In billions of dollars at December 31, 2022	**Investment grade**	**Non-investment grade**	**Not rated**	**Total**
Financial standby letters of credit	**$ 77.9**	**$ 10.4**	**$ 1.3**	**$ 89.6**
Performance guarantees	**9.3**	**2.4**	**—**	**11.7**
Derivative instruments deemed to be guarantees	**—**	**—**	**48.5**	**48.5**
Loans sold with recourse	**—**	**—**	**1.7**	**1.7**
Securities lending indemnifications	**—**	**—**	**95.9**	**95.9**
Credit card merchant processing	**—**	**—**	**129.6**	**129.6**
Credit card arrangements with partners	**—**	**—**	**0.6**	**0.6**
Other	**—**	**8.5**	**—**	**8.5**
Total	**$ 87.2**	**$ 21.3**	**$ 277.6**	**$ 386.1**

	Maximum potential amount of future payments			
In billions of dollars at December 31, 2021	Investment grade	Non-investment grade	Not rated	Total
Financial standby letters of credit	$ 81.4	$ 11.3	$ —	$ 92.7
Performance guarantees	10.5	2.5	—	13.0
Derivative instruments deemed to be guarantees	—	—	63.5	63.5
Loans sold with recourse	—	—	1.7	1.7
Securities lending indemnifications	—	—	121.9	121.9
Credit card merchant processing	—	—	119.4	119.4
Credit card arrangements with partners	—	—	0.8	0.8
Other	—	12.0	2.0	14.0
Total	$ 91.9	$ 25.8	$ 309.3	$ 427.0

Credit Commitments and Lines of Credit

The table below summarizes Citigroup's credit commitments:

In millions of dollars	U.S.	Outside of U.S.[1]	December 31, 2022	December 31, 2021
Commercial and similar letters of credit	**$ 650**	**$ 4,666**	**$ 5,316**	$ 5,910
One- to four-family residential mortgages	**906**	**1,488**	**2,394**	4,351
Revolving open-end loans secured by one- to four-family residential properties	**5,719**	**661**	**6,380**	7,913
Commercial real estate, construction and land development	**13,275**	**1,895**	**15,170**	17,843
Credit card lines	**603,975**	**79,257**	**683,232**	700,559
Commercial and other consumer loan commitments	**191,318**	**106,081**	**297,399**	320,556
Other commitments and contingencies	**5,469**	**204**	**5,673**	5,649
Total	**$ 821,312**	**$ 194,252**	**$ 1,015,564**	$ 1,062,781

(1) Consumer commitments related to the business HFS countries under sales agreements are reflected in their original categories until the respective sales are completed.

The majority of unused commitments are contingent upon customers maintaining specific credit standards. Commercial commitments generally have floating interest rates and fixed expiration dates and may require payment of fees. Such fees (net of certain direct costs) are deferred and, upon exercise of the commitment, amortized over the life of the loan or, if exercise is deemed remote, amortized over the commitment period.

Commercial and Similar Letters of Credit

A commercial letter of credit is an instrument by which Citigroup substitutes its credit for that of a customer to enable the customer to finance the purchase of goods or to incur other commitments. Citigroup issues a letter on behalf of its client to a supplier and agrees to pay the supplier upon presentation of documentary evidence that the supplier has performed in accordance with the terms of the letter of credit. When a letter of credit is drawn, the customer is then required to reimburse Citigroup.

One- to Four-Family Residential Mortgages

A one- to four-family residential mortgage commitment is a written confirmation from Citigroup to a seller of a property that the bank will advance the specified sums enabling the buyer to complete the purchase.

Revolving Open-End Loans Secured by One- to Four-Family Residential Properties

Revolving open-end loans secured by one- to four-family residential properties are essentially home equity lines of credit. A home equity line of credit is a loan secured by a primary residence or second home to the extent of the excess of fair market value over the debt outstanding for the first mortgage.

Commercial Real Estate, Construction and Land Development

Commercial real estate, construction and land development include unused portions of commitments to extend credit for the purpose of financing commercial and multifamily residential properties as well as land development projects.

Both secured-by-real-estate and unsecured commitments are included in this line, as well as undistributed loan proceeds, where there is an obligation to advance for construction progress payments. However, this line only includes those extensions of credit that, once funded, will be classified as *Total loans, net* on the Consolidated Balance Sheet.

Credit Card Lines

Citigroup provides credit to customers by issuing credit cards. The credit card lines are cancelable by providing notice to the cardholder or without such notice as permitted by local law.

Commercial and Other Consumer Loan Commitments

Commercial and other consumer loan commitments include overdraft and liquidity facilities as well as commercial commitments to make or purchase loans, purchase third-party receivables, provide note issuance or revolving underwriting facilities and invest in the form of equity.

Other Commitments and Contingencies

Other commitments and contingencies include all other transactions related to commitments and contingencies not reported on the lines above.

Unsettled Reverse Repurchase and Securities Borrowing Agreements and Unsettled Repurchase and Securities Lending Agreements

In addition, in the normal course of business, Citigroup enters into reverse repurchase and securities borrowing agreements, as well as repurchase and securities lending agreements, which settle at a future date. At December 31, 2022 and 2021, Citigroup had approximately $111.6 billion and $126.6 billion of unsettled reverse repurchase and securities borrowing agreements, and approximately $37.3 billion and $41.1 billion of unsettled repurchase and securities lending agreements, respectively. See Note 11 for a further discussion of securities purchased under agreements to resell and securities borrowed, and securities sold under agreements to repurchase and securities loaned, including the Company's policy for offsetting repurchase and reverse repurchase agreements.

28. LEASES

The Company's operating leases, where Citi is a lessee, include real estate such as office space and branches and various types of equipment. These leases may contain renewal and extension options and early termination features; however, these options do not impact the lease term unless the Company is reasonably certain that it will exercise options. These leases have a weighted-average remaining lease term of approximately six years as of December 31, 2022 and 2021.

For additional information regarding Citi's leases, see Note 1.

The following table presents information on the right-of-use (ROU) asset and lease liabilities included in *Premises and equipment* and *Other liabilities*, respectively:

In millions of dollars	**December 31, 2022**	December 31, 2021
ROU asset	**$ 2,892**	$ 2,914
Lease liability	**3,076**	3,116

The Company recognizes fixed lease costs on a straight-line basis throughout the lease term in the Consolidated Statement of Income. In addition, variable lease costs are recognized in the period in which the obligation for those payments is incurred.

The following table presents the total operating lease expense (principally for offices, branches and equipment) included in the Consolidated Statement of Income:

In millions of dollars	**Dec. 31, 2022**	Dec. 31, 2021	Dec. 31, 2020
Operating lease expense[1]	**$ 1,048**	$ 1,061	$ 1,054

(1) Balances presented net of $3 million, $12 million and $27 million of sublease income for the years ended December 31, 2022, 2021 and 2020, respectively.

The table below provides the Cash Flow Statement Supplemental Information:

In millions of dollars	**December 31, 2022**	December 31, 2021
Cash paid for amounts included in the measurement of lease liabilities	**$ 725**	$ 806
ROU assets obtained in exchange for new operating lease liabilities[1][2]	**775**	845

(1) Represents non-cash activity and, accordingly, is not reflected in the Consolidated Statement of Cash Flows.
(2) Excludes the decrease in the ROU assets related to the purchase of a previously leased property.

Citi's future lease payments are as follows:

In millions of dollars	
2023	$ 704
2024	635
2025	541
2026	437
2027	319
Thereafter	769
Total future lease payments	$ 3,405
Less imputed interest (based on weighted-average discount rate of 3.1%)	$ (329)
Lease liability	$ 3,076

29. CONTINGENCIES

Accounting and Disclosure Framework

ASC 450 governs the disclosure and recognition of loss contingencies, including potential losses from litigation, regulatory, tax and other matters. ASC 450 defines a "loss contingency" as "an existing condition, situation, or set of circumstances involving uncertainty as to possible loss to an entity that will ultimately be resolved when one or more future events occur or fail to occur." It imposes different requirements for the recognition and disclosure of loss contingencies based on the likelihood of occurrence of the contingent future event or events. It distinguishes among degrees of likelihood using the following three terms: "probable," meaning that "the future event or events are likely to occur"; "remote," meaning that "the chance of the future event or events occurring is slight"; and "reasonably possible," meaning that "the chance of the future event or events occurring is more than remote but less than likely." These three terms are used below as defined in ASC 450.

Accruals. ASC 450 requires accrual for a loss contingency when it is "probable that one or more future events will occur confirming the fact of loss" *and* "the amount of the loss can be reasonably estimated." In accordance with ASC 450, Citigroup establishes accruals for contingencies, including any litigation, regulatory or tax matters disclosed herein, when Citigroup believes it is probable that a loss has been incurred and the amount of the loss can be reasonably estimated. When the reasonable estimate of the loss is within a range of amounts, the minimum amount of the range is accrued, unless some higher amount within the range is a better estimate than any other amount within the range. Once established, accruals are adjusted from time to time, as appropriate, in light of additional information. The amount of loss ultimately incurred in relation to those matters may be substantially higher or lower than the amounts accrued for those matters.

Disclosure. ASC 450 requires disclosure of a loss contingency if "there is at least a reasonable possibility that a loss or an additional loss may have been incurred" *and* there is no accrual for the loss because the conditions described above are not met or an exposure to loss exists in excess of the amount accrued. In accordance with ASC 450, if Citigroup has not accrued for a matter because Citigroup believes that a loss is reasonably possible but not probable, or that a loss is probable but not reasonably estimable, and the reasonably possible loss is material, it discloses the loss contingency. In addition, Citigroup discloses matters for which it has accrued if it believes a reasonably possible exposure to material loss exists in excess of the amount accrued. In accordance with ASC 450, Citigroup's disclosure includes an estimate of the reasonably possible loss or range of loss for those matters as to which an estimate can be made. ASC 450 does not require disclosure of an estimate of the reasonably possible loss or range of loss where an estimate cannot be made. Neither accrual nor disclosure is required for losses that are deemed remote.

Litigation, Regulatory and Other Contingencies

Overview. In addition to the matters described below, in the ordinary course of business, Citigroup, its affiliates and subsidiaries, and current and former officers, directors and employees (for purposes of this section, sometimes collectively referred to as Citigroup and Related Parties) routinely are named as defendants in, or as parties to, various legal actions and proceedings. Certain of these actions and proceedings assert claims or seek relief in connection with alleged violations of consumer protection, fair lending, securities, banking, antifraud, antitrust, anti-money laundering, employment and other statutory and common laws. Certain of these actual or threatened legal actions and proceedings include claims for substantial or indeterminate compensatory or punitive damages, or for injunctive relief, and in some instances seek recovery on a class-wide basis.

In the ordinary course of business, Citigroup and Related Parties also are subject to governmental and regulatory examinations, information-gathering requests, investigations and proceedings (both formal and informal), certain of which may result in adverse judgments, settlements, fines, penalties, restitution, disgorgement, injunctions or other relief. In addition, certain affiliates and subsidiaries of Citigroup are banks, registered broker-dealers, futures commission merchants, investment advisors or other regulated entities and, in those capacities, are subject to regulation by various U.S., state and foreign securities, banking, commodity futures, consumer protection and other regulators. In connection with formal and informal inquiries by these regulators, Citigroup and such affiliates and subsidiaries receive numerous requests, subpoenas and orders seeking documents, testimony and other information in connection with various aspects of their regulated activities. From time to time Citigroup and Related Parties also receive grand jury subpoenas and other requests for information or assistance, formal or informal, from federal or state law enforcement agencies including, among others, various United States Attorneys' Offices, the Money Laundering and Asset Recovery Section and other divisions of the Department of Justice, the Financial Crimes Enforcement Network of the United States Department of the Treasury, and the Federal Bureau of Investigation relating to Citigroup and its customers.

Because of the global scope of Citigroup's operations and its presence in countries around the world, Citigroup and Related Parties are subject to litigation and governmental and regulatory examinations, information-gathering requests, investigations and proceedings (both formal and informal) in multiple jurisdictions with legal, regulatory and tax regimes that may differ substantially, and present substantially different risks, from those Citigroup and Related Parties are subject to in the United States. In some instances, Citigroup and Related Parties may be involved in proceedings involving the same subject matter in multiple jurisdictions, which may result in overlapping, cumulative or inconsistent outcomes.

Citigroup seeks to resolve all litigation, regulatory, tax and other matters in the manner management believes is in the best interests of Citigroup and its shareholders, and contests liability, allegations of wrongdoing and, where applicable, the amount of damages or scope of any penalties or other relief sought as appropriate in each pending matter.

Inherent Uncertainty of the Matters Disclosed. Certain of the matters disclosed below involve claims for substantial or indeterminate damages. The claims asserted in these matters

typically are broad, often spanning a multiyear period and sometimes a wide range of business activities, and the plaintiffs' or claimants' alleged damages frequently are not quantified or factually supported in the complaint or statement of claim. Other matters relate to regulatory investigations or proceedings, as to which there may be no objective basis for quantifying the range of potential fine, penalty or other remedy. As a result, Citigroup is often unable to estimate the loss in such matters, even if it believes that a loss is probable or reasonably possible, until developments in the case, proceeding or investigation have yielded additional information sufficient to support a quantitative assessment of the range of reasonably possible loss. Such developments may include, among other things, discovery from adverse parties or third parties, rulings by the court on key issues, analysis by retained experts and engagement in settlement negotiations.

Depending on a range of factors, such as the complexity of the facts, the novelty of the legal theories, the pace of discovery, the court's scheduling order, the timing of court decisions and the adverse party's, regulator's or other authority's willingness to negotiate in good faith toward a resolution, it may be months or years after the filing of a case or commencement of a proceeding or an investigation before an estimate of the range of reasonably possible loss can be made.

Matters as to Which an Estimate Can Be Made. For some of the matters disclosed below, Citigroup is currently able to estimate a reasonably possible loss or range of loss in excess of amounts accrued (if any). For some of the matters included within this estimation, an accrual has been made because a loss is believed to be both probable and reasonably estimable, but a reasonably possible exposure to loss exists in excess of the amount accrued. In these cases, the estimate reflects the reasonably possible range of loss in excess of the accrued amount. For other matters included within this estimation, no accrual has been made because a loss, although estimable, is believed to be reasonably possible, but not probable; in these cases, the estimate reflects the reasonably possible loss or range of loss. As of December 31, 2022, Citigroup estimates that the reasonably possible unaccrued loss for these matters ranges up to approximately $1.2 billion in the aggregate.

These estimates are based on currently available information. As available information changes, the matters for which Citigroup is able to estimate will change, and the estimates themselves will change. In addition, while many estimates presented in financial statements and other financial disclosures involve significant judgment and may be subject to significant uncertainty, estimates of the range of reasonably possible loss arising from litigation, regulatory and tax proceedings are subject to particular uncertainties. For example, at the time of making an estimate, (i) Citigroup may have only preliminary, incomplete or inaccurate information about the facts underlying the claim, (ii) its assumptions about the future rulings of the court, other tribunal or authority on significant issues, or the behavior and incentives of adverse parties, regulators or other authorities, may prove to be wrong and (iii) the outcomes it is attempting to predict are often not amenable to the use of statistical or other quantitative analytical tools. In addition, from time to time an outcome may occur that Citigroup had not accounted for in its estimate because it had deemed such an outcome to be remote. For all of these reasons, the amount of loss in excess of amounts accrued in relation to matters for which an estimate has been made could be substantially higher or lower than the range of loss included in the estimate.

Matters as to Which an Estimate Cannot Be Made. For other matters disclosed below, Citigroup is not currently able to estimate the reasonably possible loss or range of loss. Many of these matters remain in very preliminary stages (even in some cases where a substantial period of time has passed since the commencement of the matter), with few or no substantive legal decisions by the court, tribunal or other authority defining the scope of the claims, the class (if any) or the potentially available damages or other exposure, and fact discovery is still in progress or has not yet begun. In many of these matters, Citigroup has not yet answered the complaint or statement of claim or asserted its defenses, nor has it engaged in any negotiations with the adverse party (whether a regulator, taxing authority or a private party). For all these reasons, Citigroup cannot at this time estimate the reasonably possible loss or range of loss, if any, for these matters.

Opinion of Management as to Eventual Outcome. Subject to the foregoing, it is the opinion of Citigroup's management, based on current knowledge and after taking into account its current accruals, that the eventual outcome of all matters described in this Note would not likely have a material adverse effect on the consolidated financial condition of Citigroup.

Nonetheless, given the substantial or indeterminate amounts sought in certain of these matters, and the inherent unpredictability of such matters, an adverse outcome in certain of these matters could, from time to time, have a material adverse effect on Citigroup's consolidated results of operations or cash flows in particular quarterly or annual periods.

Foreign Exchange Matters

Regulatory Actions: Government and regulatory agencies in the U.S. and other jurisdictions are conducting investigations or making inquiries regarding Citigroup's foreign exchange business. Citigroup is cooperating with these and related investigations and inquiries.

Antitrust and Other Litigation: In 2018, a number of institutional investors who opted out of the previously disclosed August 2018 final settlement filed an action against Citigroup, Citibank, Citigroup Global Markets Inc. (CGMI) and other defendants, captioned ALLIANZ GLOBAL INVESTORS, ET AL. v. BANK OF AMERICA CORP., ET AL., in the United States District Court for the Southern District of New York. Plaintiffs allege that defendants manipulated, and colluded to manipulate, the foreign exchange markets. Plaintiffs assert claims under the Sherman Act and unjust enrichment claims, and seek consequential and punitive damages and other forms of relief. In July 2020, plaintiffs filed a third amended complaint. Additional information concerning this action is publicly available in court filings under the docket number 18-CV-10364 (S.D.N.Y.) (Schofield, J.).

In 2018, a group of institutional investors issued a claim against Citigroup, Citibank and other defendants, captioned ALLIANZ GLOBAL INVESTORS GMBH AND OTHERS v. BARCLAYS BANK PLC AND OTHERS, in the High Court

of Justice in London. Claimants allege that defendants manipulated, and colluded to manipulate, the foreign exchange market in violation of EU and U.K. competition laws. In December 2021, the High Court ordered that the case be transferred to the U.K.'s Competition Appeal Tribunal. Additional information concerning this action is publicly available in court filings under the case number CL-2018-000840 in the High Court and under the case number 1430/5/7/22 (T) in the Competition Appeal Tribunal.

In 2015, a putative class of consumers and businesses in the U.S. who directly purchased supracompetitive foreign currency at benchmark exchange rates filed an action against Citigroup and other defendants, captioned NYPL v. JPMORGAN CHASE & CO., ET AL., in the United States District Court for the Northern District of California (later transferred to the United States District Court for the Southern District of New York). Subsequently, plaintiffs filed an amended class action complaint against Citigroup, Citibank and Citicorp as defendants. Plaintiffs allege that they suffered losses as a result of defendants' alleged manipulation of, and collusion with respect to, the foreign exchange market. Plaintiffs assert claims under federal and California antitrust and consumer protection laws, and seek compensatory damages, treble damages and declaratory and injunctive relief. On March 8, 2022, the court denied plaintiffs' motion for class certification. On August 22, 2022, the United States Court of Appeals for the Second Circuit denied plaintiffs' application seeking appellate review of the decision denying class certification. Additional information concerning this action is publicly available in court filings under the docket numbers 15-CV-2290 (N.D. Cal.) (Chhabria, J.), 15-CV-9300 (S.D.N.Y.) (Schofield, J.) and 22-698 (2d Cir.).

In 2019, two applications, captioned MICHAEL O' HIGGINS FX CLASS REPRESENTATIVE LIMITED v. BARCLAYS BANK PLC AND OTHERS and PHILLIP EVANS v. BARCLAYS BANK PLC AND OTHERS, were made to the U.K.'s Competition Appeal Tribunal requesting permission to commence collective proceedings against Citigroup, Citibank and other defendants. The applications seek compensatory damages for losses alleged to have arisen from the actions at issue in the European Commission's foreign exchange spot trading infringement decision (European Commission Decision of May 16, 2019 in Case AT.40135-FOREX (Three Way Banana Split) C(2019) 3631 final). On March 31, 2022, the U.K.'s Competition Appeal Tribunal issued its judgment on certification, and on October 4, 2022, the U.K.'s Competition Appeal Tribunal granted both claimants permission to appeal the certification judgment. Additional information concerning these actions is publicly available in court filings under the case numbers 1329/7/7/19 and 1336/7/7/19.

In 2019, a putative class action was filed against Citibank and other defendants, captioned J WISBEY & ASSOCIATES PTY LTD v. UBS AG & ORS, in the Federal Court of Australia. Plaintiffs allege that defendants manipulated the foreign exchange markets. Plaintiffs assert claims under antitrust laws, and seek compensatory damages and declaratory and injunctive relief. Additional information concerning this action is publicly available in court filings under the docket number VID567/2019.

In 2019, two motions for certification of class actions filed against Citigroup, Citibank and Citicorp and other defendants were consolidated, under the caption GERTLER, ET AL. v. DEUTSCHE BANK AG, in the Tel Aviv Central District Court in Israel. Plaintiffs allege that defendants manipulated the foreign exchange markets. In April 2021, Citibank's motion to dismiss plaintiffs' petition for certification was denied. On April 6, 2022, the Supreme Court of Israel denied Citibank's motion for leave to appeal the Central District Court's denial of its motion to dismiss. Additional information concerning this action is publicly available in court filings under the docket number CA 29013-09-18.

Hong Kong Private Bank Litigation

In 2007, a claim was filed in the High Court of Hong Kong claiming damages of over $51 million against Citibank. The case, captioned PT ASURANSI TUGU PRATAMA INDONESIA TBK v. CITIBANK N.A., was dismissed in 2018 by the Hong Kong Court of First Instance on grounds that the claim was time-barred. On April 12, 2022, the Court of Appeal upheld the dismissal of the claim. The plaintiff appealed, and on February 6, 2023, the Court of Final Appeal rendered a judgment in the plaintiff's favor. Additional information concerning this action is publicly available in court filings under the docket number FACV 11/2022.

Interbank Offered Rates-Related Litigation and Other Matters

In August 2020, individual borrowers and consumers of loans and credit cards filed an action against Citigroup, Citibank, CGMI and other defendants, captioned MCCARTHY, ET AL. v. INTERCONTINENTAL EXCHANGE, INC., ET AL., in the United States District Court for the Northern District of California. Plaintiffs allege that defendants conspired to fix ICE LIBOR, assert claims under the Sherman Act and the Clayton Act, and seek declaratory relief, injunctive relief, and treble damages. On October 4, 2022, plaintiffs filed an amended complaint, and on November 4, 2022, defendants moved to dismiss the amended complaint. Additional information concerning this action is publicly available in court filings under the docket number 20-CV-5832 (N.D. Cal.) (Donato, J.).

Interchange Fee Litigation

Beginning in 2005, several putative class actions were filed against Citigroup, Citibank, and Citicorp, together with Visa, MasterCard, and other banks and their affiliates, in various federal district courts and consolidated with other related individual cases in a multi-district litigation proceeding in the United States District Court for the Eastern District of New York. This proceeding is captioned IN RE PAYMENT CARD INTERCHANGE FEE AND MERCHANT DISCOUNT ANTITRUST LITIGATION.

The plaintiffs, merchants that accept Visa and MasterCard branded payment cards, as well as various membership associations that claim to represent certain groups of merchants, allege, among other things, that defendants have engaged in conspiracies to set the price of interchange and merchant discount fees on credit and debit card transactions

and to restrain trade unreasonably through various Visa and MasterCard rules governing merchant conduct, all in violation of Section 1 of the Sherman Act and certain California statutes. Plaintiffs further alleged violations of Section 2 of the Sherman Act. Supplemental complaints also were filed against defendants in the putative class actions alleging that Visa's and MasterCard's respective initial public offerings were anticompetitive and violated Section 7 of the Clayton Act, and that MasterCard's initial public offering constituted a fraudulent conveyance.

In 2014, the district court entered a final judgment approving the terms of a class settlement. Various objectors appealed from the final class settlement approval order to the United States Court of Appeals for the Second Circuit.

In 2016, the Court of Appeals reversed the district court's approval of the class settlement and remanded for further proceedings. The district court thereafter appointed separate interim counsel for a putative class seeking damages and a putative class seeking injunctive relief. Amended or new complaints on behalf of the putative classes and various individual merchants were subsequently filed, including a further amended complaint on behalf of a putative damages class and a new complaint on behalf of a putative injunctive class, both of which named Citigroup and Related Parties. In addition, numerous merchants have filed amended or new complaints against Visa, MasterCard, and in some instances one or more issuing banks, including Citigroup and affiliates.

In 2019, the district court granted the damages class plaintiffs' motion for final approval of a new settlement with the defendants. The settlement involves the damages class only and does not settle the claims of the injunctive relief class or any actions brought on a non-class basis by individual merchants. The settlement provides for a cash payment to the damages class of $6.24 billion, later reduced by $700 million based on the transaction volume of class members that opted out from the settlement. Several merchants and merchant groups have appealed the final approval order. On September 27, 2021, the court granted the injunctive relief class plaintiffs' motion to certify a non-opt-out class. On October 7 and 9, 2022, the court issued rulings on several pretrial motions. Additional information concerning these consolidated actions is publicly available in court filings under the docket number MDL 05-1720 (E.D.N.Y.) (Brodie, J.).

Interest Rate and Credit Default Swap Matters

Regulatory Actions: The Commodity Futures Trading Commission (CFTC) is conducting an investigation into alleged anticompetitive conduct in the trading and clearing of interest rate swaps (IRS) by investment banks. Citigroup is cooperating with the investigation.

Antitrust and Other Litigation: Beginning in 2015, Citigroup, Citibank, CGMI, CGML and numerous other parties were named as defendants in a number of industry-wide putative class actions related to IRS trading. These actions have been consolidated in the United States District Court for the Southern District of New York under the caption IN RE INTEREST RATE SWAPS ANTITRUST LITIGATION. The actions allege that defendants colluded to prevent the development of exchange-like trading for IRS and assert federal and state antitrust claims and claims for unjust enrichment. Also consolidated under the same caption are individual actions filed by swap execution facilities, asserting federal and state antitrust claims, as well as claims for unjust enrichment and tortious interference with business relations. Plaintiffs in these actions seek treble damages, fees, costs and injunctive relief. Lead plaintiffs in the class action moved for class certification in 2019 and subsequently filed an amended complaint. Additional information concerning these actions is publicly available in court filings under the docket numbers 18-CV-5361 (S.D.N.Y.) (Oetken, J.) and 16-MD-2704 (S.D.N.Y.) (Oetken, J.).

In 2017, Citigroup, Citibank, CGMI, CGML and numerous other parties were named as defendants in an action filed in the United States District Court for the Southern District of New York under the caption TERA GROUP, INC., ET AL. v. CITIGROUP, INC., ET AL. The complaint alleges that defendants colluded to prevent the development of exchange-like trading for credit default swaps and asserts federal and state antitrust claims and state law tort claims. In January 2020, plaintiffs filed an amended complaint, which defendants later moved to dismiss. Additional information concerning this action is publicly available in court filings under the docket number 17-CV-4302 (S.D.N.Y.) (Sullivan, J.).

Madoff-Related Litigation

In 2008, a Securities Investor Protection Act (SIPA) trustee was appointed for the SIPA liquidation of Bernard L. Madoff Investment Securities LLC (BLMIS), in the United States Bankruptcy Court for the Southern District of New York. Beginning in 2010, the SIPA trustee commenced actions against multiple Citi entities, including Citibank, Citicorp North America, Inc., CGML and Citibank (Switzerland) AG, captioned PICARD v. CITIBANK, N.A., ET AL. and PICARD v. Citibank (Switzerland) Ltd., seeking recovery of monies that originated at BLMIS and were allegedly received by the Citi entities as subsequent transferees.

On February 11, 2022, the SIPA trustee filed an amended complaint against Citibank, Citicorp North America, Inc. and CGML, and subsequently voluntarily dismissed the case against Citibank (Switzerland) AG. On April 22, 2022, these remaining Citi entities moved to dismiss the amended complaint, which the bankruptcy court denied. On November 2, 2022, the remaining Citi entities moved to file an interlocutory appeal of the bankruptcy court's decision. On November 10, 2022, the remaining Citi entities answered the amended complaint. Additional information concerning these actions is publicly available in court filings under the docket numbers 10-5345, 12-1700 (Bankr. S.D.N.Y.) (Morris, J.); and 22-9597 (S.D.N.Y.) (Gardephe, J.).

Beginning in 2010, the British Virgin Islands liquidators of Fairfield Sentry Limited, whose assets were invested with BLMIS, commenced multiple actions against CGML, Citibank (Switzerland) AG, Citibank, NA London, Citivic Nominees Ltd., Cititrust Bahamas Ltd., and Citibank Korea Inc., captioned FAIRFIELD SENTRY LTD., ET AL. v. CITIGROUP GLOBAL MARKETS LTD., ET AL.; FAIRFIELD SENTRY LTD., ET AL. v. CITIBANK (SWITZERLAND) AG, ET AL.; FAIRFIELD SENTRY LTD., ET AL. v. ZURICH CAPITAL MARKETS

COMPANY, ET AL.; FAIRFIELD SENTRY LTD., ET AL. v. CITIBANK NA LONDON, ET AL.; FAIRFIELD SENTRY LTD., ET AL. v. CITIVIC NOMINEES LTD., ET AL.; FAIRFIELD SENTRY LTD., ET AL. v. DON CHIMANGO SA, ET AL.; and FAIRFIELD SENTRY LTD., ET AL. v. CITIBANK KOREA INC. ET AL., in the United States Bankruptcy Court for the Southern District of New York. The actions seek recovery of monies that were allegedly received directly or indirectly from Fairfield Sentry.

In October 2021, Citi (Switzerland) AG and Citivic Nominees Ltd. filed a motion to dismiss for lack of personal jurisdiction, which remains pending. On August 24, 2022, the United States District Court for the Southern District of New York affirmed various decisions of the bankruptcy court, which dismissed claims against CGML, Citibank (Switzerland) AG, Citibank, NA London, Citivic Nominees Ltd., Cititrust Bahamas Ltd., and Citibank Korea Inc., and permitted a single claim against Citibank, NA London, CGML, Citivic Nominees Ltd., and Citibank (Switzerland) AG to proceed. In late September 2022, the liquidators appealed the district court's decision dismissing the liquidators' claims. On September 30, 2022, CGML, Citibank (Switzerland) AG, Citibank, NA London, and Citivic Nominees Ltd. moved for leave to appeal the district court's decision permitting the single claim to proceed against them. Additional information is publicly available in court filings under the docket numbers 10-13164, 10-3496, 10-3622, 10-3634, 10-4100, 10-3640, 11-2770, 12-1142, 12-1298 (Bankr. S.D.N.Y.) (Morris, J.); 19-3911, 19-4267, 19-4396, 19-4484, 19-5106, 19-5135, 19-5109, 21-2997, 21-3243, 21-3526, 21-3529, 21-3530, 21-3998, 21-4307, 21-4498, 21-4496 (S.D.N.Y.) (Broderick, J.); and 22-2101 (consolidated lead appeal), 22-2557, 22-2122, 22-2562, 22-2216, 22-2545, 22-2308, 22-2591, 22-2502, 22-2553, 22-2398, 22-2582 (2d Cir.).

Parmalat Litigation

In 2004, an Italian commissioner appointed to oversee the administration of various Parmalat companies filed a complaint against Citigroup, Citibank, and related parties, alleging that the defendants facilitated a number of frauds by Parmalat insiders. In 2008, a jury rendered a verdict in Citigroup's favor and awarded Citi $431 million. In 2019, the Italian Supreme Court affirmed the decision in the full amount of $431 million. Citigroup has taken steps to enforce the judgment in Italian and Belgian courts. Additional information concerning these actions is publicly available in court filings under the docket numbers 27618/2014, 4133/2019, and 22098/2019 (Italy), and 20/3617/A and 20/4007/A (Brussels).

In 2015, Parmalat filed a claim in an Italian civil court in Milan claiming damages of €1.8 billion against Citigroup, Citibank, and related parties, which the court dismissed on grounds that it was duplicative of Parmalat's previously unsuccessful claims. In 2019, the Milan Court of Appeal rejected Parmalat's appeal of the Milan court's dismissal, which Parmalat appealed with the Italian Supreme Court. Additional information concerning this action is publicly available in court filings under the docket numbers 1009/2018 and 20598/2019.

In January 2020, Parmalat, its three directors, and its sole shareholder, Sofil S.a.s., as co-plaintiffs, filed a claim before the Italian civil court in Milan seeking a declaratory judgment that they do not owe compensatory damages of €990 million to Citibank. In November 2020, Citibank joined the proceedings, seeking dismissal of the declaratory judgment application and filing a counterclaim. Additional information concerning this action is publicly available in court filings under the docket number 8611/2020.

Shareholder Derivative and Securities Litigation

Beginning in October 2020, four derivative actions were filed in the United States District Court for the Southern District of New York, purportedly on behalf of Citigroup (as nominal defendant) against certain of Citigroup's current and former directors. The actions were later consolidated under the case name IN RE CITIGROUP INC. SHAREHOLDER DERIVATIVE LITIGATION. The consolidated complaint asserts claims for breach of fiduciary duty, unjust enrichment, and contribution and indemnification in connection with defendants' alleged failures to implement adequate internal controls. In addition, the consolidated complaint asserts derivative claims for violations of Sections 10(b) and 14(a) of the Securities Exchange Act of 1934 in connection with statements in Citigroup's 2019 and 2020 annual meeting proxy statements. In February 2021, the court stayed the action pending resolution of defendants' motion to dismiss in IN RE CITIGROUP SECURITIES LITIGATION. Additional information concerning this action is publicly available in court filings under the docket number 1:20-CV-09438 (S.D.N.Y.) (Preska, J.).

Beginning in December 2020, two derivative actions were filed in the Supreme Court of the State of New York, purportedly on behalf of Citigroup (as nominal defendant) against certain of Citigroup's current and former directors, and certain current and former officers. The actions were later consolidated under the case name IN RE CITIGROUP INC. DERIVATIVE LITIGATION, and the court stayed the action pending resolution of defendants' motion to dismiss in IN RE CITIGROUP SECURITIES LITIGATION. Additional information concerning this action is publicly available in court filings under the docket number 656759/2020 (N.Y. Sup. Ct.) (Schecter, J.).

On June 23, 2022, a third derivative action was filed in the Supreme Court of the State of New York, also purportedly on behalf of Citigroup (as nominal defendant) against certain of Citigroup's current and former directors, and certain current and former officers. A stipulation to stay and consolidate this action with the Supreme Court of the State of New York action captioned IN RE CITIGROUP INC. DERIVATIVE LITIGATION is pending. Additional information concerning this action is publicly available in court filings under the docket number 656930/2022 (N.Y. Sup. Ct.) (Schecter, J.).

On August 2, 2022, a shareholder derivative action captioned LIPSHUTZ ET AL. v. COSTELLO ET AL. was filed in the United States District Court for the Eastern District of New York, purportedly on behalf of Citigroup (as nominal defendant) against Citigroup's current directors. The action raises substantially the same claims and allegations as IN RE CITIGROUP INC. SHAREHOLDER DERIVATIVE

LITIGATION. The LIPSHUTZ action additionally asserts that plaintiffs made a litigation demand on the Citigroup Board of Directors and that the demand was wrongfully refused. Defendants moved to transfer the new action to the United States District Court for the Southern District of New York. Additional information concerning this action is publicly available in court filings under the docket number 22 Civ. 4547 (E.D.N.Y.) (Kovner, J.).

Beginning in October 2020, three putative class action complaints were filed in the United States District Court for the Southern District of New York against Citigroup and certain of its current and former officers, asserting violations of Sections 10(b) and 20(a) of the Securities Exchange Act of 1934 in connection with defendants' alleged misstatements concerning Citigroup's internal controls. The actions were later consolidated under the case name IN RE CITIGROUP SECURITIES LITIGATION. The consolidated complaint later added certain of Citigroup's current and former directors as defendants. Defendants have moved to dismiss the consolidated amended complaint. Additional information concerning this action is publicly available in court filings under the docket number 1:20-CV-9132 (S.D.N.Y.) (Preska, J.).

Sovereign Securities Matters

Regulatory Actions: Government and regulatory agencies are conducting investigations or making inquiries regarding Citigroup's sales and trading activities in connection with sovereign and other government-related securities. Citigroup is cooperating with these investigations and inquiries.

Antitrust and Other Litigation: In 2015, putative class actions filed against CGMI and other defendants were consolidated under the caption IN RE TREASURY SECURITIES AUCTION ANTITRUST LITIGATION in the United States District Court for the Southern District of New York. Plaintiffs allege that defendants colluded to fix U.S. treasury auction bids by sharing competitively sensitive information ahead of the auctions, and that defendants colluded to boycott and prevent the emergence of an anonymous, all-to-all electronic trading platform in the U.S. Treasuries secondary market. Plaintiffs assert claims under antitrust laws, and seek damages, including treble damages where authorized by statute, and injunctive relief. In March 2021, the court granted defendants' motion to dismiss, without prejudice. In May 2021, plaintiffs filed an amended consolidated complaint. In June 2021, certain defendants, including CGMI, moved to dismiss the amended complaint. On March 31, 2022, the court dismissed the amended complaint with prejudice, and the plaintiffs have appealed that decision to the United States Court of Appeals for the Second Circuit. Additional information concerning this action is publicly available in court filings under the docket number 15-MD-2673 (S.D.N.Y.) (Gardephe, J.).

In 2017, purchasers of supranational, sub-sovereign and agency (SSA) bonds filed a proposed class action on behalf of direct and indirect purchasers of SSA 296 bonds against Citigroup, Citibank, CGMI, CGML, Citibank Canada, Citigroup Global Markets Canada, Inc. and other defendants, captioned JOSEPH MANCINELLI, ET AL. v. BANK OF AMERICA CORPORATION, ET AL., in the Federal Court in Canada. Plaintiffs have filed an amended claim that alleges defendants manipulated, and colluded to manipulate, the SSA bonds market, asserts claims for breach of the Competition Act, breach of foreign law, civil conspiracy, unjust enrichment, waiver of tort and breach of contract, and seeks compensatory and punitive damages, among other relief. Additional information concerning this action is publicly available in court filings under the docket number T-1871-17 (Fed. Ct.).

In 2018, a putative class action was filed against Citigroup, CGMI, Citigroup Financial Products Inc., Citigroup Global Markets Holdings Inc., Citibanamex, Grupo Banamex and other banks, captioned IN RE MEXICAN GOVERNMENT BONDS ANTITRUST LITIGATION, in the United States District Court for the Southern District of New York. The complaint alleges that defendants colluded in the Mexican sovereign bond market. In September 2019, the court granted defendants' motion to dismiss. In December 2019, plaintiffs filed an amended complaint against Citibanamex and other market makers in the Mexican sovereign bond market. Plaintiffs no longer assert any claims against Citigroup or any other U.S. Citi affiliates. The amended complaint alleges a conspiracy to fix prices in the Mexican sovereign bond market, asserts antitrust and unjust enrichment claims, and seeks treble damages, restitution and injunctive relief. In February 2020, certain defendants, including Citibanamex, moved to dismiss the amended complaint. In June 2021, the court granted defendants' motion to dismiss, and the plaintiffs have appealed that decision to the United States Court of Appeals for the Second Circuit. Additional information concerning this action is publicly available in court filings under the docket numbers 18-CV-2830 (S.D.N.Y.) (Oetken, J.) and 22-2039 (2d Cir.).

In February 2021, purchasers of Euro-denominated sovereign debt issued by European central governments added CGMI, CGML and others as defendants to a putative class action, captioned IN RE EUROPEAN GOVERNMENT BONDS ANTITRUST LITIGATION, in the United States District Court for the Southern District of New York. Plaintiffs allege that defendants engaged in a conspiracy to inflate prices of European government bonds in primary market auctions and to fix the prices of European government bonds in secondary markets. Plaintiffs assert a claim under the Sherman Act and seek treble damages and attorneys' fees. On March 14, 2022, the court granted defendants' motion to dismiss the fourth amended complaint as to certain defendants, but denied defendants' motion to dismiss as to other defendants, including CGMI and CGML. On June 16, 2022, the court denied certain defendants' respective motions for reconsideration of the court's denial of defendants' motion to dismiss. In November 2022, plaintiffs moved for leave to amend the complaint. Additional information concerning this action is publicly available in court filings under the docket number 19-CV-2601 (S.D.N.Y.) (Marrero, J.).

Transaction Tax Matters

Citigroup and Citibank are engaged in litigation or examinations with non-U.S. tax authorities concerning the payment of transaction taxes and other non-income tax matters.

Variable Rate Demand Obligation Litigation

In 2019, the plaintiffs in the consolidated actions CITY OF PHILADELPHIA v. BANK OF AMERICA CORP, ET AL. and MAYOR AND CITY COUNCIL OF BALTIMORE v. BANK OF AMERICA CORP., ET AL. filed a consolidated complaint naming as defendants Citigroup, Citibank, CGMI, CGML and numerous other industry participants. The consolidated complaint asserts violations of the Sherman Act, as well as claims for breach of contract, breach of fiduciary duty, and unjust enrichment, and seeks damages and injunctive relief based on allegations that defendants served as remarketing agents for municipal bonds called variable rate demand obligations (VRDOs) and colluded to set artificially high VRDO interest rates. On November 6, 2020, the court granted in part and denied in part defendants' motion to dismiss the consolidated complaint.

In June 2021, the Board of Directors of the San Diego Association of Governments, acting as the San Diego County Regional Transportation Commission, filed a parallel putative class action against the same defendants named in the already pending nationwide consolidated class action. The two actions were consolidated and in August 2021, the plaintiffs in the nationwide putative class action filed a consolidated amended complaint, captioned THE CITY OF PHILADELPHIA, MAYOR AND CITY COUNCIL OF BALTIMORE, THE BOARD OF DIRECTORS OF THE SAN DIEGO ASSOCIATION OF GOVERNMENTS, ACTING AS THE SAN DIEGO COUNTY REGIONAL TRANSPORTATION COMMISSION v. BANK OF AMERICA CORP., ET AL. In September 2021, defendants moved to dismiss the consolidated amended complaint in part. On June 28, 2022, the court granted in part and denied in part defendants' partial motion to dismiss the consolidated amended complaint. On October 27, 2022, plaintiffs filed a motion to certify a class of persons and entities who, from February 2008 to November 2015, paid interest rates on VRDOs with respect to the antitrust claim. The plaintiffs also moved to certify a subclass of individuals who entered into remarketing agreements with the defendants during that same period. Additional information concerning this action is publicly available in court filings under the docket number 19-CV-1608 (S.D.N.Y.) (Furman, J.).

Settlement Payments

Payments required in settlement agreements described above have been made or are covered by existing litigation or other accruals.

30. CONDENSED CONSOLIDATING FINANCIAL STATEMENTS

Citigroup's Registration Statement on Form S-3 on file with the SEC includes its wholly owned subsidiary, Citigroup Global Markets Holdings Inc. (CGMHI), as a co-registrant. Any securities issued by CGMHI under the Form S-3 will be fully and unconditionally guaranteed by Citigroup.

The following are the Condensed Consolidating Statements of Income and Comprehensive Income for the years ended December 31, 2022, 2021 and 2020, Condensed Consolidating Balance Sheet as of December 31, 2022 and 2021 and Condensed Consolidating Statement of Cash Flows for the years ended December 31, 2022, 2021 and 2020 for Citigroup Inc., the parent holding company (Citigroup parent company), CGMHI, other Citigroup subsidiaries and eliminations, and total consolidating adjustments. "Other Citigroup subsidiaries and eliminations" includes all other subsidiaries of Citigroup, intercompany eliminations and income (loss) from discontinued operations. "Consolidating adjustments" includes Citigroup parent company elimination of distributed and undistributed income of subsidiaries and investment in subsidiaries.

These Condensed Consolidating Financial Statements have been prepared and presented in accordance with SEC Regulation S-X Rule 3-10, "Financial Statements of Guarantors and Issuers of Guaranteed Securities Registered or Being Registered."

These Condensed Consolidating Financial Statements are presented for purposes of additional analysis, but should be considered in relation to the Consolidated Financial Statements of Citigroup taken as a whole.

Condensed Consolidating Statements of Income and Comprehensive Income

	Year ended December 31, 2022				
In millions of dollars	Citigroup parent company	CGMHI	Other Citigroup subsidiaries and eliminations	Consolidating adjustments	Citigroup consolidated
Revenues					
Dividends from subsidiaries	$ 8,992		$ —	$ (8,992)	$ —
Interest revenue	—	10,021	64,387	—	74,408
Interest revenue—intercompany	4,628	2,324	(6,952)	—	—
Interest expense	5,250	5,938	14,552	—	25,740
Interest expense—intercompany	715	4,358	(5,073)	—	—
Net interest income	$ (1,337)	$ 2,049	$ 47,956	$ —	$ 48,668
Commissions and fees	$ —	$ 4,617	$ 4,558	$ —	$ 9,175
Commissions and fees—intercompany	(1)	127	(126)	—	—
Principal transactions	5,147	13,895	(4,883)	—	14,159
Principal transactions—intercompany	(5,686)	(10,532)	16,218	—	—
Other revenue	210	493	2,633	—	3,336
Other revenue—intercompany	(220)	(58)	278	—	—
Total non-interest revenues	$ (550)	$ 8,542	$ 18,678	$ —	$ 26,670
Total revenues, net of interest expense	$ 7,105	$ 10,591	$ 66,634	$ (8,992)	$ 75,338
Provisions for credit losses and for benefits and claims	$ —	$ 10	$ 5,229	$ —	$ 5,239
Operating expenses					
Compensation and benefits	$ 9	$ 5,450	$ 21,196	$ —	$ 26,655
Compensation and benefits—intercompany	12	—	(12)	—	—
Other operating	85	2,962	21,590	—	24,637
Other operating—intercompany	15	2,705	(2,720)	—	—
Total operating expenses	$ 121	$ 11,117	$ 40,054	$ —	$ 51,292
Equity in undistributed income of subsidiaries	$ 6,173	$ —	$ —	$ (6,173)	$ —
Income from continuing operations before income taxes	$ 13,157	$ (536)	$ 21,351	$ (15,165)	$ 18,807
Provision (benefit) for income taxes	(1,688)	(290)	5,620	—	3,642
Income from continuing operations	$ 14,845	$ (246)	$ 15,731	$ (15,165)	$ 15,165
Income (loss) from discontinued operations, net of taxes	—	—	(231)	—	(231)
Net income before attribution of noncontrolling interests	$ 14,845	$ (246)	$ 15,500	$ (15,165)	$ 14,934
Noncontrolling interests	—	—	89	—	89
Net income	$ 14,845	$ (246)	$ 15,411	$ (15,165)	$ 14,845
Comprehensive income					
Add: Other comprehensive income (loss)	$ (8,297)	$ 946	$ (5,120)	$ 4,174	$ (8,297)
Total Citigroup comprehensive income	$ 6,548	$ 700	$ 10,291	$ (10,991)	$ 6,548
Add: Other comprehensive income attributable to noncontrolling interests	$ —	$ —	$ (58)	$ —	$ (58)
Add: Net income attributable to noncontrolling interests	—	—	89	—	89
Total comprehensive income	$ 6,548	$ 700	$ 10,322	$ (10,991)	$ 6,579

Condensed Consolidating Statements of Income and Comprehensive Income

In millions of dollars	Year ended December 31, 2021				
	Citigroup parent company	CGMHI	Other Citigroup subsidiaries and eliminations	Consolidating adjustments	Citigroup consolidated
Revenues					
Dividends from subsidiaries	$ 6,482	$ —	$ —	$ (6,482)	$ —
Interest revenue	—	3,566	46,909	—	50,475
Interest revenue—intercompany	3,757	531	(4,288)	—	—
Interest expense	4,791	778	2,412	—	7,981
Interest expense—intercompany	294	1,320	(1,614)	—	—
Net interest income	$ (1,328)	$ 1,999	$ 41,823	$ —	$ 42,494
Commissions and fees	$ —	$ 7,770	$ 5,902	$ —	$ 13,672
Commissions and fees—intercompany	(36)	407	(371)	—	—
Principal transactions	976	10,140	(962)	—	10,154
Principal transactions—intercompany	(1,375)	(6,721)	8,096	—	—
Other revenue	(64)	576	5,052	—	5,564
Other revenue—intercompany	(133)	(60)	193	—	—
Total non-interest revenues	$ (632)	$ 12,112	$ 17,910	$ —	$ 29,390
Total revenues, net of interest expense	$ 4,522	$ 14,111	$ 59,733	$ (6,482)	$ 71,884
Provisions for credit losses and for benefits and claims	$ —	$ 6	$ (3,784)	$ —	$ (3,778)
Operating expenses					
Compensation and benefits	$ 10	$ 5,251	$ 19,873	$ —	$ 25,134
Compensation and benefits—intercompany	69	—	(69)	—	—
Other operating	83	2,868	20,108	—	23,059
Other operating—intercompany	11	2,826	(2,837)	—	—
Total operating expenses	$ 173	$ 10,945	$ 37,075	$ —	$ 48,193
Equity in undistributed income of subsidiaries	$ 16,596	$ —	$ —	$ (16,596)	$ —
Income from continuing operations before income taxes	$ 20,945	$ 3,160	$ 26,442	$ (23,078)	$ 27,469
Provision (benefit) for income taxes	(1,007)	625	5,833	—	5,451
Income from continuing operations	$ 21,952	$ 2,535	$ 20,609	$ (23,078)	$ 22,018
Income (loss) from discontinued operations, net of taxes	—	—	7	—	7
Net income (loss) before attribution of noncontrolling interests	$ 21,952	$ 2,535	$ 20,616	$ (23,078)	$ 22,025
Noncontrolling interests	—	—	73	—	73
Net income	$ 21,952	$ 2,535	$ 20,543	$ (23,078)	$ 21,952
Comprehensive income					
Add: Other comprehensive income (loss)	$ (6,707)	$ (76)	$ (450)	$ 526	$ (6,707)
Total Citigroup comprehensive income	$ 15,245	$ 2,459	$ 20,093	$ (22,552)	$ 15,245
Add: Other comprehensive income attributable to noncontrolling interests	$ —	$ —	$ (99)	$ —	$ (99)
Add: Net income attributable to noncontrolling interests	—	—	73	—	73
Total comprehensive income	$ 15,245	$ 2,459	$ 20,067	$ (22,552)	$ 15,219

Condensed Consolidating Statements of Income and Comprehensive Income

	Year ended December 31, 2020				
In millions of dollars	Citigroup parent company	CGMHI	Other Citigroup subsidiaries and eliminations	Consolidating adjustments	Citigroup consolidated
Revenues					
Dividends from subsidiaries	$ 2,355	$ —	$ —	$ (2,355)	$ —
Interest revenue	—	5,364	52,725	—	58,089
Interest revenue—intercompany	4,162	920	(5,082)	—	—
Interest expense	4,992	1,989	6,357	—	13,338
Interest expense—intercompany	502	2,170	(2,672)	—	—
Net interest income	$ (1,332)	$ 2,125	$ 43,958	$ —	$ 44,751
Commissions and fees	$ —	$ 6,216	$ 5,169	$ —	$ 11,385
Commissions and fees—intercompany	(36)	290	(254)	—	—
Principal transactions	(1,254)	(4,252)	19,391	—	13,885
Principal transactions—intercompany	693	9,064	(9,757)	—	—
Other revenue	(127)	706	4,901	—	5,480
Other revenue—intercompany	111	23	(134)	—	—
Total non-interest revenues	$ (613)	$ 12,047	$ 19,316	$ —	$ 30,750
Total revenues, net of interest expense	$ 410	$ 14,172	$ 63,274	$ (2,355)	$ 75,501
Provisions for credit losses and for benefits and claims	$ —	$ (1)	$ 17,496	$ —	$ 17,495
Operating expenses					
Compensation and benefits	$ (5)	$ 4,941	$ 17,278	$ —	$ 22,214
Compensation and benefits—intercompany	191	—	(191)	—	—
Other operating	37	2,393	19,730	—	22,160
Other operating—intercompany	15	2,317	(2,332)	—	—
Total operating expenses	$ 238	$ 9,651	$ 34,485	$ —	$ 44,374
Equity in undistributed income of subsidiaries	$ 9,894	$ —	$ —	$ (9,894)	$ —
Income from continuing operations before income taxes	$ 10,066	$ 4,522	$ 11,293	$ (12,249)	$ 13,632
Provision (benefit) for income taxes	(981)	1,249	2,257	—	2,525
Income from continuing operations	$ 11,047	$ 3,273	$ 9,036	$ (12,249)	$ 11,107
Income (loss) from discontinued operations, net of taxes	—	—	(20)	—	(20)
Net income before attribution of noncontrolling interests	$ 11,047	$ 3,273	$ 9,016	$ (12,249)	$ 11,087
Noncontrolling interests	—	—	40	—	40
Net income	$ 11,047	$ 3,273	$ 8,976	$ (12,249)	$ 11,047
Comprehensive income					
Add: Other comprehensive income (loss)	$ 4,260	$ (223)	$ 4,244	$ (4,021)	$ 4,260
Total Citigroup comprehensive income	$ 15,307	$ 3,050	$ 13,220	$ (16,270)	$ 15,307
Add: Other comprehensive income attributable to noncontrolling interests	$ —	$ —	$ 26	$ —	$ 26
Add: Net income attributable to noncontrolling interests	—	—	40	—	40
Total comprehensive income	$ 15,307	$ 3,050	$ 13,286	$ (16,270)	$ 15,373

Condensed Consolidating Balance Sheet

In millions of dollars	December 31, 2022 Citigroup parent company	CGMHI	Other Citigroup subsidiaries and eliminations	Consolidating adjustments	Citigroup consolidated
Assets					
Cash and due from banks	$ —	$ 955	$ 29,622	$ —	$ 30,577
Cash and due from banks—intercompany	15	7,448	(7,463)	—	—
Deposits with banks, net of allowance	—	7,902	303,546	—	311,448
Deposits with banks—intercompany	3,000	10,816	(13,816)	—	—
Securities borrowed and purchased under resale agreements	—	286,724	78,677	—	365,401
Securities borrowed and purchased under resale agreements—intercompany	—	19,549	(19,549)	—	—
Trading account assets	130	202,678	131,306	—	334,114
Trading account assets—intercompany	176	7,279	(7,455)	—	—
Investments, net of allowance	1	265	526,316	—	526,582
Loans, net of unearned income	—	1,749	655,472	—	657,221
Loans, net of unearned income—intercompany	—	337	(337)	—	—
Allowance for credit losses on loans (ACLL)	—	—	(16,974)	—	(16,974)
Total loans, net	$ —	$ 2,086	$ 638,161	$ —	$ 640,247
Advances to subsidiaries	$ 146,843	$ —	$ (146,843)	$ —	$ —
Investments in subsidiary bank holding company	172,721	—	—	(172,721)	—
Investments in non-bank subsidiaries	48,295	—	—	(48,295)	—
Other assets, net of allowance[1]	10,441	66,753	131,113	—	208,307
Other assets—intercompany	3,346	94,716	(98,062)	—	—
Total assets	$ 384,968	$ 707,171	$ 1,545,553	$ (221,016)	$ 2,416,676
Liabilities and equity					
Deposits	$ —	$ —	$ 1,365,954	$ —	$ 1,365,954
Deposits—intercompany	—	—	—	—	—
Securities loaned and sold under repurchase agreements	—	181,765	20,679	—	202,444
Securities loaned and sold under repurchase agreements—intercompany	—	64,151	(64,151)	—	—
Trading account liabilities	23	108,940	61,684	—	170,647
Trading account liabilities—intercompany	581	6,989	(7,570)	—	—
Short-term borrowings	—	20,382	26,714	—	47,096
Short-term borrowings—intercompany	—	23,468	(23,468)	—	—
Long-term debt	166,257	88,844	16,505	—	271,606
Long-term debt—intercompany	—	83,224	(83,224)	—	—
Advances from subsidiary bank holding company	6,629	—	(6,629)	—	—
Advances from non-bank subsidiaries	7,933	—	(7,933)	—	—
Other liabilities	2,321	75,040	79,730	—	157,091
Other liabilities—intercompany	35	15,530	(15,565)	—	—
Stockholders' equity	201,189	38,838	182,827	(221,016)	201,838
Total liabilities and equity	$ 384,968	$ 707,171	$ 1,545,553	$ (221,016)	$ 2,416,676

(1) Citigroup parent company and Other Citigroup subsidiaries at December 31, 2022 included $40.2 billion of placements to Citibank and its branches, of which $29.2 billion had a remaining term of less than 30 days.

Condensed Consolidating Balance Sheet

	December 31, 2021				
In millions of dollars	Citigroup parent company	CGMHI	Other Citigroup subsidiaries and eliminations	Consolidating adjustments	Citigroup consolidated
Assets					
Cash and due from banks	$ —	$ 834	$ 26,681	$ —	$ 27,515
Cash and due from banks—intercompany	17	6,890	(6,907)	—	—
Deposits with banks, net of allowance	—	7,936	226,582	—	234,518
Deposits with banks—intercompany	3,500	11,005	(14,505)	—	—
Securities borrowed and purchased under resale agreements	—	269,608	57,680	—	327,288
Securities borrowed and purchased under resale agreements—intercompany	—	23,362	(23,362)	—	—
Trading account assets	248	189,841	141,856	—	331,945
Trading account assets—intercompany	1,215	1,438	(2,653)	—	—
Investments, net of allowance	1	224	512,597	—	512,822
Loans, net of unearned income	—	2,293	665,474	—	667,767
Loans, net of unearned income—intercompany	—	—	—	—	—
Allowance for credit losses on loans (ACLL)	—	—	(16,455)	—	(16,455)
Total loans, net	$ —	$ 2,293	$ 649,019	$ —	$ 651,312
Advances to subsidiaries	$ 142,144	$ —	$ (142,144)	$ —	$ —
Investments in subsidiary bank holding company	175,849	—	—	(175,849)	—
Investments in non-bank subsidiaries	47,454	—	—	(47,454)	—
Other assets, net of allowance[(1)]	10,589	69,312	126,112	—	206,013
Other assets—intercompany	2,737	60,567	(63,304)	—	—
Total assets	$ 383,754	$ 643,310	$ 1,487,652	$ (223,303)	$ 2,291,413
Liabilities and equity					
Deposits	$ —	$ —	$ 1,317,230	$ —	$ 1,317,230
Deposits—intercompany	—	—	—	—	—
Securities loaned and sold under repurchase agreements	—	171,818	19,467	—	191,285
Securities loaned and sold under repurchase agreements—intercompany	—	62,197	(62,197)	—	—
Trading account liabilities	17	122,383	39,129	—	161,529
Trading account liabilities—intercompany	777	500	(1,277)	—	—
Short-term borrowings	—	13,425	14,548	—	27,973
Short-term borrowings—intercompany	—	17,230	(17,230)	—	—
Long-term debt	164,945	61,416	28,013	—	254,374
Long-term debt—intercompany	—	76,335	(76,335)	—	—
Advances from subsidiary bank holding company	5,426	—	(5,426)	—	—
Advances from non-bank subsidiaries	8,043	—	(8,043)	—	—
Other liabilities	2,574	68,206	65,570	—	136,350
Other liabilities—intercompany	—	11,774	(11,774)	—	—
Stockholders' equity	201,972	38,026	185,977	(223,303)	202,672
Total liabilities and equity	$ 383,754	$ 643,310	$ 1,487,652	$ (223,303)	$ 2,291,413

(1) Citigroup parent company and Other Citigroup subsidiaries at December 31, 2021 included $30.5 billion of placements to Citibank and its branches, of which $19.5 billion had a remaining term of less than 30 days.

Condensed Consolidating Statement of Cash Flows

In millions of dollars	Year ended December 31, 2022				
	Citigroup parent company	CGMHI	Other Citigroup subsidiaries and eliminations	Consolidating adjustments	Citigroup consolidated
Net cash provided by (used in) operating activities of continuing operations	**$ 156**	**$ (18,505)**	**$ 43,418**	**$ —**	**$ 25,069**
Cash flows from investing activities of continuing operations					
Available-for-sale debt securities:					
Purchases of investments	$ —	$ —	$ (218,747)	$ —	$ (218,747)
Proceeds from sales of investments	—	—	79,687	—	79,687
Proceeds from maturities of investments	—	—	140,934	—	140,934
Held-to-maturity debt securities:					
Purchases of investments	—	—	(42,903)	—	(42,903)
Proceeds from maturities of investments	—	—	12,188	—	12,188
Change in loans	—	—	(16,591)	—	(16,591)
Proceeds from sales and securitizations of loans	—	—	4,709	—	4,709
Proceeds from divestitures	—	—	5,741	—	5,741
Change in securities borrowed and purchased under agreements to resell	—	(13,303)	(24,810)	—	(38,113)
Changes in investments and advances—intercompany	(7,815)	(33,929)	41,744	—	—
Other investing activities	—	(65)	(6,295)	—	(6,360)
Net cash used in investing activities of continuing operations	**$ (7,815)**	**$ (47,297)**	**$ (24,343)**	**$ —**	**$ (79,455)**
Cash flows from financing activities of continuing operations					
Dividends paid	$ (5,003)	$ (281)	$ 281	$ —	$ (5,003)
Issuance of preferred stock	—	—	—	—	—
Redemption of preferred stock	—	—	—	—	—
Treasury stock acquired	(3,250)	—	—	—	(3,250)
Proceeds (repayments) from issuance of long-term debt, net	14,661	34,162	(1,160)	—	47,663
Proceeds (repayments) from issuance of long-term debt—intercompany, net	—	11,089	(11,089)	—	—
Change in deposits	—	—	68,415	—	68,415
Change in securities loaned and sold under agreements to repurchase	—	11,901	(742)	—	11,159
Change in short-term borrowings	—	6,957	12,166	—	19,123
Net change in short-term borrowings and other advances—intercompany	1,093	2,038	(3,131)	—	—
Capital contributions from (to) parent	—	380	(380)	—	—
Other financing activities	(344)	12	(12)	—	(344)
Net cash provided by financing activities of continuing operations	**$ 7,157**	**$ 66,258**	**$ 64,348**	**$ —**	**$ 137,763**
Effect of exchange rate changes on cash and due from banks	$ —	$ —	$ (3,385)	$ —	$ (3,385)
Change in cash and due from banks and deposits with banks	**$ (502)**	**$ 456**	**$ 80,038**	**$ —**	**$ 79,992**
Cash and due from banks and deposits with banks at beginning of year	**3,517**	**26,665**	**231,851**	**—**	**262,033**
Cash and due from banks and deposits with banks at end of year	**$ 3,015**	**$ 27,121**	**$ 311,889**	**$ —**	**$ 342,025**
Cash and due from banks (including segregated cash and other deposits)	$ 15	$ 8,403	$ 22,159	$ —	$ 30,577
Deposits with banks, net of allowance	3,000	18,718	289,730	—	311,448
Cash and due from banks and deposits with banks at end of year	**$ 3,015**	**$ 27,121**	**$ 311,889**	**$ —**	**$ 342,025**
Supplemental disclosure of cash flow information for continuing operations					
Cash paid (received) during the year for income taxes	$ (1,269)	$ 363	$ 4,639	$ —	$ 3,733
Cash paid during the year for interest	1,309	9,936	11,370	—	22,615
Non-cash investing activities					
Transfer of investment securities from AFS to HTM	$ —	$ —	$ 21,688	$ —	$ 21,688
Decrease in net loans associated with divestitures reclassified to HFS	—	—	16,956	—	16,956
Decrease in goodwill associated with divestitures reclassified to HFS	—	—	876	—	876
Transfers to loans HFS (*Other assets*) from loans	—	—	5,582	—	5,582
Non-cash financing activities					
Decrease in deposits associated with significant disposals reclassified to HFS	$ —	$ —	$ 19,691	$ —	$ 19,691

Condensed Consolidating Statement of Cash Flows

In millions of dollars	Year ended December 31, 2021 Citigroup parent company	CGMHI	Other Citigroup subsidiaries and eliminations	Consolidating adjustments	Citigroup consolidated
Net cash provided by (used in) operating activities of continuing operations	$ 3,947	$ 43,227	$ (84)	$ —	$ 47,090
Cash flows from investing activities of continuing operations					
Available-for-sale debt securities:					
Purchases of investments	$ —	$ —	$ (205,980)	$ —	$ (205,980)
Proceeds from sales of investments	—	—	125,895	—	125,895
Proceeds from maturities of investments	—	—	120,936	—	120,936
Held-to-maturity debt securities:					
Purchases of investments	—	—	(136,450)	—	(136,450)
Proceeds from maturities of investments	—	—	21,164	—	21,164
Change in loans	—	—	(1,173)	—	(1,173)
Proceeds from sales and securitizations of loans	—	—	2,918	—	2,918
Change in securities borrowed and purchased under agreements to resell	—	(29,944)	(2,632)	—	(32,576)
Changes in investments and advances—intercompany	8,260	(9,040)	780	—	—
Other investing activities	—	(2)	(5,478)	—	(5,480)
Net cash provided by (used in) investing activities of continuing operations	$ 8,260	$ (38,986)	$ (80,020)	$ —	$ (110,746)
Cash flows from financing activities of continuing operations					
Dividends paid	$ (5,198)	$ (196)	$ 196	$ —	$ (5,198)
Issuance of preferred stock	3,300	—	—	—	3,300
Redemption of preferred stock	(3,785)	—	—	—	(3,785)
Treasury stock acquired	(7,601)	—	—	—	(7,601)
Proceeds from issuance of long-term debt, net	(86)	15,071	(19,277)	—	(4,292)
Proceeds (repayments) from issuance of long-term debt—intercompany, net	—	14,410	(14,410)	—	—
Change in deposits	—	—	44,966	—	44,966
Change in securities loaned and sold under agreements to repurchase	—	(27,241)	19,001	—	(8,240)
Change in short-term borrowings	—	1,102	(2,643)	—	(1,541)
Net change in short-term borrowings and other advances—intercompany	501	(917)	416	—	—
Capital contributions from (to) parent	—	71	(71)	—	—
Other financing activities	(337)	12	(12)	—	(337)
Net cash provided by (used in) financing activities of continuing operations	$ (13,206)	$ 2,312	$ 28,166	$ —	$ 17,272
Effect of exchange rate changes on cash and due from banks	$ —	$ —	$ (1,198)	$ —	$ (1,198)
Change in cash and due from banks and deposits with banks	$ (999)	$ 6,553	$ (53,136)	$ —	$ (47,582)
Cash and due from banks and deposits with banks at beginning of year	4,516	20,112	284,987	—	309,615
Cash and due from banks and deposits with banks at end of year	$ 3,517	$ 26,665	$ 231,851	$ —	$ 262,033
Cash and due from banks (including segregated cash and other deposits)	$ 17	$ 7,724	$ 19,774	$ —	$ 27,515
Deposits with banks, net of allowance	3,500	18,941	212,077	—	234,518
Cash and due from banks and deposits with banks at end of year	$ 3,517	$ 26,665	$ 231,851	$ —	$ 262,033
Supplemental disclosure of cash flow information for continuing operations					
Cash paid (received) during the year for income taxes	$ (2,406)	$ 919	$ 5,515	$ —	$ 4,028
Cash paid during the year for interest	3,101	2,210	1,832	—	7,143
Non-cash investing activities					
Decrease in net loans associated with divestitures reclassified to HFS	$ —	$ —	$ 9,945	$ —	$ 9,945
Transfers to loans HFS (*Other assets*) from loans	—	—	7,414	—	7,414
Non-cash financing activities					
Decrease in long-term debt associated with divestitures reclassified to HFS	$ —	$ —	$ 479	$ —	$ 479
Decrease in deposits associated with divestitures reclassified to HFS reclassified to HFS	—	—	8,407	—	8,407

Condensed Consolidating Statements of Cash Flows

In millions of dollars	Year ended December 31, 2020 Citigroup parent company	CGMHI	Other Citigroup subsidiaries and eliminations	Consolidating adjustments	Citigroup consolidated
Net cash provided by (used in) operating activities of continuing operations	$ 5,002	$ (26,195)	$ (2,295)	$ —	$ (23,488)
Cash flows from investing activities of continuing operations					
Available-for-sale debt securities:					
Purchases of investments	$ —	$ —	$ (306,801)	$ —	$ (306,801)
Proceeds from sales of investments	—	—	144,035	—	144,035
Proceeds from maturities of investments	—	—	110,941	—	110,941
Held-to-maturity debt securities:					
Purchases of investments	—	—	(25,586)	—	(25,586)
Proceeds from maturities of investments	—	—	15,215	—	15,215
Change in loans	—	—	14,249	—	14,249
Proceeds from sales and securitizations of loans	—	—	1,495	—	1,495
Change in securities borrowed and purchased under agreements to resell	—	(46,044)	2,654	—	(43,390)
Changes in investments and advances—intercompany	(5,584)	(6,917)	12,501	—	—
Other investing activities	—	(54)	(2,549)	—	(2,603)
Net cash provided by (used in) investing activities of continuing operations	$ (5,584)	$ (53,015)	$ (33,846)	$ —	$ (92,445)
Cash flows from financing activities of continuing operations					
Dividends paid	$ (5,352)	$ (172)	$ 172	$ —	$ (5,352)
Issuance of preferred stock	2,995	—	—	—	2,995
Redemption of preferred stock	(1,500)	—	—	—	(1,500)
Treasury stock acquired	(2,925)	—	—	—	(2,925)
Proceeds (repayments) from issuance of long-term debt, net	16,798	6,349	(10,091)	—	13,056
Proceeds (repayments) from issuance of long-term debt—intercompany, net	—	3,960	(3,960)	—	—
Change in deposits	—	—	210,081	—	210,081
Change in securities loaned and sold under agreements to repurchase	—	79,322	(46,136)	—	33,186
Change in short-term borrowings	—	1,228	(16,763)	—	(15,535)
Net change in short-term borrowings and other advances—intercompany	(7,528)	(7,806)	15,334	—	—
Other financing activities	(411)	—	—	—	(411)
Net cash provided by financing activities of continuing operations	$ 2,077	$ 82,881	$ 148,637	$ —	$ 233,595
Effect of exchange rate changes on cash and due from banks	$ —	$ —	$ (1,966)	$ —	$ (1,966)
Change in cash and due from banks and deposits with banks	$ 1,495	$ 3,671	$ 110,530	$ —	$ 115,696
Cash and due from banks and deposits with banks at beginning of year	3,021	16,441	174,457	—	193,919
Cash and due from banks and deposits with banks at end of year	$ 4,516	$ 20,112	$ 284,987	$ —	$ 309,615
Cash and due from banks (including segregated cash and other deposits)	$ 16	$ 6,709	$ 19,624	$ —	$ 26,349
Deposits with banks, net of allowance	4,500	13,403	265,363	—	283,266
Cash and due from banks and deposits with banks at end of year	$ 4,516	$ 20,112	$ 284,987	$ —	$ 309,615
Supplemental disclosure of cash flow information for continuing operations					
Cash paid (received) during the year for income taxes	$ (1,883)	$ 1,138	$ 5,542	$ —	$ 4,797
Cash paid during the year for interest	2,681	4,516	4,897	—	12,094
Non-cash investing activities					
Transfers to loans HFS (*Other assets*) from loans	$ —	$ —	$ 2,614	$ —	$ 2,614

FINANCIAL DATA SUPPLEMENT

RATIOS

	2022	2021	2020
Return on average assets	**0.62%**	0.94 %	0.50%
Return on average common stockholders' equity[1]	**7.7**	11.5	5.7
Return on average total stockholders' equity[2]	**7.5**	10.9	5.7
Total average equity to average assets[3]	**8.3**	8.6	8.7
Dividend payout ratio[4]	**29**	20	43

(1) Based on Citigroup's net income less preferred stock dividends as a percentage of average common stockholders' equity.
(2) Based on Citigroup's net income as a percentage of average total Citigroup stockholders' equity.
(3) Based on average Citigroup stockholders' equity as a percentage of average assets.
(4) Dividends declared per common share as a percentage of diluted EPS.

AVERAGE DEPOSIT LIABILITIES IN OFFICES OUTSIDE THE U.S.[1]

	2022		2021		2020	
In millions of dollars at year end, except ratios	**Average interest rate**	**Average balance**	Average interest rate	Average balance	Average interest rate	Average balance
Banks	**0.66%**	**$ 32,094**	0.16%	$ 42,222	0.10%	$ 130,970
Other demand deposits	**0.49**	**394,488**	0.15	412,815	0.33	311,342
Other time and savings deposits	**1.79**	**190,448**	0.55	200,194	0.94	210,896
Total	**0.90%**	**$ 617,030**	0.28%	$ 655,231	0.48%	$ 653,208

(1) Interest rates and amounts include the effects of risk management activities and also reflect the impact of the local interest rates prevailing in certain countries.

UNINSURED DEPOSITS

The table below shows the estimated amount of uninsured time deposits by maturity profile:

In millions of dollars at December 31, 2022	**Under 3 months or less**	**Over 3 months but within 6 months**	**Over 6 months but within 12 months**	**Over 12 months**	**Total**
In U.S. offices[1]					
Time deposits in excess of FDIC insurance limits[2]	**$ 24,534**	**$ 11,556**	**$ 22,868**	**$ 2,642**	**$ 61,600**
In offices outside the U.S.[1]					
Time deposits in excess of foreign jurisdiction insurance limits[3]	**128,189**	**9,289**	**12,125**	**1,318**	**150,921**
Total uninsured time deposits[4]	**$ 152,723**	**$ 20,845**	**$ 34,993**	**$ 3,960**	**$ 212,521**

(1) The classification between offices in the U.S. and outside the U.S. is based on the domicile of the booking unit, rather than the domicile of the depositor.
(2) The standard insurance amount is $250,000 and $500,000 per depositor, per insured bank, for single and joint account ownership categories, respectively.
(3) For purposes of this presentation, time deposits in offices outside the U.S. are deemed to be uninsured.
(4) The maturity term is based on the remaining term of the time deposit rather than the original maturity date.

Total uninsured deposits as of December 31, 2022 were $1.16 trillion (see footnotes 1, 2 and 3 to the table above).

SUPERVISION, REGULATION AND OTHER

SUPERVISION AND REGULATION

Citi is subject to regulation under U.S. federal and state laws, as well as applicable laws in the other jurisdictions in which it does business.

General

Citigroup is a registered bank holding company and financial holding company and is regulated and supervised by the Federal Reserve Board (FRB). Citigroup's nationally chartered subsidiary banks, including Citibank, are regulated and supervised by the Office of the Comptroller of the Currency (OCC). The Federal Deposit Insurance Corporation (FDIC) also has examination authority for banking subsidiaries whose deposits it insures. Overseas branches of Citibank are regulated and supervised by the FRB and OCC and overseas subsidiary banks by the FRB. These overseas branches and subsidiary banks are also regulated and supervised by regulatory authorities in the host countries. In addition, the Consumer Financial Protection Bureau regulates consumer financial products and services. Citi is also subject to laws and regulations concerning the collection, use, sharing and disposition of certain customer, employee and other personal and confidential information, including those imposed by the Gramm-Leach-Bliley Act, the Fair Credit Reporting Act and the EU General Data Protection Regulation. For more information on U.S. and foreign regulation affecting or potentially affecting Citi, see "Managing Global Risk—Capital Resources" and "—Liquidity Risk" and "Risk Factors" above.

Other Bank and Bank Holding Company Regulation

Citi, including its banking subsidiaries, is subject to regulatory limitations, including requirements as to liquidity, risk-based capital and leverage (see "Capital Resources" above and Note 19), restrictions on the types and amounts of loans that may be made and the interest that may be charged, and limitations on investments that can be made and services that can be offered. The FRB may also expect Citi to commit resources to its subsidiary banks in certain circumstances. Citi is also subject to anti-money laundering and financial transparency laws, including standards for verifying client identification at account opening and obligations to monitor client transactions and report suspicious activities.

Securities and Commodities Regulation

Citi conducts securities underwriting, brokerage and dealing activities in the U.S. through Citigroup Global Markets Inc. (CGMI), its primary broker-dealer, and other broker-dealer subsidiaries, which are subject to regulations of the U.S. Securities and Exchange Commission (SEC), the Financial Industry Regulatory Authority and certain exchanges. Citi conducts similar securities activities outside the U.S., subject to local requirements, through various subsidiaries and affiliates, principally Citigroup Global Markets Limited in London (CGML), which is regulated principally by the U.K. Financial Conduct Authority and Prudential Regulation Authority (PRA), and Citigroup Global Markets Japan Inc. in Tokyo, which is regulated principally by the Financial Services Agency of Japan.

Citi also has subsidiaries that are members of futures exchanges and derivatives clearinghouses. In the U.S., CGMI is a member of the principal U.S. futures exchanges and clearinghouses, and Citi has subsidiaries that are registered as futures commission merchants and commodity pool operators with the Commodity Futures Trading Commission (CFTC). Citibank, CGMI, Citigroup Energy Inc., Citigroup Global Markets Europe AG (CGME) and CGML are also registered as swap dealers with the CFTC (for additional information, see below). CGMI is also subject to SEC and CFTC rules that specify uniform minimum net capital requirements. Compliance with these rules could limit those operations of CGMI that require the intensive use of capital and also limits the ability of broker-dealers to transfer large amounts of capital to parent companies and other affiliates. See "Capital Resources" above and Note 19 for a further discussion of capital considerations of Citi's non-banking subsidiaries.

Recent Rules Regarding Swap Dealers/Security-Based Swap Dealers

On July 22, 2020, the CFTC adopted final rules establishing capital and financial reporting requirements for swap dealers that took effect in October 2021.

In addition, the SEC has adopted rules governing the registration and regulation of security-based swap dealers. The regulations include requirements related to (i) capital, margin and segregation, (ii) record-keeping, reporting and notification and (iii) risk management practices for uncleared security-based swaps and the cross-border application of certain security-based swap requirements. These requirements also took effect in November 2021. Citibank, CGML and CGME registered with the SEC as security-based swap dealers.

Transactions with Affiliates

Transactions between Citi's U.S. subsidiary depository institutions and their non-bank affiliates are regulated by the FRB, and are generally required to be on arm's-length terms. See "Managing Global Risk—Liquidity Risk" above.

COMPETITION

The financial services industry is highly competitive. Citi's competitors include a variety of financial services and advisory companies, as well as certain non-financial services firms. Citi competes for clients and capital (including deposits and funding in the short- and long-term debt markets) with some of these competitors globally and with others on a regional or product basis. Citi's competitive position depends on many factors, including, among others, the value of Citi's brand name, reputation, the types of clients and geographies served; the quality, range, performance, innovation and pricing of products and services; the effectiveness of and access to distribution channels, maintenance of partner relationships, emerging technologies and technology advances, customer service and convenience; the effectiveness of transaction execution, interest rates, lending limits and risk appetite; regulatory constraints and compliance; and changes in the

macroeconomic business environment or societal norms. Citi's ability to compete effectively also depends upon its ability to attract new colleagues and retain and motivate existing colleagues, while managing compensation and other costs. For additional information on competitive factors and uncertainties impacting Citi's businesses, see "Risk Factors—Strategic Risks" above.

DISCLOSURE PURSUANT TO SECTION 219 OF THE IRAN THREAT REDUCTION AND SYRIA HUMAN RIGHTS ACT

Pursuant to Section 219 of the Iran Threat Reduction and Syria Human Rights Act of 2012 (Section 219), which added Section 13(r) to the Securities Exchange Act of 1934, as amended, Citi is required to disclose in its annual or quarterly reports, as applicable, whether it or any of its affiliates knowingly engaged in certain activities, transactions or dealings relating to Iran or with certain individuals or entities that are the subject of sanctions under U.S. law. Disclosure is generally required even where the activities, transactions or dealings were conducted in compliance with applicable law. Citi, in its First Quarter of 2022 Form 10-Q, identified and reported certain activities pursuant to Section 219 for the first quarter of 2022. Citi did not report any activities pursuant to Section 219 in its Second Quarter of 2022 Form 10-Q or Third Quarter of 2022 Form 10-Q. During the fourth quarter of 2022, Citigroup identified seven transactions pursuant to Section 219 related to the second, third and fourth quarters of 2022.

Between April 2022 and July 2022, a Citigroup subsidiary processed four payments to cover the service and insurance fees on a now closed credit card held by a Specially Designated National, who was designated pursuant to the Weapons of Mass Destruction Proliferators Sanctions Regulations. The total value of the payments was equivalent to USD 14.29, and they were assessed for the period after the designation but prior to the closure of the account. Citi did not realize any additional fees for the processing of the payments. Once identified, the transactions were disclosed to the U.S. Department of the Treasury's Office of Foreign Assets Control (OFAC).

On October 19, 2022, Citibank, N.A., New York Branch, participated in a transaction that indirectly involved the Foreign Trade Bank of the Democratic People's Republic of Korea when it processed a funds transfer from an international organization to the account of the Permanent Mission of the Democratic People's Republic of Korea (DPRK) at the international organization's Federal Credit Union. The total value of the payment was approximately USD 1,000,000 and was a payment to fund the international organization's humanitarian activities in the DPRK and the operations of the DPRK mission. This transaction was made pursuant to a license issued by OFAC on September 27, 2022, which expires on September 30, 2023. Citi realized nominal fees for the processing of the payment.

In November 2022, Citibank, N.A., acting as an intermediary bank, processed a transfer of funds from the accounts of subsidiaries of the Islamic Republic of Iran Shipping Lines held at Société Générale bank, Paris, to Commerzbank AG, Hamburg, to satisfy a judgment from the Commercial Court of Paris. The total value of the payment was USD 22,610,822.13 and the transaction was authorized pursuant to a license issued by OFAC on May 3, 2022, which expires on May 31, 2024. Citi realized nominal fees for the processing of the payment.

On December 27, 2022, two subsidiaries of Citigroup processed a transaction between the Central Bank of Iran (the CBI) and an international organization. The CBI sent funds to the international organization's Korean won account at Citibank Korea Inc., which were then converted to U.S. dollars and transferred to the international organization's U.S. dollar account at Citibank, N.A., New York Branch. The total value of the payment was USD 20,573,794.74. The transaction was a payment for the Government of Iran's membership dues to the international organization. Citi obtained a two-year license from OFAC for such payments, expiring on May 31, 2023. Citi realized nominal fees for the processing of the payment.

UNREGISTERED SALES OF EQUITY SECURITIES, REPURCHASES OF EQUITY SECURITIES AND DIVIDENDS

Unregistered Sales of Equity Securities

None.

Equity Security Repurchases

All large banks, including Citi, are subject to limitations on capital distributions in the event of a breach of any regulatory capital buffers, including the Stress Capital Buffer, with the degree of such restrictions based on the extent to which the buffers are breached. For additional information, see "Capital Resources—Regulatory Capital Buffers" and "Risk Factors—Strategic Risks" above.

Citi did not have any share repurchases in the fourth quarter of 2022, other than repurchases relating to issuances of common stock related to employee stock ownership plans. For information on Citi's pause of common share repurchases, see "Executive Summary" above.

During the quarter, pursuant to Citigroup's Board of Directors' authorization, Citi withheld an insignificant number of shares of common stock, added to treasury stock, related to activity on employee stock programs to satisfy employee tax requirements.

Dividends

Citi paid common dividends of $0.51 per share for the fourth quarter of 2022 and the first quarter of 2023. As previously announced, Citi intends to maintain its planned capital actions, which include a quarterly common dividend of at least $0.51 per share, subject to financial and macroeconomic conditions as well as Board of Directors' approval.

As discussed above, Citi's ability to pay common stock dividends is subject to limitations on capital distributions in the event of a breach of any regulatory capital buffers, including the Stress Capital Buffer, with the degree of such restrictions based on the extent to which the buffers are breached. For additional information, see "Capital Resources—Regulatory Capital Buffers" and "Risk Factors—Strategic Risks" above.

Any dividend on Citi's outstanding common stock would also need to be in compliance with Citi's obligations on its outstanding preferred stock.

During 2022, Citi distributed $1,032 million in dividends on its outstanding preferred stock. On January 11, 2023, Citi declared preferred dividends of approximately $277 million for the first quarter of 2023.

See Note 19 for information on the ability of Citigroup's subsidiary depository institutions to pay dividends.

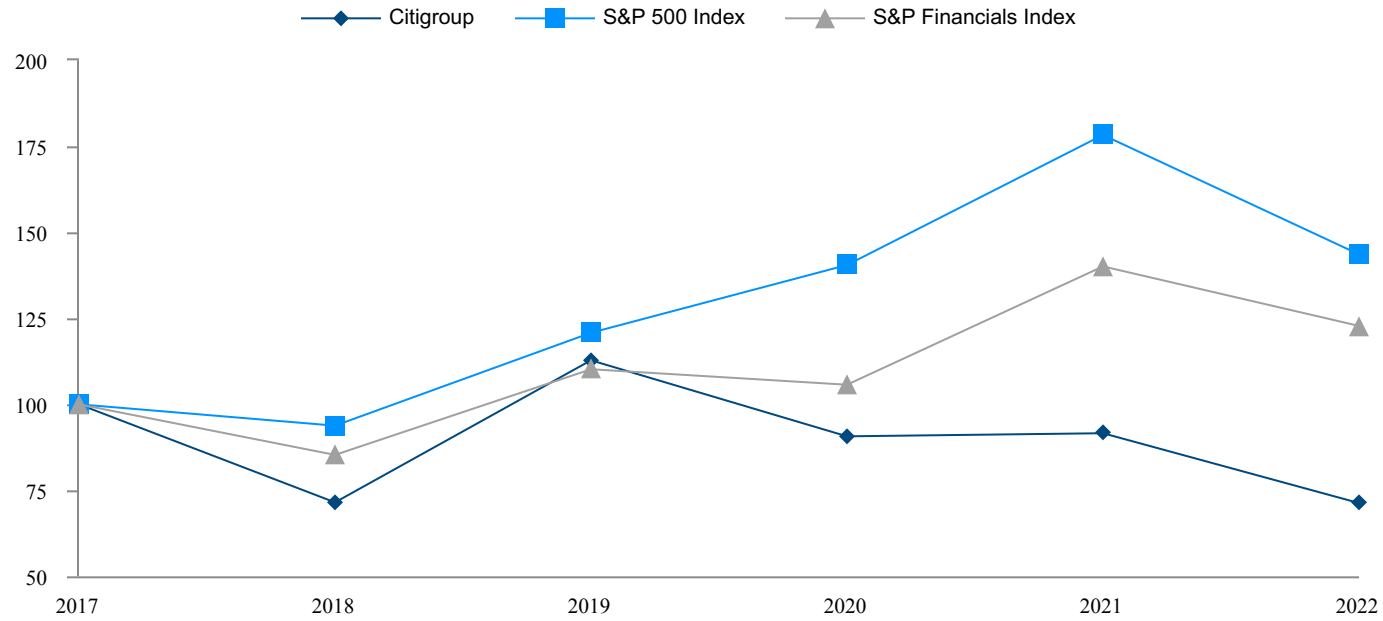
PERFORMANCE GRAPH

Comparison of Five-Year Cumulative Total Return

The following graph and table compare the cumulative total return on Citi's common stock with the cumulative total return of the S&P 500 Index and the S&P Financials Index over the five-year period through December 31, 2022. The graph and table assume that $100 was invested on December 31, 2017 in Citi's common stock, the S&P 500 Index and the S&P Financials Index, and that all dividends were reinvested.

Comparison of Five-Year Cumulative Total Return

For the years ended



DATE	Citigroup	S&P 500 Index	S&P Financials Index
31-Dec-2017	100.0	100.0	100.0
31-Dec-2018	71.5	93.8	85.3
31-Dec-2019	112.8	120.8	110.2
31-Dec-2020	90.7	140.5	105.7
31-Dec-2021	91.6	178.3	140.1
31-Dec-2022	71.3	143.6	122.8

Note: Citi's common stock is listed on the NYSE under the ticker symbol "C" and held by 60,813 common stockholders of record as of January 31, 2023.

CORPORATE INFORMATION

EXECUTIVE OFFICERS

Citigroup's executive officers as of February 24, 2023 are:

Name	Age	Position and office held
Peter Babej	59	CEO, Asia Pacific
Titi Cole	50	CEO, Legacy Franchises
Jane Fraser	55	Chief Executive Officer, Citigroup Inc.
Sunil Garg	57	Chief Executive Officer, Citibank, N.A.
David Livingstone	59	CEO, Europe, Middle East and Africa
Mark A. L. Mason	53	Chief Financial Officer
Brent McIntosh	49	General Counsel and Corporate Secretary
Johnbull Okpara	51	Controller and Chief Accounting Officer
Karen Peetz	67	Chief Administrative Officer
Anand Selvakesari	55	CEO, Personal Banking and Wealth Management
Edward Skyler	49	Head of Enterprise Services & Public Affairs
Ernesto Torres Cantú	58	CEO, Latin America
Zdenek Turek	58	Chief Risk Officer
Sara Wechter	42	Head of Human Resources
Mike Whitaker	59	Head of Enterprise Operations and Technology
Paco Ybarra	61	CEO, Institutional Clients Group

The following executive officers have not held their current executive officer positions with Citigroup for at least five years:

- Mr. Babej joined Citi in 2010 and assumed his current position in October 2019. Previously, he served as *ICG*'s Global Head of the Financial Institutions Group (FIG) from January 2017 to October 2019 and Global Co-Head of FIG from 2010 to January 2017. Prior to joining Citi, Mr. Babej served as Co-Head, Financial Institutions—Americas at Deutsche Bank, among other roles;
- Ms. Cole joined Citi in her current position in February 2022. Previously, she served as *PBWM*'s Head of Global Operations and Fraud Prevention and Chief Client Officer. Prior to joining Citi, Ms. Cole served as Head of Consumer and Small Business Banking Operations and Contact Centers at Wells Fargo, and before that, led Retail Products and Underwriting for Bank of America;
- Ms. Fraser joined Citi in 2004 and assumed her current position on February 26, 2021. Previously, she served as CEO of (the former) *Global Consumer Banking* from October 2019 to December 2020. Before that, she served as CEO of Citi Latin America from June 2015 to October 2019. She held a number of other roles across the organization, including CEO of U.S. Consumer and Commercial Banking and CitiMortgage, CEO of Citi's Global Private Bank and Global Head of Strategy and M&A;
- Mr. Garg joined Citi in May 1988 and assumed his current position in February 2021. Previously, he was global CEO of the Commercial Bank beginning in 2011. Prior to that, Mr. Garg led the U.S. Commercial Banking business from 2008 until 2011. In addition, he held various other roles at Citi in Operations and Technology, Treasury and Trade Solutions, Corporate and Investment Banking and Commercial Banking.
- Mr. Livingstone joined Citi in 2016 and assumed his current position in March 2019. Previously, he served as Citi Country Officer for Australia and New Zealand since June 2016. Prior to joining Citi, he had a nine-year career at Credit Suisse, where he was Vice Chairman of the Investment Banking and Capital Markets Division for the EMEA region, Head of M&A and CEO of Credit Suisse Australia;
- Mr. Mason joined Citi in 2001 and assumed his current position in February 2019. Previously, he served as CFO of *ICG* since September 2014. He held a number of other senior operational, strategic and financial executive roles across the organization, including CEO of Citi Private Bank, CEO of Citi Holdings and CFO and Head of Strategy and M&A for Citi's Global Wealth Management Division;
- Mr. McIntosh joined Citi in his current position in October 2021. Previously, he served as Under Secretary for International Affairs at the U.S. Treasury from 2019 to 2021. From 2017 to 2019, Mr. McIntosh served as U.S. Treasury's General Counsel. Prior to that, he was a partner in the law firm of Sullivan & Cromwell and served in the U.S. White House from 2006 until 2009;
- Mr. Okpara joined Citi in his current position in November 2020. Previously he served as Managing Director, Global Head of Financial Planning and Analysis and CFO, Infrastructure Groups at Morgan Stanley since 2016. Prior to that, Mr. Okpara was Managing Vice President, Finance and Deputy Controller at Capital One Financial Corporation;
- Ms. Peetz joined Citi in her current position in June 2020. Previously, she served on the Board of Directors of Wells Fargo from 2017 to 2019. Ms. Peetz spent nearly 20 years at BNY Mellon, where she managed several business units and ultimately served as President for five years until her departure in 2016. Prior to that, she worked at JPMorgan Chase, where she held a variety of management positions during her tenure;
- Mr. Selvakesari joined Citi in 1991 and assumed his current position in January 2021. Previously, he served as Head of the U.S. Consumer Bank since October 2018 and held various other roles at Citi prior to that, including Head of Consumer Banking for Asia Pacific from 2015 to 2018, as well as a number of regional and country roles, including Head of Consumer Banking for ASEAN and India, leading the consumer banking businesses in Singapore, Malaysia, Indonesia, the Philippines, Thailand and Vietnam, as well as India;
- Mr. Torres Cantú joined Citi in 1989 and assumed his current position in October 2019. Previously, he served as CEO of Citibanamex since October 2014. He served as CEO of (the former) *Global Consumer Banking* in

Mexico from 2006 to 2011 and CEO of Crédito Familiar from 2003 to 2006. In addition, he previously held roles in Citibanamex, including Regional Director and Divisional Director;

- Mr. Turek joined Citi in 1991 and assumed his current position in December 2020. Previously, he served as CRO for EMEA since February 2020 and held various other roles at Citi, including CEO of Citibank Europe as well as leading significant franchises across Citi, including in Russia, South Africa and Hungary;
- Ms. Wechter joined Citi in 2004 and assumed her current position in July 2018. Previously, she served as Citi's Head of Talent and Diversity as well as Chief of Staff to Citi CEO Michael Corbat. She served as Chief of Staff to both Michael O'Neill and Richard Parsons during their terms as Chairman of Citigroup's Board of Directors. In addition, she held roles in Citi's *ICG*, including Corporate M&A and Strategy and Investment Banking;
- Mr. Whitaker joined Citi in 2009 and assumed his current position in November 2018. Previously, he served as Head of Operations & Technology for *ICG* since September 2014 and held various other roles at Citi, including Head of Securities & Banking Operations & Technology, Head of *ICG* Technology and Regional Chief Information Officer; and
- Mr. Ybarra joined Citi in 1987 and assumed his current position in May 2019. Previously, he served as *ICG*'s Global Head of Markets and Securities Services since November 2013. In addition, he has held a number of other roles across *ICG*, including Deputy Head of *ICG*, Global Head of Markets and Co-Head of Global Fixed Income.

Code of Conduct, Code of Ethics

Citi has a Code of Conduct that maintains its commitment to the highest standards of conduct. The Code of Conduct is supplemented by a Code of Ethics for Financial Professionals (including accounting, controllers, financial reporting operations, financial planning and analysis, treasury, capital planning, tax, productivity and strategy, M&A, investor relations and regional/product finance professionals and administrative staff) that applies worldwide. The Code of Ethics for Financial Professionals applies to Citi's principal executive officer, principal financial officer and principal accounting officer. Amendments and waivers, if any, to the Code of Ethics for Financial Professionals will be disclosed on Citi's website, www.citigroup.com. The Audit Committee has responsibility for the oversight of Citi's Code of Ethics for Financial Professionals.

Both the Code of Conduct and the Code of Ethics for Financial Professionals can be found on the Citi website by clicking on "Investors" and then "Corporate Governance." Citi's Corporate Governance Guidelines can also be found there, as well as the charters for the Audit Committee, the Compensation, Performance and Culture Committee, the Nomination, Governance and Public Affairs Committee, the Risk Management Committee and the Technology Committee of Citigroup's Board of Directors. These materials are also available by writing to Citigroup Inc., Corporate Governance, 388 Greenwich Street, 17th Floor, New York, New York 10013.

CITIGROUP BOARD OF DIRECTORS

Ellen M. Costello
Former President and CEO
BMO Financial Corporation and
Former U.S. Country Head
BMO Financial Group

Grace E. Dailey
Former Senior Deputy Comptroller
for Bank Supervision Policy and
Chief National Bank Examiner
Office of the Comptroller of the
Currency (OCC)

Barbara J. Desoer
Chair
Citibank, N.A.

John C. Dugan
Chair
Citigroup Inc.

Jane Fraser
Chief Executive Officer
Citigroup Inc.

Duncan P. Hennes
Co-Founder and Partner
Atrevida Partners, LLC

Peter Blair Henry
Class of 1984 Senior Fellow, Hoover
Institution, and Senior Fellow,
Freeman Spogli Institute for
International Studies, Stanford
University

S. Leslie Ireland
Former Assistant Secretary for
Intelligence and Analysis
U.S. Department of the Treasury,
and National Intelligence Manager
for Threat Finance, Office of the
Director of National Intelligence

Renée J. James
Founder, Chair and CEO
Ampere Computing

Gary M. Reiner
Operating Partner
General Atlantic LLC

Diana L. Taylor
Former Superintendent of Banks
State of New York

James S. Turley
Former Chairman and CEO
Ernst & Young

Casper W. von Koskull
Former President and Group Chief
Executive Officer
Nordea Bank Abp

Signatures

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized, on the 24th day of February, 2023.

Citigroup Inc.
(Registrant)

/s/ Mark A. L. Mason

Mark A. L. Mason
Chief Financial Officer

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below by the following persons on behalf of the registrant and in the capacities indicated on the 24th day of February, 2023.

Citigroup's Principal Executive Officer and a Director:

/s/ Jane Fraser

Jane Fraser

Citigroup's Principal Financial Officer:

/s/ Mark A. L. Mason

Mark A. L. Mason

Citigroup's Principal Accounting Officer:

/s/ Johnbull E. Okpara

Johnbull E. Okpara

The Directors of Citigroup listed below executed a power of attorney appointing Mark A. L. Mason their attorney-in-fact, empowering him to sign this report on their behalf.

Ellen M. Costello	S. Leslie Ireland
Grace E. Dailey	Renée J. James
Barbara Desoer	Gary M. Reiner
John C. Dugan	Diana L. Taylor
Duncan P. Hennes	James S. Turley
Peter Blair Henry	Casper W. von Koskull

/s/ Mark A. L. Mason

Mark A. L. Mason

GLOSSARY OF TERMS AND ACRONYMS

The following is a list of terms and acronyms that are used in this report and other Citigroup presentations.

* Denotes a Citi metric

2022 Annual Report on Form 10-K: Annual report on Form 10-K for year ended December 31, 2022, filed with the SEC.

90+ days past due delinquency rate*: Represents consumer loans that are past due by 90 or more days, divided by that period's total EOP loans.

ABS: Asset-backed securities

ACL: Allowance for credit losses, which is composed of the allowance for credit losses on loans (ACLL) and allowance for credit losses on unfunded lending commitments (ACLUC), allowance for credit losses on HTM securities and allowance for credit losses on other assets.

ACLL: Allowance for credit losses on loans

ACLUC: Allowance for credit losses on unfunded lending commitments

Advanced Approaches: The Advanced Approaches capital framework, established through Basel III rules by the FRB, requires certain banking organizations to use an internal ratings-based approach and other methodologies to calculate risk-based capital requirements for credit risk and advanced measurement approaches to calculate risk-based capital requirements for operational risk.

AFS: Available-for-sale

ALCO: Asset Liability Committee

Amortized cost: Amount at which a financing receivable or investment is originated or acquired, adjusted for accretion or amortization of premium, discount, and net deferred fees or costs, collection of cash, charge-offs, foreign exchange, and fair value hedge accounting adjustments. For AFS securities, amortized cost is also reduced by any impairment losses recognized in earnings. Amortized cost is not reduced by the allowance for credit losses, except where explicitly presented net.

AOCI: Accumulated other comprehensive income (loss)

ARM: Adjustable rate mortgage(s)

ASC: Accounting Standards Codification under GAAP issued by the FASB.

Asia Consumer: Asia Consumer Banking

ASU: Accounting Standards Update under GAAP issued by the FASB.

AUC: Assets under custody

AUM: Assets under management. Represent assets managed on behalf of Citi's clients.

Available liquidity resources*: Resources available at the balance sheet date to support Citi's client and business needs, including HQLA assets; additional unencumbered securities, including excess liquidity held at bank entities that is non-transferable to other entities within Citigroup; and available assets not already accounted for within Citi's HQLA to support Federal Home Loan Bank (FHLB) and Federal Reserve Bank discount window borrowing capacity.

Basel III: Liquidity and capital rules adopted by the FRB based on an internationally agreed set of measures developed by the Basel Committee on Banking Supervision.

Beneficial interests issued by consolidated VIEs: Represents the interest of third-party holders of debt, equity securities or other obligations, issued by VIEs that Citi consolidates.

Benefit obligation: Refers to the projected benefit obligation for pension plans and the accumulated postretirement benefit obligation for OPEB plans.

BHC: Bank holding company

Board: Citigroup's Board of Directors

Book value per share*: EOP common equity divided by EOP common shares outstanding.

Bps: Basis points. One basis point equals 1/100th of one percent.

Branded cards: Citi's branded cards business with a portfolio of proprietary cards (Double Cash, Custom Cash, ThankYou and Value cards) and co-branded cards (including, among others, American Airlines and Costco).

Build: A net increase in ACL through the provision for credit losses.

Cards: Citi's credit cards' businesses or activities.

CCAR: Comprehensive Capital Analysis and Review

CCO: Chief Compliance Officer

CDS: Credit default swaps

CECL: Current expected credit losses

CEO: Chief Executive Officer

CET1 Capital: Common Equity Tier 1 Capital. See "Capital Resources—Components of Citigroup Capital" above for the components of CET1.

CET1 Capital ratio*: Common Equity Tier 1 Capital ratio. A primary regulatory capital ratio representing end-of-period CET1 Capital divided by total risk-weighted assets.

CFO: Chief Financial Officer

CFTC: Commodity Futures Trading Commission

CGMHI: Citigroup Global Markets Holdings Inc.

Citi: Citigroup Inc.

Citibank or CBNA: Citibank, N.A. (National Association)

Classifiably managed: Loans primarily evaluated for credit risk based on internal risk rating classification.

Client assets: Represent assets under management as well as custody, brokerage, administration and deposit accounts.

CLO: Collateralized loan obligations

Coincident NCL coverage ratio: A credit metric, representing the ACLL at period end divided by (the most recent quarter's NCLs divided by 3). This ratio is expressed in months of coverage.

Collateral dependent: A loan is considered collateral dependent when repayment of the loan is expected to be provided substantially through the operation or sale of the collateral when the borrower is experiencing financial difficulty, including when foreclosure is deemed probable based on borrower delinquency.

Commercial cards: Provides a wide range of payment services to corporate and public sector clients worldwide through commercial card products. Services include procurement, corporate travel and entertainment, expense management services, and business-to-business payment solutions.

Consent orders: In October 2020, Citigroup and Citibank entered into consent orders with the Federal Reserve and OCC that require Citigroup and Citibank to make improvements in various aspects of enterprise-wide risk management, compliance, data quality management and governance and internal controls.

CRE: Commercial real estate

Credit card spend volume*: Dollar amount of card customers' purchases, net of returns. Also known as purchase sales.

Credit cycle: A period of time over which credit quality improves, deteriorates and then improves again (or vice versa). The duration of a credit cycle can vary from a couple of years to several years.

Credit derivatives: Financial instruments whose value is derived from the credit risk associated with the debt of a third-party issuer (the reference entity), which allow one party (the protection purchaser) to transfer that risk to another party (the protection seller).

Critical Audit Matters: Audit matters communicated by KPMG to Citi's Audit Committee of the Board of Directors, relating to accounts or disclosures that are material to the Consolidated Financial Statements and involved especially challenging, subjective or complex judgments. See "Report of Independent Registered Public Accounting Firm" above.

Criticized: Criticized loans, lending-related commitments and derivative receivables that are classified as special mention, substandard and doubtful categories for regulatory purposes.

CRO: Chief Risk Officer

CTA: Cumulative translation adjustment (also known as currency translation adjustment). A separate component of equity within *AOCI* reported net of tax. For Citi, represents the impact of translating non-USD balance sheet items into USD each period. The CTA amount in EOP *AOCI* is a cumulative balance, net of tax.

CVA: Credit valuation adjustment

Delinquency managed: Loans primarily evaluated for credit risk based on delinquencies, FICO scores and the value of underlying collateral.

Dividend payout ratio*: Represents dividends declared per common share as a percentage of net income per diluted share.

Dodd-Frank Act: Wall Street Reform and Consumer Protection Act

DPD: Days past due

DSA: Deferred stock awards

DTA: Deferred tax asset

DVA: Debt valuation adjustment

EC: European Commission

Efficiency ratio*: A ratio signifying how much of a dollar in expenses (as a percentage) it takes to generate one dollar in revenue. Represents total operating expenses divided by total revenues, net.

EMEA: Europe, Middle East and Africa

EOP: End-of-period

EPS*: Earnings per share

ERISA: Employee Retirement Income Security Act of 1974

ESG: Environmental, Social and Governance

ETR: Effective tax rate

EU: European Union

Fannie Mae: Federal National Mortgage Association

FASB: Financial Accounting Standards Board

FCA: Financial Conduct Authority

FDIC: Federal Deposit Insurance Corporation

Federal Reserve: The Board of the Governors of the Federal Reserve System

FFIEC: Federal Financial Institutions Examination Council

FHA: Federal Housing Administration

FHLB: Federal Home Loan Bank

FICO: Fair Issac Corporation

FICO score: A measure of consumer credit risk provided by credit bureaus, typically produced from statistical models by Fair Isaac Corporation utilizing data collected by the credit bureaus.

FINRA: Financial Industry Regulatory Authority

Firm: Citigroup Inc.

FRB: Federal Reserve Board

FRBNY: Federal Reserve Bank of New York

Freddie Mac: Federal Home Loan Mortgage Corporation

Free standing derivatives: A derivative contract entered into either separate and apart from any of the Company's other financial instruments or equity transactions, or in conjunction with some other transaction and legally detachable and separately exercisable.

FTCs: Foreign tax credit carry-forwards

FTE: Full time employee

FVA: Funding valuation adjustment

FX: Foreign exchange

FX translation: The impact of converting non-U.S.-dollar currencies into U.S. dollars.

G7: Group of Seven nations. Countries in the G7 are Canada, France, Germany, Italy, Japan, the U.K. and the U.S.

GAAP or U.S. GAAP: Generally accepted accounting principles in the United States of America.

Ginnie Mae: Government National Mortgage Association

Global Wealth: Global Wealth Management

GSIB: Global systemically important banks

HELOC: Home equity line of credit

HFI loans: Loans that are held-for-investment (i.e., excludes loans held-for-sale).

HFS: Held-for-sale

HQLA: High-quality liquid assets. Consist of cash and certain high-quality liquid securities as defined in the LCR rule.

HTM: Held-to-maturity

Hyperinflation: Extreme economic inflation with prices rising at a very high rate in a very short time. Under U.S. GAAP, entities operating in a hyperinflationary economy need to change their functional currency to the U.S. dollar. Once an entity switches its functional currency to the U.S. dollar, the CTA balance is frozen.

IBOR: Interbank Offered Rate

ICG: Institutional Clients Group

ICRM: Independent Compliance Risk Management

IPO: Initial public offering

ISDA: International Swaps and Derivatives Association

KM: Key financial and non-financial metric used by management when evaluating consolidated and/or individual business results.

KPMG LLP: Citi's Independent Registered Public Accounting Firm.

LATAM: Latin America, which for Citi, includes Mexico.

LCR: Liquidity coverage ratio. Represents HQLA divided by net outflows in the period.

LDA: Loss Distribution Approach

LF: Legacy Franchises

LGD: Loss given default

LIBOR: London Interbank Offered Rate

LLC: Limited Liability Company

LTD: Long-term debt

LTV: Loan-to-value. For residential real estate loans, the relationship, expressed as a percentage, between the principal amount of a loan and the appraised value of the collateral (i.e., residential real estate) securing the loan.

Master netting agreement: A single agreement with a counterparty that permits multiple transactions governed by that agreement to be terminated or accelerated and settled through a single payment in a single currency in the event of a default (e.g., bankruptcy, failure to make a required payment or securities transfer or deliver collateral or margin when due).

MBS: Mortgage-backed securities

MCA: Manager's control assessment

MD&A: Management's discussion and analysis

Measurement alternative: Measures equity securities without readily determinable fair values at cost less impairment (if any), plus or minus observable price changes from an identical or similar investment of the same issuer.

Mexico Consumer: Mexico Consumer Banking

Mexico Consumer/SBMM: Mexico Consumer Banking and Small Business and Middle-Market Banking

Mexico SBMM: Mexico Small Business and Middle-Market Banking

Moody's: Moody's Investor Services

MSRs: Mortgage servicing rights

N/A: Data is not applicable or available for the period presented.

NAA: Non-accrual assets. Consists of non-accrual loans and OREO.

NAL: Non-accrual loans. Loans for which interest income is not recognized on an accrual basis. Loans (other than credit card loans and certain consumer loans insured by U.S. government-sponsored agencies) are placed on non-accrual status when full payment of principal and interest is not expected, regardless of delinquency status, or when principal and interest have been in default for a period of 90 days or more unless the loan is both well secured and in the process of collection. Collateral-dependent loans are typically maintained on non-accrual status.

NAV: Net asset value

NCL(s): Net credit losses. Represents gross credit losses, less gross credit recoveries.

NCL ratio*: Represents net credit losses (recoveries) (annualized), divided by average loans for the reporting period.

Net capital rule: Rule 15c3-1 under the Securities Exchange Act of 1934.

Net interchange income: Includes the following components:

- Interchange revenue: Fees earned from merchants based on Citi's credit and debit card customers' sales transactions.
- Reward costs: The cost to Citi for points earned by cardholders enrolled in credit card rewards programs generally tied to sales transactions.
- Partner payments: Payments to co-brand credit card partners based on the cost of loyalty program rewards earned by cardholders on credit card transactions.

NII: Net interest income. Represents total interest revenue less total interest expenses.

NIM*: Net interest margin expressed as a yield percentage, calculated as annualized net interest income divided by average interest-earning assets for the period.

NIR: Non-interest revenues

NM: Not meaningful

Noncontrolling interests: The portion of an investment that has been consolidated by Citi that is not 100% owned by Citi.

Non-GAAP financial measure: Management uses these financial measures because it believes they provide information to enable investors to understand the underlying operational performance and trends of Citi and its businesses.

NSFR: Net stable funding ratio

O/S: Outstanding

OCC: Office of the Comptroller of the Currency

OCI: Other comprehensive income (loss)

OREO: Other real estate owned

OTTI: Other-than-temporary impairment

Over-the-counter cleared (OTC-cleared) derivatives: Derivative contracts that are negotiated and executed bilaterally, but subsequently settled via a central clearing house, such that each derivative counterparty is only exposed to the default of that clearing house.

Over-the-counter (OTC) derivatives: Derivative contracts that are negotiated, executed and settled bilaterally between two derivative counterparties, where one or both counterparties is a derivatives dealer.

Parent company: Citigroup Inc.

Participating securities: Represents unvested share-based compensation awards containing nonforfeitable rights to dividends or dividend equivalents (collectively, "dividends"), which are included in the earnings per share calculation using the two-class method. Citi grants RSUs to certain employees under its share-based compensation programs, which entitle the recipients to receive non-forfeitable dividends during the vesting period on a basis equivalent to the dividends paid to holders of common stock. These unvested awards meet the definition of participating securities. Under the two-class method for calculating EPS, all earnings (distributed and undistributed) are allocated to each class of common stock and participating securities, based on their respective rights to receive dividends.

PBWM: Personal Banking and Wealth Management

PCD: Purchased credit-deteriorated assets are financial assets that as of the date of acquisition have experienced a more-than-insignificant deterioration in credit quality since origination, as determined by the Company.

PCI: Purchased credit-impaired loans represented certain loans that were acquired and deemed to be credit impaired on the acquisition date. The now superseded FASB guidance that allowed purchasers to aggregate credit-impaired loans acquired in the same fiscal quarter into one or more pools, provided that the loans had common risk characteristics (e.g., product type, LTV ratios).

PD: Probability of default

Principal transactions revenue: Primarily trading-related revenues predominantly generated by the *ICG* businesses. See Note 6.

Provision for credit losses: Composed of the provision for credit losses on loans, provision for credit losses on HTM investments, provision for credit losses on other assets and provision for credit losses on unfunded lending commitments.

Provisions: Provisions for credit losses and for benefits and claims.

PSUs: Performance share units

R&S forecast period: Reasonable and supportable period over which Citi forecasts future macroeconomic conditions for CECL purposes.

Real GDP: Real gross domestic product is the inflation-adjusted value of the goods and services produced by labor and property located in a country.

Regulatory VAR: Daily aggregated VAR calculated in accordance with regulatory rules.

REITs: Real estate investment trusts

Release: A net decrease in ACL through the provision for credit losses.

Reported basis: Financial statements prepared under U.S. GAAP.

Results of operations that exclude certain impacts from gains or losses on sale, or one-time charges*: Represents GAAP items, excluding the impact of gains or losses on sales, or one-time charges (e.g., the loss on sale related to the sale of Citi's consumer banking business in Australia).

Results of operations that exclude the impact of FX translation*: Represents GAAP items, excluding the impact of FX translation, whereby the prior periods' foreign currency balances are translated into U.S. dollars at the current periods' conversion rates (also known as constant dollar).

Retail services: Citi's U.S. retail services cards business with a portfolio of co-brand and private label relationships (including, among others, The Home Depot, Sears, Best Buy and Macy's).

RMI: A non-partisan, non-profit organization that works to transform global energy systems across the real economy. Citi joined the RMI Center for Climate-Aligned Finance in 2021.

ROA*: Return on assets. Represents net income (annualized), divided by average assets for the period.

ROCE*: Return on Common Equity. Represents net income less preferred dividends (both annualized), divided by average common equity for the period.

ROE: Return on equity. Represents net income less preferred dividends (both annualized), divided by average Citigroup equity for the period.

RoTCE*: Return on tangible common equity. Represents net income less preferred dividends (both annualized), divided by average tangible common equity for the period.

RSU(s): Restricted stock units

RWA: Risk-weighted assets. Basel III establishes two comprehensive approaches for calculating RWA (the Standardized Approach and the Advanced Approaches), which include capital requirements for credit risk, market risk, and operational risk for Advanced Approaches. Key differences in the calculation of credit risk RWA between the Standardized and Advanced Approaches are that for Advanced, credit risk RWA is based on risk-sensitive approaches that largely rely on the use of internal credit models and parameters, whereas for Standardized, credit risk RWA is generally based on supervisory risk-weightings, which vary primarily by counterparty type and asset class. Market risk RWA is calculated on a generally consistent basis between Basel III Standardized Approach and Basel III Advanced Approaches.

S&P: Standard and Poor's Global Ratings

SCB: Stress Capital Buffer

SCF: Subscription credit facility. SCFs are revolving credit facilities provided to private equity funds that are secured against the fund's investors' capital commitments.

SEC: The U.S. Securities and Exchange Commission

Securities financing agreements: Include resale, repurchase, securities borrowed and securities loaned agreements.

SLR: Supplementary Leverage ratio. Represents Tier 1 Capital divided by total leverage exposure.

SOFR: Secured Overnight Financing Rate

SPEs: Special purpose entities

Standardized Approach: Established through Basel III, the Standardized Approach aligns regulatory capital requirements more closely with the key elements of banking risk by introducing a wider differentiation of risk weights and a wider recognition of credit risk mitigation techniques, while avoiding excessive complexity. Accordingly, the Standardized Approach produces capital ratios more in line with the actual economic risks that banks are facing.

Structured notes: Financial instruments whose cash flows are linked to the movement in one or more indexes, interest rates, foreign exchange rates, commodities prices, prepayment rates or other market variables. The notes typically contain embedded (but not separable or detachable) derivatives. Contractual cash flows for principal, interest or both can vary in amount and timing throughout the life of the note based on non-traditional indexes or non-traditional uses of traditional interest rates or indexes.

Tangible book value per share (TBVPS)*: Represents tangible common equity divided by EOP common shares outstanding.

Tangible common equity (TCE): Represents common stockholders' equity less goodwill and identifiable intangible assets, other than MSRs.

Taxable-equivalent basis: Represents the total revenue, net of interest expense for the business, adjusted for revenue from investments that receive tax credits and the impact of tax-exempt securities. This metric presents results on a level comparable to taxable investments and securities.

TDR: Troubled debt restructuring. TDR is deemed to occur when the Company modifies the original terms of a loan agreement by granting a concession to a borrower that is experiencing financial difficulty. Loans with short-term and other insignificant modifications that are not considered concessions are not TDRs.

TLAC: Total loss-absorbing capacity

Total ACL: Allowance for credit losses, which comprises the allowance for credit losses on loans (ACLL), allowance for credit losses on unfunded lending commitments (ACLUC), allowance for credit losses on HTM securities and allowance for credit losses on other assets.

Total payout ratio*: Represents total common dividends declared plus common share repurchases as a percentage of net income available to common shareholders.

Transformation: Citi has embarked on a multiyear transformation, with the target outcome to change Citi's business and operating models such that they simultaneously strengthen risk and controls and improve Citi's value to customers, clients and shareholders.

Unaudited: Financial statements and information that have not been subjected to auditing procedures sufficient to permit an independent certified public accountant to express an opinion.

U.S. government agencies: U.S. government agencies include, but are not limited to, agencies such as Ginnie Mae and FHA, and do not include Fannie Mae and Freddie Mac, which are U.S. government-sponsored enterprises (U.S. GSEs). In general, obligations of U.S. government agencies are fully and explicitly guaranteed as to the timely payment of principal and interest by the full faith and credit of the U.S. government in the event of a default.

U.S. Treasury: U.S. Department of the Treasury

VAR: Value at risk. A measure of the dollar amount of potential loss from adverse market moves in an ordinary market environment.

VIEs: Variable interest entities

Wallet: Proportion of fee revenue based on estimates of investment banking fees generated across the industry (i.e., the revenue wallet) from investment banking transactions in M&A, equity and debt underwriting, and loan syndications.

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION

WASHINGTON, D.C. 20549

FORM 10-Q

(Mark One)

☒ **QUARTERLY REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the quarterly period ended June 30, 2023

OR

☐ **TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the transition period from to

Commission file number 1-9924

Citigroup Inc.

(Exact name of registrant as specified in its charter)

Delaware	**52-1568099**
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification No.)
388 Greenwich Street, New York NY	**10013**
(Address of principal executive offices)	(Zip code)

(212) 559-1000

(Registrant's telephone number, including area code)

Securities registered pursuant to Section 12(b) of the Securities Exchange Act of 1934 formatted in Inline XBRL: See Exhibit 99.01

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes ☒ No ☐

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). Yes ☒ No ☐

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company, or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company," and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer ☒	**Accelerated filer ☐**	**Non-accelerated filer ☐**	**Smaller reporting company ☐**
			Emerging growth company ☐

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act. ☐

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes ☐ No ☒

Number of shares of Citigroup Inc. common stock outstanding on June 30, 2023: 1,925,702,484

Available on the web at www.citigroup.com

CITIGROUP'S SECOND QUARTER 2023—FORM 10-Q

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OVERVIEW

This Quarterly Report on Form 10-Q should be read in conjunction with Citigroup's Annual Report on Form 10-K for the year ended December 31, 2022 (referred to as the 2022 Form 10-K) and Citigroup's Quarterly Report on Form 10-Q for the quarter ended March 31, 2023 (First Quarter of 2023 Form 10-Q).

Throughout this report, "Citigroup," "Citi" and "the Company" refer to Citigroup Inc. and its consolidated subsidiaries. All "Note" references correspond to the Notes to the Consolidated Financial Statements herein, unless otherwise indicated.

For a list of certain terms and acronyms used in this Quarterly Report on Form 10-Q and other Citigroup presentations, see "Glossary of Terms and Acronyms" at the end of this report.

Additional information about Citigroup is available on Citi's website at www.citigroup.com. Citigroup's recent annual reports on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K and proxy statements, as well as other filings with the U.S. Securities and Exchange Commission (SEC) are available free of charge through Citi's website by clicking on "SEC Filings" under the "Investors" tab. The SEC's website also contains these filings and other information regarding Citi at www.sec.gov.

Please see "Risk Factors" in Citi's 2022 Form 10-K for a discussion of material risks and uncertainties that could impact Citigroup's businesses, results of operations and financial condition.

Non-GAAP Financial Measures

Citi prepares its financial statements in accordance with U.S. generally accepted accounting principles (GAAP) and also presents certain non-GAAP financial measures (non-GAAP measures) that exclude certain items or otherwise include components that differ from the most directly comparable measures calculated in accordance with U.S. GAAP. Non-GAAP measures are provided as additional useful information to assess Citi's financial condition and results of operations, including providing an additional meaningful depiction of underlying fundamentals of period-to-period operating results. These non-GAAP measures are not intended as a substitute for GAAP financial measures and may not be defined or calculated the same way as non-GAAP measures with similar names used by other companies.

Citi's non-GAAP financial measures in this Form 10-Q include:

- Results excluding divestiture-related impacts
- Tangible common equity (TCE), return on tangible common equity (RoTCE) and tangible book value per share (TBVPS)
- Banking and Corporate lending revenues excluding gains (losses) on loan hedges
- Non-*ICG* Markets net interest income

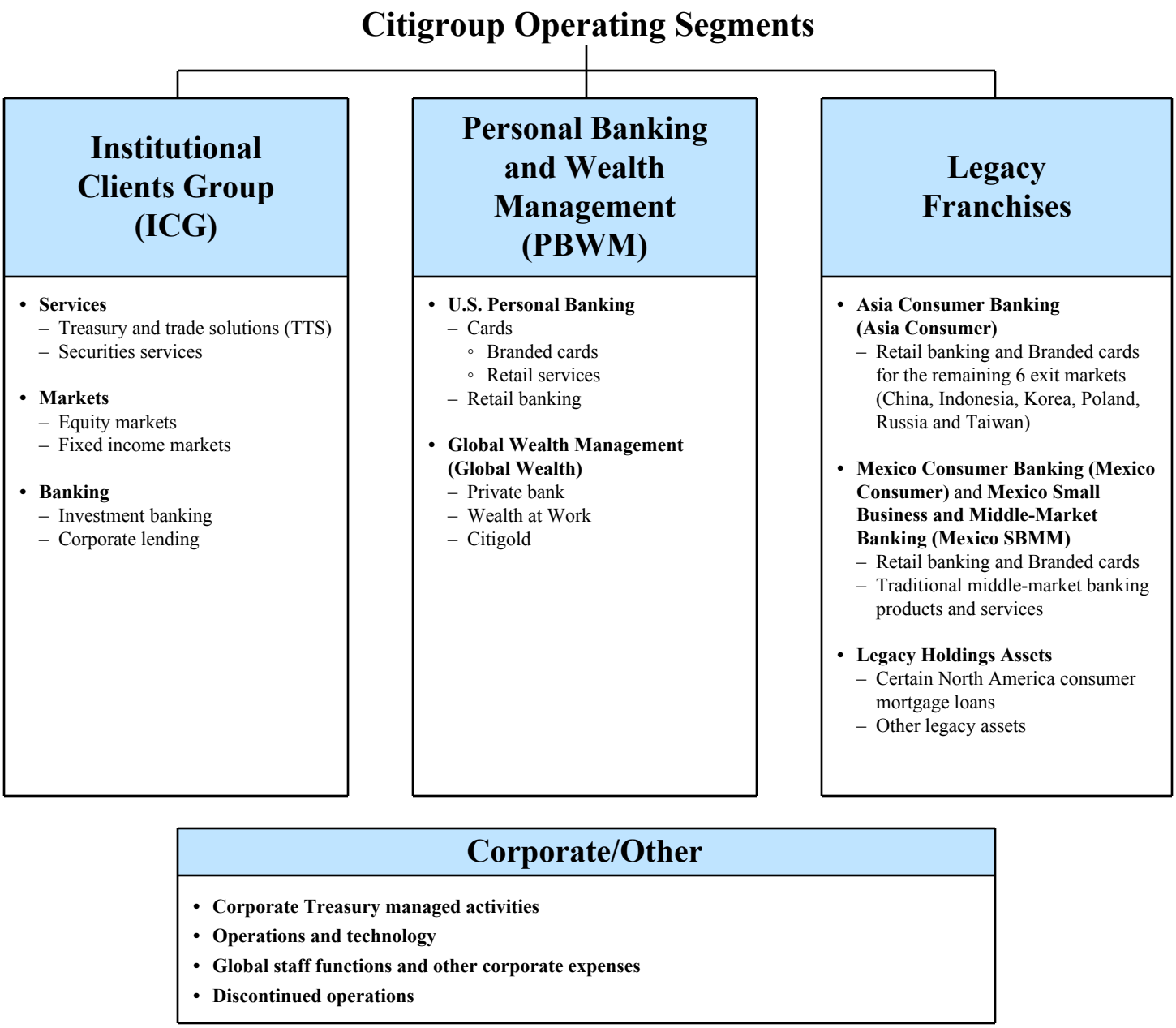
Citi's results excluding divestiture-related impacts represent as reported, or GAAP, financial results adjusted for items that are incurred and recognized, which are wholly and necessarily a consequence of actions taken to sell (including through a public offering), dispose of or wind down business activities associated with Citi's announced 14 exit markets. For additional information on results excluding divestiture-related impacts, see "Executive Summary" and "*Legacy Franchises*" below.

For more information on TCE, RoTCE and TBVPS, see "Capital Resources—Tangible Common Equity, Book Value Per Share, Tangible Book Value Per Share and Return on Equity" below.

For more information on Banking and Corporate lending revenues excluding gains (losses) on loan hedges, see "Executive Summary" and "*Institutional Clients Group*" below.

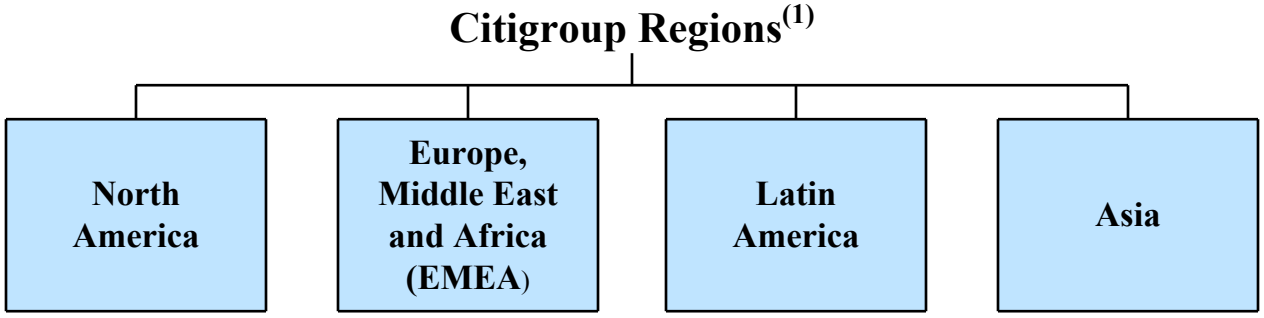
For more information on non-*ICG* Markets net interest income, see "Market Risk—Non-*ICG* Markets Net Interest Income" below.

Citigroup is managed pursuant to three operating segments: *Institutional Clients Group*, *Personal Banking and Wealth Management* and *Legacy Franchises*. Activities not assigned to the operating segments are included in *Corporate/Other*.



For additional information on *ICG*, *PBWM* and *Legacy Franchises*, including their businesses and products and services, see each operating segment's discussion and analysis of its results of operations below.

The following are the four regions in which Citigroup operates. The regional results are fully reflected in the operating segments and *Corporate/Other* above.



(1) North America includes the U.S., Canada and Puerto Rico, Latin America includes Mexico and Asia includes Japan.

MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

EXECUTIVE SUMMARY

Second Quarter of 2023—Results Continued to Benefit from Diversified Business Model and Strong Balance Sheet
As described further throughout this Executive Summary, during the second quarter of 2023:

- Citi's revenues decreased 1% versus the prior-year period, both on a reported basis and excluding divestiture-related impacts (see "*Legacy Franchises*" below). The decrease in revenues was primarily driven by lower non-interest revenues, mainly offset by higher net interest income.
- Citi's expenses increased 9% versus the prior-year period, both on a reported basis and excluding divestiture-related impacts (see "*Legacy Franchises*" below), largely driven by continued investments in risk and controls, business-led and enterprise-led investments, volume growth and macroeconomic factors, including inflation, as well as severance costs. The expense increase was partially offset by productivity savings and an expense reduction from the exited markets and continued wind-downs (see "Expenses" below).
- Citi's cost of credit was $1.8 billion versus $1.3 billion in the prior-year period. The increase was primarily driven by higher net credit losses, reflecting the continued normalization in net credit losses in Branded cards and Retail services.
- Citi returned $2.0 billion to common shareholders in the form of dividends and share repurchases. As previously disclosed, in July 2023 Citi's Board of Directors declared a quarterly common stock dividend of $0.53 per share for the third quarter of 2023, up from $0.51 in the previous quarter. Citi intends to maintain a quarterly common dividend of at least $0.53 per share, subject to financial and macroeconomic conditions, as well as Board of Directors approval.
- Citi's Common Equity Tier 1 (CET1) Capital ratio under the Basel III Standardized Approach increased to 13.4% as of June 30, 2023, compared to 12.0% as of June 30, 2022 (see "Capital Resources" below). This compares to Citi's required regulatory CET1 Capital ratio of 12.0% as of January 1, 2023 under the Basel III Standardized Approach. As previously disclosed, on October 1, 2023, Citi's required regulatory CET1 Capital ratio will increase to 12.3% from 12.0% under the Standardized Approach reflecting the increase in the Stress Capital Buffer (SCB) requirement to 4.3% from 4.0% (see "Capital Resources —Stress Capital Buffer" below).
- In May 2023, Citi announced that it intends to pursue an initial public offering (IPO) of its consumer, small business and middle-market banking operations in Mexico, following the planned separation from Citi's *Institutional Clients Group (ICG)* and Private bank businesses in Mexico, both of which will remain part of Citi.
- Citi continued to make progress on its other consumer banking business divestitures in the second quarter of 2023, including working toward the closing of its Taiwan and Indonesia sale transactions in the second half of 2023, as well as progressing with the continued wind-downs of the Korea and China consumer banking businesses and the Russia consumer, local commercial and institutional businesses. In addition, Citi intends to restart the exit process for the consumer banking business in Poland later in 2023, subject to market conditions.

Second Quarter of 2023 Results Summary

Citigroup
Citigroup reported net income of $2.9 billion, or $1.33 per share, compared to net income of $4.5 billion, or $2.19 per share in the prior-year period. The decrease in net income was primarily driven by the higher expenses and the higher cost of credit, as well as the lower revenues. Citigroup's effective tax rate was approximately 27% in the current quarter versus 20% in the prior-year period, largely driven by the geographic mix of earnings (see "Income Taxes" below). Earnings per share (EPS) decreased 39% from the prior-year period, reflecting the lower net income and an approximate 1% increase in average diluted shares outstanding.

Results for the second quarter of 2023 included divestiture-related impacts of $(73) million in earnings before taxes ($(92) million after-tax). See "*Legacy Franchises*" and "*Corporate/Other*" below for details about the divestiture-related impacts.

These divestiture-related impacts, collectively, had a $(0.04) negative impact on EPS in the current quarter. Excluding these divestiture-related impacts, EPS was $1.37. (As used throughout this Form 10-Q, Citi's results of operations and financial condition excluding the impact of divestiture-related impacts are non-GAAP financial measures.)

Results for the second quarter of 2022 included divestiture-related impacts of $48 million in earnings before taxes ($35 million after-tax). See "*Legacy Franchises*" below for details about the divestiture-related impacts.

These divestiture-related impacts, collectively, had a $0.02 beneficial impact on EPS in the prior-year period. Excluding these divestiture-related impacts, EPS was $2.17.

Citigroup revenues of $19.4 billion in the second quarter of 2023 decreased 1% from the prior-year period, both on a reported basis and excluding divestiture-related impacts. The lower revenues reflected a decline in revenues across Markets and Investment banking in *ICG* and Global Wealth Management (Global Wealth) in *Personal Banking and Wealth Management (PBWM)*, as well as a revenue reduction from the exited markets and continued wind-downs in *Legacy Franchises.* The decline in revenues was largely offset by strength across Services in *ICG*, U.S. Personal Banking revenues in *PBWM* and higher revenues from the investment portfolio in *Corporate/Other*.

Citigroup's end-of-period loans were $661 billion, up 1% versus the prior-year period, driven by growth in *PBWM*, primarily driven by U.S. Personal Banking, largely offset by declines in *ICG* and *Legacy Franchises*.

Citigroup's end-of-period deposits were approximately $1.3 trillion, largely unchanged versus the prior-year period, as a decrease in *ICG*, primarily driven by Securities services, was offset by an increase in institutional certificates of deposit in *Corporate/Other*. For additional information about Citi's deposits by business, including drivers and deposit trends, see each respective business's results of operations and "Liquidity Risk—Deposits" below.

Expenses

Citigroup's operating expenses of $13.6 billion increased 9% from the prior-year period, both on a reported basis and excluding divestiture-related impacts. The higher expenses largely reflected continued investments in risk and controls, business-led and enterprise-led investments, volume growth and macroeconomic factors, including inflation, as well as severance costs. The higher expenses were partially offset by productivity savings and expense reductions from the exited markets and wind-downs in *Legacy Franchises*.

As previously disclosed, Citi expects a sequential increase in expenses for the third quarter of 2023, primarily reflecting continued investments in Citi's transformation and other risk and controls.

Cost of Credit

Citi's total provisions for credit losses and for benefits and claims was a cost of $1.8 billion, compared to $1.3 billion in the prior-year period. This increase was driven by higher net credit losses (see below), partially offset by a lower net build of $320 million in the ACL for loans and unfunded commitments and other provisions. The net ACL build and other provisions in the current quarter were primarily driven by growth in card balances in Branded cards and Retail services. This compared to a net ACL build and other provisions of $424 million in the prior-year period. For additional information on Citi's ACL, see "Significant Accounting Policies and Significant Estimates—Citi's Allowance for Credit Losses (ACL)" below.

Net credit losses of $1.5 billion increased 77% from the prior year. Consumer net credit losses of $1.4 billion increased 73%, reflecting ongoing normalization, particularly in Branded cards and Retail services. Corporate net credit losses increased to $75 million from $23 million.

Citi also expects to incur higher year-over-year net credit losses for the third quarter of 2023, primarily driven by continued normalization, particularly in the cards business in *PBWM*.

For additional information on Citi's consumer and corporate credit costs, see each respective business's results of operations and "Credit Risk" below.

Capital

Citigroup's CET1 Capital ratio was 13.4% as of June 30, 2023, compared to 12.0% as of June 30, 2022, based on the Basel III Standardized Approach for determining risk-weighted assets (RWA). The increase was primarily driven by net income, the impacts from the closing of the Asia consumer banking business sales and business actions, including a reduction in RWA, partially offset by the payment of common dividends and share repurchases.

As previously announced, during the second quarter of 2023, Citi resumed common share repurchases, and repurchased $1.0 billion of common shares (see "Unregistered Sales of Equity Securities, Repurchases of Equity Securities and Dividends" below). Citi will continue to assess common share repurchases on a quarter-by-quarter basis given uncertainty regarding regulatory capital requirements. For additional information, see "Capital Resources—Regulatory Capital Standards and Developments" below.

Citigroup's Supplementary Leverage ratio as of June 30, 2023 was 6.0%, compared to 5.7% as of June 30, 2022. The increase was driven by higher Tier 1 Capital, partially offset by an increase in Total Leverage Exposure. For additional information on Citi's capital ratios and related components, see "Capital Resources" below.

Institutional Clients Group

ICG net income of $2.2 billion decreased 45%, primarily driven by lower revenues, higher expenses and higher cost of credit. *ICG* operating expenses of $7.3 billion increased 13%, primarily driven by continued investments in Treasury and trade solutions (TTS), continued risk and controls investments and severance costs in Markets and Investment banking, partially offset by productivity savings.

ICG revenues of $10.4 billion decreased 9% (including gain (loss) on loan hedges), primarily driven by a decline in Markets and Banking, partially offset by growth in Services. Results included a loss on loan hedges of $66 million in the second quarter of 2023, compared with a gain on loan hedges of $494 million in the prior-year period.

Services revenues of $4.7 billion increased 15%. TTS revenues of $3.5 billion increased 15%, driven by 18% growth in net interest income and 8% growth in non-interest revenue. Strong performance in TTS was primarily driven by higher interest rates and non-interest revenue benefits from continued growth of underlying drivers, primarily an 11% increase in cross-border transaction value and a 15% increase in commercial card spend volume. Securities services revenues of $1.1 billion increased 15%, as net interest income increased 62%, largely driven by higher interest rates across currencies.

Markets revenues of $4.6 billion decreased 13%, driven by lower revenues in both Fixed income markets and Equity markets relative to strong performance in the prior-year period, as well as low volatility in the second quarter of 2023. Fixed income markets revenues of $3.5 billion decreased 13%, driven by declines in currencies and commodities, partially offset by modest growth in rates. Equity markets revenues of $1.1 billion decreased 10%, primarily reflecting a decline in equity derivatives revenues.

Banking revenues of $1.2 billion decreased 44%, including the gain (loss) on loan hedges in the current quarter and the prior-year period. Excluding the gain (loss) on loan hedges, Banking revenues of $1.2 billion decreased 22%, driven by lower revenues in Investment banking and Corporate lending. Investment banking revenues of $612 million decreased 24%, reflecting a decline in the overall

market wallet, as continued macroeconomic and geopolitical uncertainty continued to adversely impact client activity. Corporate lending revenues decreased 56%, including the impact of the gain (loss) on loan hedges. Excluding the impact of the gain (loss) on loan hedges, Corporate lending revenues decreased 20% versus the prior-year period, primarily driven by the impacts of foreign currency translation and lower lending volumes. (As used throughout this Form 10-Q, Citi's results of operations and financial condition excluding the impact of the gain (loss) on loan hedges are non-GAAP financial measures.)

For additional information on the results of operations of *ICG* for the second quarter of 2023, see "*Institutional Clients Group*" below.

Personal Banking and Wealth Management

PBWM net income of $494 million decreased 11%, driven by higher cost of credit and higher expenses, partially offset by higher revenues. *PBWM* operating expenses of $4.2 billion increased 5%, primarily driven by continued risk and controls investments.

PBWM revenues of $6.4 billion increased 6%, as net interest income growth, driven by strong loan growth across U.S. Personal Banking, was partially offset by a decline in non-interest revenue, driven by lower investment product revenues in Global Wealth.

U.S. Personal Banking revenues of $4.6 billion increased 11%, primarily driven by higher revenues in cards, partially offset by lower Retail banking revenues. Branded cards revenues of $2.4 billion increased 8%, primarily driven by the higher net interest income, as average loans increased 14%. Retail services revenues of $1.6 billion increased 27%, primarily driven by the higher net interest income, as well as lower partner payments. Retail banking revenues of $594 million decreased 9%, primarily reflecting the transfer of certain relationships and the associated deposit balances to Global Wealth.

Global Wealth revenues of $1.8 billion decreased 5%, largely driven by continued investment product revenue headwinds and higher interest rates paid on deposits, partially offset by the benefits from the continued transfer of Retail banking relationships.

For additional information on the results of operations of *PBWM* for the second quarter of 2023, see "*Personal Banking and Wealth Management*" below.

Legacy Franchises

Legacy Franchises recorded a net loss of $125 million, compared to a net loss of $17 million in the prior-year period, primarily driven by higher cost of credit, partially offset by lower expenses. *Legacy Franchises* expenses of $1.8 billion decreased 2%, primarily driven by the impact of exited markets and continued wind-downs.

Legacy Franchises revenues of $1.9 billion decreased 1%, driven by the reductions from exited markets and continued wind-downs, partially offset by the benefit of higher rates and lending volumes in Mexico Consumer/SBMM, as well as higher revenues in Legacy Holdings Assets.

For additional information on the results of operations of *Legacy Franchises* for the second quarter of 2023, see "*Legacy Franchises*" below.

Corporate/Other

Corporate/Other net income was $356 million, compared to $50 million in the prior-year period, largely driven by higher net interest income from *Deposits with banks* and the investment portfolio, a reserve release related to the repayment of the previously disclosed First Republic Bank deposit and the prior-year release of a CTA loss (net of hedges) from *AOCI* (for additional information, see Note 2). The increase in net income was partially offset by lower income tax benefits and higher expenses. *Corporate/Other* operating expenses of $302 million increased from $160 million in the prior-year period, primarily driven by the impact of inflation and severance costs and the absence of certain settlements that occurred in the prior-year period, partially offset by lower consulting expenses.

Corporate/Other revenues of $677 million increased from $255 million in the prior-year period, primarily driven by higher net interest income from *Deposits with banks* and the investment portfolio, largely due to higher interest rates.

For additional information on the results of operations of *Corporate/Other* for the second quarter of 2023, see "*Corporate/Other*" below.

Macroeconomic and Other Risks and Uncertainties

Various geopolitical, macroeconomic and regulatory challenges and uncertainties continue to adversely impact economic conditions in the U.S. and globally, including central banks continuing to increase interest rates, continued elevated levels of inflation and economic and geopolitical challenges related to both China and the Russia–Ukraine war. These and other factors have adversely affected financial markets, negatively impacted global economic growth rates and raised fears of recession in the U.S., Europe and other regions and countries. In addition, these and other factors could adversely affect Citi's customers, clients, businesses, funding costs, expenses and overall results of operations and financial condition during the remainder of 2023.

In May 2023, the Federal Deposit Insurance Corporation (FDIC) issued a proposal that would implement a special assessment to recover its uninsured deposit losses from recent bank failures. The FDIC estimated that the preliminary cost of the failures is approximately $15.8 billion, an estimate that would be periodically adjusted. If finalized as proposed, the FDIC is proposing to collect the special assessment at an annual rate of approximately 12.5 basis points of uninsured deposits, over eight quarterly assessment periods beginning in 2024. Citi is likely to incur a significant increase in its operating expenses if the final rule for the FDIC special assessment is enacted as proposed, which is expected before the end of 2023. For additional information on the expected impact, see Note 26.

In July 2023, the U.S. banking agencies issued a notice of proposed rulemaking, known as the Basel III Endgame, related to regulatory capital requirements. The rule as proposed would have a material impact on Citi's current capital position; however, its finalization and implementation will be a

multiyear process, including phase-in periods to meet the new capital requirements. Citi plans to comment on the proposal and adapt business activities to address associated impacts, if necessary, and will be in compliance with the final rule, once it is in effect and implemented. For additional information, see "Capital Resources—Regulatory Capital Standards and Developments" below.

For a further discussion of trends, uncertainties and risks that will or could impact Citi's businesses, results of operations, capital and other financial condition during the remainder of 2023, see "Second Quarter of 2023 Results Summary" above and each respective business's results of operations, "Managing Global Risk," including "Managing Global Risk—Other Risks—Country Risk—Russia" and "—Argentina," and "Forward-Looking Statements" below and "Risk Factors" in Citi's 2022 Form 10-K.

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RESULTS OF OPERATIONS

SUMMARY OF SELECTED FINANCIAL DATA

Citigroup Inc. and Consolidated Subsidiaries

	Second Quarter			Six Months		
In millions of dollars, except per share amounts	**2023**	2022	**% Change**	**2023**	2022	**% Change**
Net interest income	**$ 13,900**	$ 11,964	**16 %**	**$ 27,248**	$ 22,835	**19 %**
Non-interest revenue	**5,536**	7,674	**(28)**	**13,635**	15,989	**(15)**
Revenues, net of interest expense	**$ 19,436**	$ 19,638	**(1)%**	**$ 40,883**	$ 38,824	**5 %**
Operating expenses	**13,570**	12,393	**9**	**26,859**	25,558	**5**
Provisions for credit losses and for benefits and claims	**1,824**	1,274	**43**	**3,799**	2,029	**87**
Income from continuing operations before income taxes	**$ 4,042**	$ 5,971	**(32)%**	**$ 10,225**	$ 11,237	**(9)%**
Income taxes	**1,090**	1,182	**(8)**	**2,621**	2,123	**23**
Income from continuing operations	**$ 2,952**	$ 4,789	**(38)%**	**$ 7,604**	$ 9,114	**(17)%**
Income (loss) from discontinued operations, net of taxes	**(1)**	(221)	**100**	**(2)**	(223)	**99**
Net income before attribution of noncontrolling interests	**$ 2,951**	$ 4,568	**(35)%**	**$ 7,602**	$ 8,891	**(14)%**
Net income attributable to noncontrolling interests	**36**	21	**71**	**81**	38	**NM**
Citigroup's net income	**$ 2,915**	$ 4,547	**(36)%**	**$ 7,521**	$ 8,853	**(15)%**
Earnings per share						
Basic						
Income from continuing operations	**$ 1.34**	$ 2.32	**(42)%**	**$ 3.55**	$ 4.34	**(18)%**
Net income	**1.34**	2.20	**(39)**	**3.54**	4.23	**(16)**
Diluted						
Income from continuing operations	**$ 1.33**	$ 2.30	**(42)%**	**$ 3.52**	$ 4.32	**(19)%**
Net income	**1.33**	2.19	**(39)**	**3.52**	4.20	**(16)**
Dividends declared per common share	**0.51**	0.51	**—**	**1.02**	1.02	**—**
Common dividends	**$ 1,004**	$ 1,010	**(1)%**	**$ 2,004**	$ 2,024	**(1)%**
Preferred dividends[(1)]	**288**	238	**21**	**565**	517	**9**
Common share repurchases	**1,000**	250	**NM**	**1,000**	3,250	**(69)**

Table continues on the next page, including footnotes.

SUMMARY OF SELECTED FINANCIAL DATA (Continued)

Citigroup Inc. and Consolidated Subsidiaries

In millions of dollars, except per share amounts, ratios and direct staff	Second Quarter			Six Months		
	2023	2022	**% Change**	**2023**	2022	**% Change**
At June 30:						
Total assets	**$2,423,675**	$2,380,904	**2 %**			
Total deposits	**1,319,867**	1,321,848	**—**			
Long-term debt	**274,510**	257,425	**7**			
Citigroup common stockholders' equity	**188,474**	180,019	**5**			
Total Citigroup stockholders' equity	**208,719**	199,014	**5**			
Average assets	**2,465,614**	2,380,053	**4**	**$2,463,929**	$2,377,047	**4 %**
Direct staff *(in thousands)*	**240**	231	**4 %**			
Performance metrics						
Return on average assets	**0.47 %**	0.77 %		**0.62 %**	0.75 %	
Return on average common stockholders' equity[(2)]	**5.6**	9.7		**7.5**	9.3	
Return on average total stockholders' equity[(2)]	**5.6**	9.2		**7.4**	9.0	
Return on tangible common equity (RoTCE)[(3)]	**6.4**	11.2		**8.7**	10.8	
Efficiency ratio (total operating expenses/total revenues, net)	**69.8**	63.1		**65.7**	65.8	
Basel III ratios						
CET1 Capital[(4)(5)]	**13.37 %**	11.95 %				
Tier 1 Capital[(4)(5)]	**15.24**	13.62				
Total Capital[(4)(5)]	**16.04**	15.20				
Supplementary Leverage ratio[(5)]	**5.97**	5.66				
Citigroup common stockholders' equity to assets	**7.78 %**	7.56 %				
Total Citigroup stockholders' equity to assets	**8.61**	8.36				
Dividend payout ratio[(6)]	**38**	23		**29 %**	24 %	
Total payout ratio[(7)]	**76**	29		**43**	63	
Book value per common share	**$ 97.87**	$ 92.95	**5 %**			
Tangible book value per share (TBVPS)[(3)]	**85.34**	80.25	**6**			

(1) Certain series of preferred stock have semiannual payment dates. See Note 21 to the Consolidated Financial Statements in Citi's 2022 Form 10-K.
(2) The return on average common stockholders' equity is calculated using net income less preferred stock dividends divided by average common stockholders' equity. The return on average total Citigroup stockholders' equity is calculated using net income divided by average Citigroup stockholders' equity.
(3) RoTCE and TBVPS are non-GAAP financial measures. For information on RoTCE and TBVPS, see "Capital Resources—Tangible Common Equity, Book Value Per Share, Tangible Book Value Per Share and Return on Equity" below.
(4) Citi's binding CET1 Capital and Tier 1 Capital ratios were derived under the Basel III Standardized Approach, whereas Citi's binding Total Capital ratio was derived under the Basel III Advanced Approaches framework for both periods presented.
(5) Certain of the above prior-period amounts have been revised to conform with enhancements made in the current period.
(6) Dividends declared per common share as a percentage of net income per diluted share.
(7) Total common dividends declared plus common share repurchases as a percentage of net income available to common shareholders (*Net income* less preferred dividends). See "Consolidated Statement of Changes in Stockholders' Equity," Note 9 and "Equity Security Repurchases" below for the component details.

NM Not meaningful

SEGMENT REVENUES AND INCOME (LOSS)

REVENUES

	Second Quarter			Six Months		
In millions of dollars	**2023**	2022	**% Change**	**2023**	2022	**% Change**
Institutional Clients Group	**$ 10,441**	$ 11,419	**(9)%**	**$ 21,674**	$ 22,579	**(4)%**
Personal Banking and Wealth Management	**6,395**	6,029	**6**	**12,843**	11,934	**8**
Legacy Franchises	**1,923**	1,935	**(1)**	**4,775**	3,866	**24**
Corporate/Other	**677**	255	**NM**	**1,591**	445	**NM**
Total Citigroup net revenues	**$ 19,436**	$ 19,638	**(1)%**	**$ 40,883**	$ 38,824	**5 %**

NM Not meaningful

INCOME

	Second Quarter			Six Months		
In millions of dollars	**2023**	2022	**% Change**	**2023**	2022	**% Change**
Income (loss) from continuing operations						
Institutional Clients Group	**$ 2,219**	$ 3,978	**(44)%**	**$ 5,517**	$ 6,636	**(17)%**
Personal Banking and Wealth Management	**494**	553	**(11)**	**983**	2,413	**(59)**
Legacy Franchises	**(122)**	(15)	**NM**	**484**	(400)	**NM**
Corporate/Other	**361**	273	**32**	**620**	465	**33**
Income from continuing operations	**$ 2,952**	$ 4,789	**(38)%**	**$ 7,604**	$ 9,114	**(17)%**
Discontinued operations	**$ (1)**	$ (221)	**100 %**	**$ (2)**	$ (223)	**99 %**
Less: Net income attributable to noncontrolling interests	**36**	21	**71**	**81**	38	**NM**
Citigroup's net income	**$ 2,915**	$ 4,547	**(36)%**	**$ 7,521**	$ 8,853	**(15)%**

NM Not meaningful

SEGMENT BALANCE SHEET[1]—JUNE 30, 2023

In millions of dollars	Institutional Clients Group	Personal Banking and Wealth Management	Legacy Franchises	Corporate/Other and consolidating eliminations[2]	Citigroup parent company-issued long-term debt and stockholders' equity[3]	Total Citigroup consolidated
Assets						
Cash and deposits with banks, net of allowance	$ 98,975	$ 5,764	$ 3,393	$ 188,776	$ —	$ 296,908
Securities borrowed and purchased under agreements to resell, net of allowance	336,768	30	305	—	—	337,103
Trading account assets	409,408	1,307	705	11,769	—	423,189
Investments, net of allowance	141,868	13	1,618	363,646	—	507,145
Loans, net of unearned income and allowance for credit losses on loans	275,323	331,717	36,076	—	—	643,116
Other assets, net of allowance	119,689	25,912	25,284	45,329	—	216,214
Net intersegment liquid assets[4]	382,785	108,050	25,031	(515,866)	—	—
Total assets	$ 1,764,816	$ 472,793	$ 92,412	$ 93,654	$ —	$ 2,423,675
Liabilities and equity						
Total deposits	$ 818,244	$ 426,791	$ 52,981	$ 21,851	$ —	$ 1,319,867
Securities loaned and sold under agreements to repurchase	257,262	45	2,728	—	—	260,035
Trading account liabilities	169,183	476	254	751	—	170,664
Short-term borrowings	29,765	1	—	10,664	—	40,430
Long-term debt[3]	101,111	189	84	10,083	163,043	274,510
Other liabilities	98,710	11,417	23,679	14,941	—	148,747
Net intersegment funding (lending)[3]	290,541	33,874	12,686	34,661	(371,762)	—
Total liabilities	$ 1,764,816	$ 472,793	$ 92,412	$ 92,951	$ (208,719)	$ 2,214,253
Total equity[5]	—	—	—	703	208,719	209,422
Total liabilities and equity	$ 1,764,816	$ 472,793	$ 92,412	$ 93,654	$ —	$ 2,423,675

(1) The supplemental information presented in the table above reflects Citigroup's consolidated GAAP balance sheet by reportable segment and component. The respective segment information depicts the assets and liabilities managed by each segment.

(2) Consolidating eliminations for total Citigroup and Citigroup parent company assets and liabilities are recorded within *Corporate/Other*.

(3) The total equity and the majority of long-term debt of Citigroup are reflected on the Citigroup parent company balance sheet (see Notes 17 and 27). Citigroup allocates stockholders' equity and long-term debt to its businesses through intersegment allocations as shown above.

(4) Represents the attribution of Citigroup's liquid assets (primarily consisting of cash, marketable equity securities and AFS debt securities) to the various businesses based on Liquidity Coverage ratio (LCR) assumptions.

(5) *Corporate/Other* equity represents noncontrolling interests.

INSTITUTIONAL CLIENTS GROUP

Institutional Clients Group (ICG) includes Services, Markets and Banking (for additional information on these businesses, see "Citigroup Operating Segments" above). *ICG* provides corporate, institutional and public sector clients around the world with a full range of wholesale banking products and services, including fixed income and equity sales and trading, foreign exchange, prime brokerage, derivative services, equity and fixed income research, corporate lending, investment banking and advisory services, cash management, trade finance and securities services. *ICG* transacts with clients in both cash instruments and derivatives, including fixed income, foreign currency, equity and commodity products. For more information on *ICG*'s business activities, see "*Institutional Clients Group*" in Citi's 2022 Form 10-K.

ICG's international presence is supported by trading floors in approximately 80 countries and a proprietary network in 95 countries and jurisdictions. As previously disclosed, as of March 31, 2023, Citi ended nearly all of the institutional banking services it offered in Russia, with the remaining services only those necessary to fulfill its remaining legal and regulatory obligations. For additional information about Citi's continued efforts to reduce its operations and exposure in Russia, see "*Legacy Franchises*" and "Managing Global Risk—Other Risks—Country Risk—Russia" below.

At June 30, 2023, *ICG* had $1.8 trillion in assets and $818 billion in deposits. Securities services managed $23.7 trillion in assets under custody and administration at June 30, 2023, of which Citi provided both custody and administrative services to certain clients related to $2.2 trillion of such assets. Managed assets under trust were $4.1 trillion at June 30, 2023. For additional information on these operations, see "Administration and Other Fiduciary Fees" in Note 5.

	Second Quarter			Six Months		
In millions of dollars, except as otherwise noted	**2023**	2022	**% Change**	**2023**	2022	**% Change**
Commissions and fees	**$ 1,126**	$ 1,125	**— %**	**$ 2,276**	$ 2,255	**1 %**
Administration and other fiduciary fees	**709**	732	**(3)**	**1,363**	1,404	**(3)**
Investment banking fees[1]	**686**	990	**(31)**	**1,520**	2,029	**(25)**
Principal transactions	**2,463**	4,358	**(43)**	**6,172**	8,800	**(30)**
Other	**(166)**	(306)	**46**	**(308)**	(213)	**(45)**
Total non-interest revenue	**$ 4,818**	$ 6,899	**(30)%**	**$ 11,023**	$ 14,275	**(23)%**
Net interest income (including dividends)	**5,623**	4,520	**24**	**10,651**	8,304	**28**
Total revenues, net of interest expense	**$ 10,441**	$ 11,419	**(9)%**	**$ 21,674**	$ 22,579	**(4)%**
Total operating expenses	**$ 7,286**	$ 6,434	**13 %**	**$ 14,259**	$ 13,157	**8 %**
Net credit losses on loans	**$ 73**	$ 18	**NM**	**$ 95**	$ 48	**98 %**
Credit reserve build (release) for loans	**(150)**	(76)	**(97)%**	**(225)**	520	**NM**
Provision (release) for credit losses on unfunded lending commitments	**(88)**	(169)	**48**	**(258)**	183	**NM**
Provisions (releases) for credit losses on HTM debt securities and other assets	**223**	25	**NM**	**374**	18	**NM**
Provisions (releases) for credit losses	**$ 58**	$ (202)	**NM**	**$ (14)**	$ 769	**NM**
Income from continuing operations before taxes	**$ 3,097**	$ 5,187	**(40)%**	**$ 7,429**	$ 8,653	**(14)%**
Income taxes	**878**	1,209	**(27)**	**1,912**	2,017	**(5)**
Income from continuing operations	**$ 2,219**	$ 3,978	**(44)%**	**$ 5,517**	$ 6,636	**(17)%**
Noncontrolling interests	**29**	17	**71**	**69**	35	**97**
Net income	**$ 2,190**	$ 3,961	**(45)%**	**$ 5,448**	$ 6,601	**(17)%**
Balance Sheet data *(in billions of dollars)*						
EOP assets	**$ 1,765**	$ 1,700	**4 %**			
Average assets	**1,795**	1,698	**6**	**$ 1,785**	$ 1,692	**5 %**
Efficiency ratio	**70 %**	56 %		**66 %**	58 %	
Average loans by reporting unit *(in billions of dollars)*						
Services	**$ 80**	$ 85	**(6)%**	**$ 80**	$ 82	**(2)%**
Banking	**185**	199	**(7)**	**188**	197	**(5)**
Markets	**13**	13	**—**	**13**	14	**(7)**
Total	**$ 278**	$ 297	**(6)%**	**$ 281**	$ 293	**(4)%**
Average deposits by reporting unit *(in billions of dollars)*						
TTS	**$ 688**	$ 672	**2 %**	**$ 696**	$ 671	**4 %**
Securities services	**125**	137	**(9)**	**125**	136	**(8)**

Services	**$ 813**	$ 809	**— %**	**$ 821**	$ 807	**2 %**
Markets and Banking	**24**	21	**14**	**24**	21	**14**
Total	**$ 837**	$ 830	**1 %**	**$ 845**	$ 828	**2 %**

(1) Investment banking fees are substantially composed of underwriting and advisory revenues.
NM Not meaningful

ICG Revenue Details

	Second Quarter			Six Months		
In millions of dollars	**2023**	2022	**% Change**	**2023**	2022	**% Change**
Services						
Net interest income	**$ 2,914**	$ 2,354	**24 %**	**$ 5,753**	$ 4,278	**34 %**
Non-interest revenue	**1,741**	1,696	**3**	**3,369**	3,237	**4**
Total Services revenues	**$ 4,655**	$ 4,050	**15 %**	**$ 9,122**	$ 7,515	**21 %**
Net interest income	**$ 2,425**	$ 2,053	**18 %**	**$ 4,783**	$ 3,729	**28 %**
Non-interest revenue	**1,085**	1,003	**8**	**2,138**	1,934	**11**
TTS revenues	**$ 3,510**	$ 3,056	**15 %**	**$ 6,921**	$ 5,663	**22 %**
Net interest income	**$ 489**	$ 301	**62 %**	**$ 970**	$ 549	**77 %**
Non-interest revenue	**656**	693	**(5)**	**1,231**	1,303	**(6)**
Securities services revenues	**$ 1,145**	$ 994	**15 %**	**$ 2,201**	$ 1,852	**19 %**
Markets						
Net interest income	**$ 1,982**	$ 1,355	**46 %**	**$ 3,452**	$ 2,447	**41 %**
Non-interest revenue	**2,637**	3,937	**(33)**	**6,768**	8,654	**(22)**
Total Markets revenues[1]	**$ 4,619**	$ 5,292	**(13)%**	**$ 10,220**	$ 11,101	**(8)%**
Fixed income markets	**$ 3,529**	$ 4,078	**(13)%**	**$ 7,983**	$ 8,367	**(5)%**
Equity markets	**1,090**	1,214	**(10)**	**2,237**	2,734	**(18)**
Total Markets revenues	**$ 4,619**	$ 5,292	**(13)%**	**$ 10,220**	$ 11,101	**(8)%**
Rates and currencies	**$ 2,844**	$ 3,249	**(12)%**	**$ 6,484**	$ 6,463	**— %**
Spread products / other fixed income	**685**	829	**(17)**	**1,499**	1,904	**(21)**
Total Fixed income markets revenues	**$ 3,529**	$ 4,078	**(13)%**	**$ 7,983**	$ 8,367	**(5)%**
Banking						
Net interest income	**$ 727**	$ 811	**(10)%**	**$ 1,446**	$ 1,579	**(8)%**
Non-interest revenue	**440**	1,266	**(65)**	**886**	2,384	**(63)**
Total Banking revenues	**$ 1,167**	$ 2,077	**(44)%**	**$ 2,332**	$ 3,963	**(41)%**
Investment banking						
Advisory	**$ 162**	$ 357	**(55)%**	**$ 451**	$ 704	**(36)%**
Equity underwriting	**162**	177	**(8)**	**271**	362	**(25)**
Debt underwriting	**288**	271	**6**	**664**	767	**(13)**
Total Investment banking revenues	**$ 612**	$ 805	**(24)%**	**$ 1,386**	$ 1,833	**(24)%**
Corporate lending (excluding gains (losses) on loan hedges)[2]	**$ 621**	$ 778	**(20)%**	**$ 1,211**	$ 1,467	**(17)%**
Total Banking revenues (excluding gains (losses) on loan hedges)[2]	**$ 1,233**	$ 1,583	**(22)%**	**$ 2,597**	$ 3,300	**(21)%**
Gain (loss) on loan hedges[2]	**(66)**	494	**NM**	**(265)**	663	**NM**
Total Banking revenues (including gains (losses) on loan hedges)[2]	**$ 1,167**	$ 2,077	**(44)%**	**$ 2,332**	$ 3,963	**(41)%**
Total *ICG* revenues, net of interest expense	**$ 10,441**	$ 11,419	**(9)%**	**$ 21,674**	$ 22,579	**(4)%**

(1) Citi assesses its Markets business performance on a total revenue basis, as offsets may occur across revenue line items. For example, securities that generate *Net interest income* may be risk managed with derivatives that are recorded in *Principal transactions* revenue within *Non-interest revenue*. For a description of the composition of these revenue line items, see Notes 4, 5 and 6.

(2) Credit derivatives are used to economically hedge a portion of the corporate loan portfolio that includes both accrual loans and loans at fair value. Gain (loss) on loan hedges include the mark-to-market on the credit derivatives and the mark-to-market on the loans in the portfolio that are at fair value. The fixed premium

costs of these hedges are netted against the corporate lending revenues to reflect the cost of credit protection. Citigroup's results of operations excluding the impact of gain (loss) on loan hedges are non-GAAP financial measures.

NM Not meaningful

The discussion of the results of operations for ICG below excludes (where noted) the impact of any gain (loss) on hedges of accrual loans, which are non-GAAP financial measures. For a reconciliation of these metrics to the reported results, see the table above.

2Q23 vs. 2Q22

Net income of $2.2 billion decreased 45%, primarily driven by lower revenues, higher expenses and higher cost of credit.

Revenues decreased 9% (including gain (loss) on loan hedges), driven by lower Banking and Markets revenues, partially offset by higher Services revenues. Banking revenues were down 44% (including the impact of the gain (loss) on loan hedges), reflecting lower revenues in both Investment banking and Corporate lending. Markets revenues were down 13%, driven by lower revenues in both Fixed income markets and Equity markets, due to lower client activity, driven by decreased volatility and a strong prior-year comparison. Services revenues were up 15%, driven by higher revenues in both TTS and Securities services.

Citi expects that revenues in its Markets and Investment banking businesses will continue to reflect the overall market environment during the remainder of 2023.

Within Services:

- TTS revenues increased 15%, driven by 18% growth in net interest income and 8% growth in non-interest revenue, reflecting strong growth across all client segments. The increase in net interest income was primarily driven by higher interest rates as well as growth in deposits, partially offset by higher interest rates paid on deposits. Average deposits increased 2%, largely driven by growth in EMEA and Latin America. Average loans decreased 6%, reflecting business actions taken to reduce RWA. The increase in non-interest revenue was primarily driven by strong fee growth in the cash business, reflecting solid client engagement and continued growth of underlying drivers, reflecting higher cross-border flows (up 11%) and commercial card spend (up 15%).
- Securities services revenues increased 15%, as net interest income grew 63%, driven by higher interest rates across currencies and cost of funds management, partially offset by the impact of an 8% decline in average deposits. Non-interest revenues decreased 5%, primarily driven by custody fee spread compression, partially offset by higher assets under custody and administration and continued elevated levels of corporate activity in Issuer services.

Within Markets:

- Fixed income markets revenues decreased 13%, driven by North America, EMEA and Asia, largely due to decreased institutional and corporate client activity.

  Rates and currencies decreased 12%, largely due to a decline in the currencies business, driven by EMEA, primarily reflecting lower volatility and a strong prior-year comparison, partially offset by a modest increase in the rates business. Spread products and other fixed income revenues decreased 17%, due to a decline across regions in commodities, driven by lower corporate and institutional client activity, as well as a decline in the financing and securitization business, as the business further reduced its subscription credit facilities portfolio.
- Equity markets revenues decreased 10%, driven by North America and Asia. The decline primarily reflected lower equity derivatives revenues, driven by a more challenging macroeconomic environment, lower volatility and a strong prior-year comparison. The decline in equity derivatives revenues was partially offset by an increase in equity cash, reflecting a modest increase in institutional client activity. Prime finance revenues were largely unchanged, while prime finance balances continued to grow in the quarter.

Within Banking:

- Investment banking revenues declined 24%, reflecting a decline in the overall market wallet, as ongoing macroeconomic and geopolitical uncertainty continued to adversely impact client activity. Advisory revenues decreased 55%, reflecting a decline in North America and Asia, partially offset by growth in EMEA. The decrease in advisory revenues was driven by the lower market wallet as well as lower wallet share. Equity underwriting revenues decreased 8%, reflecting a decline in North America, Asia and EMEA, driven by lower wallet share, partially offset by growth in the market wallet. Debt underwriting revenues increased 6%, reflecting growth in North America and EMEA, driven by wallet share gains, largely in the investment-grade portfolio, partially offset by the decline in the market wallet.
- Corporate lending revenues decreased 56%, including the impact of gains (losses) on loan hedges. Excluding the impact of gains (losses) on loan hedges, revenues decreased 20%, primarily driven by the impacts of foreign currency translation and lower lending volumes.

Expenses increased 13%, primarily driven by continued investment in TTS, risk and controls investments and severance costs in Markets and Investment banking, partially offset by productivity savings.

Provisions reflected a cost of $58 million, compared to a benefit of $202 million in the prior-year period, largely driven by an ACL build for other assets and higher net credit losses. Net credit losses were $73 million, compared to $18 million in the prior-year period.

The ACL release was $15 million, compared to a release of $220 million in the prior-year period. The $15 million ACL release was driven by a net ACL release for loans and unfunded lending commitments of $238 million, primarily due to an improved macroeconomic outlook, partially offset by a $223 million build for other assets, primarily related to an increase in transfer risk associated with exposures outside the

U.S. driven by safety and soundness considerations under U.S. banking law. For additional information on Citi's ACL, see "Significant Accounting Policies and Significant Estimates" below.

For additional information on *ICG*'s corporate credit portfolio, see "Managing Global Risk—Credit Risk—Corporate Credit" below.

For additional information on trends in *ICG*'s deposits and loans, see "Managing Global Risk—Liquidity Risk—Loans" and "—Deposits" below.

For additional information about trends, uncertainties and risks related to *ICG*'s future results, see "Executive Summary" above, "Managing Global Risk—Other Risks—Country Risk—Argentina" and "—Russia" and "Forward-Looking Statements" below and "Risk Factors" in Citi's 2022 Form 10-K.

2Q23 YTD vs. 2Q22 YTD

Net income of $5.4 billion decreased 17%, primarily driven by lower revenues and higher expenses, partially offset by lower cost of credit.

Revenues decreased 4% (including gain (loss) on loan hedges), driven by lower Banking and Markets revenues, partially offset by higher Services revenues. Banking revenues were down 41% (including the impact of the gain (loss) on loan hedges), reflecting lower revenues in both Investment banking and Corporate lending. Markets revenues were down 8%, driven by lower revenues in both Equity markets and Fixed income markets, also reflecting lower client activity, driven by decreased volatility and a strong prior-year comparison. Services revenues were up 21%, driven by higher revenues in both TTS and Securities services.

Within Services:

- TTS revenues increased 22%, with growth in net interest income of 28% and non-interest revenue of 11%, driven by the same factors described above.
- Securities services revenues increased 19%, reflecting higher net interest income, driven by the same factors described above. Non-interest revenue declined 6%, as a decrease in revenues in the custody business was partially offset by an increase in Issuer services.

Within Markets:

- Fixed income markets revenues decreased 5%, primarily due to EMEA, reflecting a decline in spread products and other fixed income, driven by the same factors described above, as rates and currencies revenues were largely unchanged.
- Equity markets revenues decreased 18%, primarily due to a decline in equity derivatives, driven by the same factors as described above, as well as a modest decline in equity cash. Prime finance balances continued to grow year to date.

Within Banking:

- Investment banking revenues decreased 24%. Advisory revenues decreased 36% and equity underwriting revenues decreased 25%, driven by the same factors described above. Debt underwriting revenues decreased 13%, largely driven by the lower market wallet.
- Corporate lending revenues decreased 56%, including the impact of gains (losses) on loan hedges. Excluding the impact of gains (losses) on loan hedges, revenues decreased 17%, driven by the same factors described above.

Expenses increased 8%, primarily driven by continued investment in Citi's transformation, investments in TTS, other risk and controls investments, volume-related expenses and other structural expenses, including severance costs, partially offset by productivity savings and foreign exchange translation.

Provisions reflected a benefit of $14 million, compared to a cost of $769 million in the prior-year period, largely driven by a net ACL release for loans and unfunded lending commitments, compared to an ACL build in the prior-year period. Net credit losses were $95 million, compared to $48 million in the prior-year period.

The ACL release was $109 million, compared to a build of $721 million in the prior-year period, driven by a net ACL release for loans and unfunded lending commitments of $483 million, due to an improved macroeconomic outlook and Russia loan reductions, partially offset by a $374 million build for other assets, primarily related to an increase in transfer risk associated with exposures outside the U.S. driven by safety and soundness considerations under U.S. banking law.

PERSONAL BANKING AND WEALTH MANAGEMENT

Personal Banking and Wealth Management (PBWM) consists of U.S. Personal Banking and Global Wealth Management (Global Wealth). U.S. Personal Banking includes Branded cards and Retail services, which have proprietary card portfolios (Cash, Rewards and Value) and co-branded cards (including Costco and American Airlines) within Branded cards, and co-brand and private label relationships within Retail services (including, among others, The Home Depot, Best Buy, Sears and Macy's). U.S. Personal Banking also includes Retail banking, which provides traditional banking services to retail and small business customers. Global Wealth includes Private bank, Wealth at Work and Citigold and provides financial services to clients from affluent to ultra-high-net-worth through banking, lending, mortgages, investment, custody and trust product offerings in 20 countries, including the U.S., Mexico and four wealth management centers: Singapore, Hong Kong, the UAE and London.

At June 30, 2023, U.S. Personal Banking had 653 retail bank branches concentrated in the six key metropolitan areas of New York, Chicago, Los Angeles, San Francisco, Miami and Washington, D.C. U.S. Personal Banking had $153 billion in outstanding credit card balances, $112 billion in deposits, $38 billion in mortgages and $4 billion in personal and small business loans. Global Wealth had $315 billion in deposits, $87 billion in mortgage loans, $59 billion in personal and small business loans and $5 billion in outstanding credit card balances.

	Second Quarter			Six Months		
In millions of dollars, except as otherwise noted	**2023**	2022	**% Change**	**2023**	2022	**% Change**
Net interest income	**$ 5,963**	$ 5,569	**7 %**	**$ 11,897**	$ 10,954	**9 %**
Non-interest revenue	**432**	460	**(6)**	**946**	980	**(3)**
Total revenues, net of interest expense	**$ 6,395**	$ 6,029	**6 %**	**$ 12,843**	$ 11,934	**8 %**
Total operating expenses	**$ 4,204**	$ 3,985	**5 %**	**$ 8,458**	$ 7,874	**7 %**
Net credit losses on loans	**$ 1,241**	$ 699	**78 %**	**$ 2,335**	$ 1,390	**68 %**
Credit reserve build (release) for loans	**333**	638	**(48)**	**840**	(424)	**NM**
Provision (release) for credit losses on unfunded lending commitments	**2**	13	**(85)**	**(4)**	11	**NM**
Provisions for benefits and claims (PBC), and other assets	**3**	5	**(40)**	**(1)**	2	**NM**
Provisions (releases) for credit losses and PBC	**$ 1,579**	$ 1,355	**17 %**	**$ 3,170**	$ 979	**NM**
Income from continuing operations before taxes	**$ 612**	$ 689	**(11)%**	**$ 1,215**	$ 3,081	**(61)%**
Income taxes	**118**	136	**(13)**	**232**	668	**(65)**
Income from continuing operations	**$ 494**	$ 553	**(11)%**	**$ 983**	$ 2,413	**(59)%**
Noncontrolling interests	**—**	—	**—**	**—**	—	**—**
Net income	**$ 494**	$ 553	**(11)%**	**$ 983**	$ 2,413	**(59)%**
Balance Sheet data *(in billions of dollars)*						
EOP assets	**$ 473**	$ 479	**(1)%**			
Average assets	**484**	474	**2**	**$ 490**	$ 474	**3 %**
Average loans	**339**	317	**7**	**336**	315	**7**
Average deposits	**431**	435	**(1)**	**433**	441	**(2)**
Efficiency ratio	**66 %**	66 %		**66 %**	66 %	
Net credit losses as a percentage of average loans	**1.47**	0.88		**1.40**	0.89	
Revenue by reporting unit and component						
Branded cards	**$ 2,352**	$ 2,168	**8 %**	**$ 4,818**	$ 4,258	**13 %**
Retail services	**1,646**	1,300	**27**	**3,259**	2,599	**25**
Retail banking	**594**	656	**(9)**	**1,207**	1,251	**(4)**
U.S. Personal Banking	**$ 4,592**	$ 4,124	**11 %**	**$ 9,284**	$ 8,108	**15 %**
Private bank	**$ 605**	$ 745	**(19)%**	**$ 1,172**	$ 1,524	**(23)%**
Wealth at Work	**224**	170	**32**	**417**	353	**18**
Citigold	**974**	990	**(2)**	**1,970**	1,949	**1**
Global Wealth	**$ 1,803**	$ 1,905	**(5)%**	**$ 3,559**	$ 3,826	**(7)%**
Total	**$ 6,395**	$ 6,029	**6 %**	**$ 12,843**	$ 11,934	**8 %**

NM Not meaningful

2Q23 vs. 2Q22

Net income was $494 million, compared to $553 million in the prior-year period, driven by higher cost of credit and higher expenses, partially offset by higher revenues.

Revenues increased 6%, primarily due to higher net interest income, driven by strong loan growth across U.S. Personal Banking. The increase was partially offset by lower non-interest revenue, primarily reflecting lower investment product revenues in Global Wealth.

U.S. Personal Banking revenues increased 11%, reflecting higher revenues in cards, partially offset by lower revenues in Retail banking.

Cards revenues increased 15%. Branded cards revenues increased 8%, primarily driven by higher net interest income, reflecting strength in underlying drivers. Branded cards new account acquisitions increased 6% and card spend volumes increased 4%. Average loans increased 14%, reflecting the higher card spend volumes and lower payment rates.

Retail services revenues increased 27%, primarily driven by higher net interest income on higher loan balances and lower partner payments. Retail services card spend volumes decreased 5%, primarily driven by lower discretionary retail spend. Average loans increased 9%, reflecting lower payment rates, partially offset by the lower card spend volumes.

Retail banking revenues decreased 9%, primarily driven by the impact of the transfer of certain relationships and the associated deposit balances to Global Wealth. Average loans increased 17%, primarily driven by higher mortgage originations. Average deposits decreased 3%, largely reflecting the transfer of certain relationships and the associated deposit balances to Global Wealth.

Global Wealth revenues decreased 5%, largely reflecting investment product revenue headwinds and lower net interest income, partially offset by the benefits of the transfer of certain relationships and the associated deposit balances from Retail banking. Average deposits and average loans were largely unchanged. Client assets increased 5%, primarily driven by increases in market valuations. Client advisors decreased 1%, reflecting the re-pacing of strategic hiring. Private bank revenues decreased 19%, driven by the investment product revenue headwinds and higher interest rates paid on deposits. Wealth at Work revenues increased 32%, driven by strong lending results, primarily in mortgages, and Citigold revenues decreased 2%, driven by the lower net interest income and the lower investment product revenue.

Expenses increased 5%, largely driven by risk and controls investments, partially offset by productivity savings.

Provisions were $1.6 billion, compared to $1.4 billion in the prior-year period, largely driven by higher net credit losses, partially offset by a lower net ACL build for loans. Net credit losses increased 78%, reflecting ongoing normalization in U.S. cards from near historically low levels, with Branded cards net credit losses up 87% to $614 million and Retail services net credit losses up 88% to $545 million. Both Branded cards and Retail services net credit losses are expected to normalize by the end of 2023.

The net ACL build was $0.3 billion, compared to $0.7 billion in the prior-year period, primarily reflecting growth in U.S. cards balances. For additional information on Citi's ACL, see "Significant Accounting Policies and Significant Estimates" below.

For additional information on U.S. Personal Banking's Branded cards, Retail services and Retail banking portfolios, see "Credit Risk—Consumer Credit" below.

For additional information about trends, uncertainties and risks related to *PBWM*'s future results, see "Executive Summary" above and "Forward-Looking Statements" below, and "Risk Factors—Strategic Risks" in Citi's 2022 Form 10-K.

2Q23 YTD vs. 2Q22 YTD

Year-to-date, *PBWM* experienced similar trends to those described above. Net income was $983 million, compared to $2.4 billion in the prior-year period, largely driven by higher cost of credit and higher expenses, partially offset by higher revenues.

Revenues increased 8%, largely due to higher revenues in U.S. Personal Banking. U.S. Personal Banking revenues increased 15%, reflecting higher revenues in cards, largely driven by the same factors described above. Global Wealth revenues decreased 7%, largely driven by the same factors described above.

Expenses increased 7%, primarily driven by continued investments in Citi's transformation, other risk and controls investments and severance costs, partially offset by productivity savings.

Provisions were $3.2 billion, compared to $1.0 billion in the prior-year period, due to a net ACL build for loans, as well as higher net credit losses, primarily driven by ongoing normalization in U.S. cards.

The net ACL build was $0.8 billion, primarily driven by U.S. cards loan growth, compared to a release of $0.4 billion in the prior-year period.

LEGACY FRANCHISES

As of June 30, 2023, *Legacy Franchises* included (i) Asia Consumer Banking (Asia Consumer), representing the consumer banking operations of the remaining six Asia and EMEA exit countries, (ii) Mexico Consumer Banking (Mexico Consumer) and Mexico Small Business and Middle-Market Banking (Mexico SBMM), collectively Mexico Consumer/SBMM, and (iii) Legacy Holdings Assets (certain North America consumer mortgage loans and other legacy assets). Asia Consumer provides traditional retail banking and branded card products to retail and small business customers. Mexico Consumer/SBMM provides traditional retail banking and branded card products to consumers and small business customers and traditional middle-market banking products and services to commercial customers through Citibanamex.

Legacy Franchises also included the following seven consumer banking businesses prior to their sale: Australia, until its closing on June 1, 2022; the Philippines, until its closing on August 1, 2022; Thailand and Malaysia, until their closings on November 1, 2022; Bahrain, until its closing on December 1, 2022; and India and Vietnam, until their closings on March 1, 2023.

In addition, Citi has entered into agreements to sell its consumer banking businesses in Indonesia and Taiwan, and has continued to make progress on its wind-downs of consumer banking operations in Korea and China and consumer banking and local commercial banking operations in Russia (see below). See Note 2 for additional information on *Legacy Franchises*' consumer banking business sales and wind-downs.

In May 2023, Citi announced it intends to pursue an IPO of consumer, small business and middle-market banking operations in Mexico. Citi will retain its *ICG* and Private bank businesses in Mexico. Citi currently expects that the separation of the businesses will be completed in the second half of 2024 and that the IPO will take place in 2025.

In connection with Citi's wind-down of its consumer and local commercial banking businesses in Russia, Citi expects to incur approximately $140 million in total estimated charges (excluding the impact from any portfolio sales) related to *Legacy Franchises*. Citi's previously disclosed referral agreement with a Russian bank to settle a portfolio of ruble-denominated credit card loans, subject to customer consents, was signed in May 2023. The outstanding card loan balances with Citi ($131 million as of June 30, 2023) are to be settled upon referral and refinancing, and the portfolio has not been designated as held-for-sale (HFS). For additional information about Citi's continued efforts to reduce its operations and exposures in Russia, see "*Institutional Clients Group*" above and "Managing Global Risk—Other Risks—Country Risk—Russia" below, as well as "Risk Factors" in Citi's 2022 Form 10-K.

At June 30, 2023, on a combined basis, *Legacy Franchises* had 1,413 retail branches, $21 billion in retail banking loans and $53 billion in deposits. In addition, the businesses had $9 billion in outstanding card loan balances, and Mexico SBMM had $8 billion in outstanding corporate loan balances. These loan and deposit amounts exclude approximately $8 billion of loans ($7 billion of retail banking loans and $1 billion of credit card loan balances) and approximately $11 billion of deposits, all of which were reclassified to HFS (e.g., as *Other assets* and *Other liabilities* on the Consolidated Balance Sheet) as a result of Citi's entry into agreements to sell certain remaining consumer banking businesses. See Note 2 for additional information.

	Second Quarter			Six Months		
In millions of dollars, except as otherwise noted	**2023**	2022	**% Change**	**2023**	2022	**% Change**
Net interest income	**$ 1,345**	$ 1,474	**(9)%**	**$ 2,635**	$ 2,982	**(12)%**
Non-interest revenue	**578**	461	**25**	**2,140**	884	**NM**
Total revenues, net of interest expense	**$ 1,923**	$ 1,935	**(1)%**	**$ 4,775**	$ 3,866	**24 %**
Total operating expenses	**$ 1,778**	$ 1,814	**(2)%**	**$ 3,530**	$ 4,107	**(14)%**
Net credit losses on loans	**$ 190**	$ 133	**43 %**	**$ 376**	$ 284	**32 %**
Credit reserve build (release) for loans	**74**	(28)	**NM**	**77**	(174)	**NM**
Provision (release) for credit losses on unfunded lending commitments	**(10)**	(3)	**NM**	**(28)**	121	**NM**
Provisions for benefits and claims (PBC), HTM debt securities and other assets	**46**	19	**NM**	**220**	50	**NM**
Provisions (releases) for credit losses and PBC	**$ 300**	$ 121	**NM**	**$ 645**	$ 281	**NM**
Income (loss) from continuing operations before taxes	**$ (155)**	$ —	**— %**	**$ 600**	$ (522)	**NM**
Income taxes	**(33)**	15	**NM**	**116**	(122)	**NM**
Income (loss) from continuing operations	**$ (122)**	$ (15)	**NM**	**$ 484**	$ (400)	**NM**
Noncontrolling interests	**3**	2	**50 %**	**5**	—	**— %**
Net income (loss)	**$ (125)**	$ (17)	**NM**	**$ 479**	$ (400)	**NM**
Balance Sheet data *(in billions of dollars)*						
EOP assets	**$ 92**	$ 108	**(15)%**			
Average assets	**92**	115	**(20)**	**$ 95**	$ 120	**(21)%**
EOP loans	**38**	41	**(7)**			
EOP deposits	**53**	53	**1**			

Efficiency ratio	**92 %**	94 %		**74 %**	106 %			
Revenue by reporting unit and component								
Asia Consumer	**$ 454**	$ 880	**(48)%**	**$ 1,963**	$ 1,667	**18 %**		
Mexico Consumer/SBMM	**1,449**	1,184	**22**	**2,771**	2,323	**19**		
Legacy Holdings Assets	**20**	(129)	**NM**	**41**	(124)	**NM**		
Total	**$ 1,923**	$ 1,935	**(1)%**	**$ 4,775**	$ 3,866	**24 %**		

NM Not meaningful

2Q23 vs. 2Q22

Net loss was $125 million, compared to a net loss of $17 million in the prior-year period, driven by higher cost of credit, partially offset by lower expenses.

Results for the second quarter of 2023 included divestiture-related impacts of $(73) million in earnings before taxes ($(52) million after-tax), reflecting the following:

- $(6) million of aggregate divestiture-related revenue impacts
- $79 million of aggregate divestiture-related expenses, largely relating to separation costs in Mexico and severance costs in the Asia exit markets
- $(12) million benefit of divestiture-related credit costs
- $(21) million of related tax benefits

Results for the second quarter of 2022 included divestiture-related impacts of $48 million ($35 million after-tax), reflecting the following:

- $78 million of aggregate divestiture-related revenue impacts, including a $20 million reduction of the loss on sale for the Australia consumer business
- $(28) million benefit recorded in expenses related to the Korea Voluntary Early Retirement Program (VERP) pension settlement
- $58 million of divestiture-related credit costs
- $13 million of related taxes

Revenues decreased 1%, driven by lower revenues in Asia Consumer, partially offset by higher revenues in Mexico Consumer/SBMM and Legacy Holdings Assets.

Asia Consumer revenues of $454 million decreased from $880 million in the prior-year period, mainly driven by the reduction from exited markets and continued wind-downs.

Mexico Consumer/SBMM revenues increased 22%, as cards revenues increased 38%, SBMM revenues increased 25% and retail banking revenues increased 16%, primarily due to higher interest rates and higher lending volumes.

Legacy Holdings Assets revenues of $20 million increased from $(129) million in the prior-year period, largely driven by a release of a CTA loss (net of hedges) recorded in *AOCI* in the second quarter of 2022.

Expenses decreased 2%, mainly driven by the impact of the exited markets and continued wind-downs.

Provisions were $300 million, compared to $121 million in the prior-year period, primarily driven by higher net credit losses and a net ACL build. Net credit losses increased 43% to $190 million, driven by higher lending volumes in Mexico Consumer. The build for credit losses was $110 million, compared to a release of $12 million in the prior-year period, primarily due to higher lending volumes in Mexico Consumer.

For additional information about trends, uncertainties and risks related to *Legacy Franchises*' future results, see "Executive Summary" above, "Managing Global Risk—Other Risks—Country Risk—Russia" and "Forward-Looking Statements" below and "Risk Factors—Strategic Risks" in Citi's 2022 Form 10-K.

2Q23 YTD vs. 2Q22 YTD

Net income was $479 million, compared to a net loss of $400 million in the prior-year period, driven by higher revenues and lower expenses, partially offset by higher cost of credit.

Results for year-to-date 2023 included divestiture-related impacts of approximately $880 million (approximately $596 million after-tax), reflecting the following:

- $1,012 million of net divestiture gains, primarily related to a gain on sale of the India consumer banking business, recorded in other revenue
- $152 million of aggregate divestiture-related expenses
- $(20) million benefit of divestiture-related credit costs
- $284 million of related taxes

Results for year-to-date 2022 included divestiture-related impacts of approximately $(629) million (approximately $(553) million after-tax), primarily reflecting the following:

- $(98) million pretax loss primarily reflecting an ACL release of $(104) million related to the Australia consumer banking business sale
- $129 million cost of credit reclassification to revenues, as once a divestiture is classified as held-for-sale, credit costs, including ACL builds/releases and net credit losses, are reclassified to revenues
- $535 million goodwill impairment, recorded in expenses, due to the re-segmentation and sequencing of divestitures
- $(76) million of related tax benefits

Revenues increased 24%, driven by higher revenues in Asia Consumer, Mexico Consumer/SBMM and Legacy Holdings Assets.

Asia Consumer revenues increased 18%, primarily driven by the India gain on sale, partially offset by the reduction from exited markets and wind-downs. Mexico Consumer/SBMM revenues increased 19%, mainly due to the benefit of FX translation as well as higher interest rates and higher lending volumes. Legacy Holdings Assets revenues of $41 million increased from $(124) million in the prior-year period, primarily driven by the release of the CTA loss (net of hedges) recorded in *AOCI* in the second quarter of 2022.

Expenses decreased 14%, mainly driven by the absence of the goodwill impairment in the prior-year period and the benefit of the closed exit markets and wind-downs.

Provisions were $645 million, compared to $281 million in the prior-year period, driven by higher lending volumes and net credit losses in Mexico Consumer, and a build for transfer risk associated with exposures outside the U.S., driven by safety and soundness considerations under U.S. banking law.

CORPORATE/OTHER

Activities not assigned to the operating segments (*ICG*, *PBWM* and *Legacy Franchises*) are included in *Corporate/Other*. *Corporate/Other* included certain unallocated costs of global staff functions (including finance, risk, human resources, legal and compliance-related costs), other corporate expenses and unallocated global operations and technology expenses and income taxes, as well as results of Corporate Treasury investment activities and discontinued operations. At June 30, 2023, *Corporate/Other* had $94 billion in assets, including Corporate Treasury investment securities and the Company's deferred tax assets (DTAs).

	Second Quarter			Six Months		
In millions of dollars	**2023**	2022	**% Change**	**2023**	2022	**% Change**
Net interest income	**$ 969**	$ 401	**NM**	**$ 2,065**	$ 595	**NM**
Non-interest revenue	**(292)**	(146)	**(100)%**	**(474)**	(150)	**NM**
Total revenues, net of interest expense	**$ 677**	$ 255	**NM**	**$ 1,591**	$ 445	**NM**
Total operating expenses	**$ 302**	$ 160	**89 %**	**$ 612**	$ 420	**46 %**
Provisions for HTM debt securities and other assets	**$ (113)**	$ —	**— %**	**$ (2)**	$ —	**— %**
Income (loss) from continuing operations before taxes	**$ 488**	$ 95	**NM**	**$ 981**	$ 25	**NM**
Income taxes (benefits)	**127**	(178)	**NM**	**361**	(440)	**NM**
Income from continuing operations	**$ 361**	$ 273	**32 %**	**$ 620**	$ 465	**33 %**
Income (loss) from discontinued operations, net of taxes	**(1)**	(221)	**100**	**(2)**	(223)	**99**
Net income before attribution to noncontrolling interests	**$ 360**	$ 52	**NM**	**$ 618**	$ 242	**NM**
Noncontrolling interests	**4**	2	**NM**	**7**	3	**NM**
Net income	**$ 356**	$ 50	**NM**	**$ 611**	$ 239	**NM**

NM Not meaningful

2Q23 vs. 2Q22

Net income was $356 million, compared to $50 million in the prior-year period. The increase in net income was primarily driven by higher revenues, benefits from cost of credit and the prior-year release of a CTA loss (net of hedges) from *AOCI* (for additional information, see Note 2). These increases were partially offset by higher expenses and lower income tax benefits. Results for the quarter also included a $40 million withholding tax related to an exit market, which is a divestiture-related impact.

Revenues were $677 million, compared to $255 million in the prior-year period, primarily driven by higher net interest income from *Deposits with banks* and the investment portfolio, largely due to higher interest rates.

Expenses were $302 million, compared to $160 million in the prior-year period, primarily reflecting the impact of inflation, higher severance costs and the absence of certain settlements that occurred in the prior-year period, partially offset by lower consulting expenses.

Provisions were a $113 million benefit, primarily driven by a reserve release related to the repayment of the First Republic Bank deposit.

For additional information about trends, uncertainties and risks related to *Corporate/Other*'s future results, see "Executive Summary" above, "Forward-Looking Statements" below and "Risk Factors—Strategic Risks" in Citi's 2022 Form 10-K.

2Q23 YTD vs. 2Q22 YTD

Year-to-date, *Corporate/Other* experienced similar trends to those described above. *Net income* was $611 million, compared to net income of $239 million in the prior-year period, largely driven by the same factors described above.

Revenues were $1.6 billion, compared to $445 million in the prior-year period, driven by the same factors described above.

Expenses were $612 million, compared to $420 million in the prior-year period, driven by the same factors described above.

Provisions were a $2 million benefit, as the reserve build for the First Republic Bank deposit in the first quarter of 2023 was released in the second quarter of 2023.

CAPITAL RESOURCES

For additional information about capital resources, including Citi's capital management, regulatory capital buffers, the stress testing component of capital planning and current regulatory capital standards and developments, see "Capital Resources" and "Risk Factors" in Citi's 2022 Form 10-K.

During the second quarter of 2023, Citi returned a total of $2.0 billion of capital to common shareholders in the form of $1.0 billion in dividends and $1.0 billion in share repurchases totaling approximately 21 million common shares. For additional information, see "Unregistered Sales of Equity Securities, Repurchases of Equity Securities and Dividends" below.

Citi paid common dividends of $0.51 per share for the second quarter of 2023, and on July 20, 2023, declared common dividends of $0.53 per share for the third quarter of 2023. Citi intends to maintain a quarterly common dividend of at least $0.53 per share, subject to financial and macroeconomic conditions as well as its Board of Directors' approval. In addition, as previously announced, Citi will continue to assess common share repurchases on a quarter-by-quarter basis given uncertainty regarding regulatory capital requirements. For additional information, see "Capital Resources—Regulatory Capital Standards and Developments" below.

Common Equity Tier 1 Capital Ratio

Citi's Common Equity Tier 1 (CET1) Capital ratio under the Basel III Standardized Approach was 13.4% as of June 30, 2023, largely unchanged from March 31, 2023, relative to a required regulatory CET1 Capital ratio of 12.0% as of such dates under the Standardized Approach. This compares to a CET1 Capital ratio of 13.0% as of December 31, 2022, relative to a required regulatory CET1 Capital ratio of 11.5% as of such date under the Standardized Approach.

Citi's CET1 Capital ratio under the Basel III Advanced Approaches was 12.5% as of June 30, 2023, compared to 12.3% as of March 31, 2023, relative to a required regulatory CET1 Capital ratio of 10.5% as of such dates under the Advanced Approaches framework. This compares to a CET1 Capital ratio of 12.2% as of December 31, 2022, relative to a required regulatory CET1 Capital ratio of 10.0% as of such date under the Advanced Approaches.

Citi's CET1 Capital ratio under the Standardized Approach remained largely unchanged from March 31, 2023, as the return of capital to common shareholders and an increase in RWA were offset by net income. Citi's CET1 Capital ratio increased under the Advanced Approaches from March 31, 2023, driven primarily by net income and a decrease in RWA, partially offset by the return of capital to common shareholders.

Citi's CET1 Capital ratio increased under both the Standardized Approach and Advanced Approaches from year-end 2022, driven primarily by year-to-date net income of $7.5 billion, partially offset by the return of capital to common shareholders and an increase in RWA.

Stress Capital Buffer

In July 2023, the FRB confirmed Citi's Stress Capital Buffer (SCB) requirement of 4.3%, as compared to the current requirement of 4.0%, for the four-quarter window starting from October 1, 2023 to September 30, 2024.

Accordingly, effective October 1, 2023, Citi will be required to maintain a 12.3% CET1 Capital ratio under the Standardized Approach, incorporating the 4.3% SCB and its current GSIB surcharge of 3.5%. Citi's required regulatory CET1 Capital ratio under the Advanced Approaches (using the fixed 2.5% Capital Conservation Buffer) will remain unchanged at 10.5%. The SCB applies to Citigroup only; the regulatory capital framework applicable to Citibank, including the Capital Conservation Buffer, is unaffected by Citigroup's SCB.

For additional information regarding regulatory capital buffers, including the SCB and GSIB surcharge, see "Capital Resources—Regulatory Capital Buffers" in Citi's 2022 Form 10-K.

Citigroup's Capital Resources

The following table presents Citi's required risk-based capital ratios as of June 30, 2023, March 31, 2023 and December 31, 2022:

	Advanced Approaches			Standardized Approach		
	June 30, 2023	March 31, 2023	December 31, 2022	**June 30, 2023**	March 31, 2023	December 31, 2022
CET1 Capital ratio[1]	**10.5 %**	10.5 %	10.0 %	**12.0 %**	12.0 %	11.5 %
Tier 1 Capital ratio[1]	**12.0**	12.0	11.5	**13.5**	13.5	13.0
Total Capital ratio[1]	**14.0**	14.0	13.5	**15.5**	15.5	15.0

(1) As of January 1, 2023, Citi's required risk-based capital ratios included the 4.0% SCB and 3.5% GSIB surcharge under the Standardized Approach, and the 2.5% Capital Conservation Buffer and 3.5% GSIB surcharge under the Advanced Approaches (all of which must be composed of CET1 Capital). These requirements are applicable through September 30, 2023. See "Stress Capital Buffer" above for more information.

The following tables present Citi's capital components and ratios as of June 30, 2023, March 31, 2023 and December 31, 2022:

	Advanced Approaches			Standardized Approach		
In millions of dollars, except ratios	**June 30, 2023**	March 31, 2023	December 31, 2022	**June 30, 2023**	March 31, 2023	December 31, 2022
CET1 Capital[1]	**$ 154,243**	$ 153,753	$ 148,930	**$ 154,243**	$ 153,753	$ 148,930
Tier 1 Capital[1]	**175,743**	175,249	169,145	**175,743**	175,249	169,145
Total Capital (Tier 1 Capital + Tier 2 Capital)[1]	**198,036**	194,998	188,839	**206,852**	203,586	197,543
Total Risk-Weighted Assets	**1,234,271**	1,252,390	1,221,538	**1,153,450**	1,144,359	1,142,985
Credit Risk[1]	**$ 874,707**	$ 883,746	$ 851,875	**$ 1,090,440**	$ 1,072,110	$ 1,069,992
Market Risk	**62,261**	71,341	71,889	**63,010**	72,249	72,993
Operational Risk	**297,303**	297,303	297,774	**—**	—	—
CET1 Capital ratio[2]	**12.50 %**	12.28 %	12.19 %	**13.37 %**	13.44 %	13.03 %
Tier 1 Capital ratio[2]	**14.24**	13.99	13.85	**15.24**	15.31	14.80
Total Capital ratio[2]	**16.04**	15.57	15.46	**17.93**	17.79	17.28

In millions of dollars, except ratios	**Required Capital Ratios**	**June 30, 2023**	March 31, 2023	December 31, 2022
Quarterly Adjusted Average Total Assets[1][3]		**$ 2,429,306**	$ 2,426,430	$ 2,395,863
Total Leverage Exposure[1][4]		**2,943,546**	2,939,744	2,906,773
Leverage ratio	**4.0 %**	**7.23 %**	7.22 %	7.06 %
Supplementary Leverage ratio	**5.0**	**5.97**	5.96	5.82

(1) Citi's regulatory capital ratios and components reflect certain deferrals based on the modified regulatory capital transition provision related to the current expected credit losses (CECL) standard. For additional information, see "Capital Resources—Regulatory Capital Treatment—Modified Transition of the Current Expected Credit Losses Methodology" in Citi's 2022 Form 10-K.

(2) Citi's binding CET1 Capital and Tier 1 Capital ratios were derived under the Basel III Standardized Approach, whereas Citi's binding Total Capital ratio was derived under the Basel III Advanced Approaches framework for all periods presented.

(3) Leverage ratio denominator. Represents quarterly average total assets less amounts deducted from Tier 1 Capital.

(4) Supplementary Leverage ratio denominator.

As indicated in the table above, Citigroup's capital ratios at June 30, 2023 were in excess of the regulatory capital requirements under the U.S. Basel III rules. In addition, Citi was "well capitalized" under current federal bank regulatory agencies definitions as of June 30, 2023.

Components of Citigroup Capital

In millions of dollars		**June 30, 2023**		December 31, 2022
CET1 Capital				
Citigroup common stockholders' equity[1]	**$**	**188,610**	$	182,325
Add: Qualifying noncontrolling interests		**209**		128
Regulatory capital adjustments and deductions:				
Add: CECL transition provision[2]		**1,514**		2,271
Less: Accumulated net unrealized gains (losses) on cash flow hedges, net of tax		**(1,990)**		(2,522)
Less: Cumulative unrealized net gain (loss) related to changes in fair value of financial liabilities attributable to own creditworthiness, net of tax		**307**		1,441
Less: Intangible assets:				
Goodwill, net of related DTLs[3]		**18,933**		19,007
Identifiable intangible assets other than MSRs, net of related DTLs		**3,531**		3,411
Less: Defined benefit pension plan net assets; other		**2,020**		1,935
Less: DTAs arising from net operating loss, foreign tax credit and general business credit carry-forwards[4]		**11,461**		12,197
Less: Excess over 10%/15% limitations for other DTAs, certain common stock investments, and MSRs[4][5]		**1,828**		325
Total CET1 Capital (Standardized Approach and Advanced Approaches)	**$**	**154,243**	$	148,930
Additional Tier 1 Capital				
Qualifying noncumulative perpetual preferred stock[1]	**$**	**20,109**	$	18,864
Qualifying trust preferred securities[6]		**1,410**		1,406
Qualifying noncontrolling interests		**30**		30
Regulatory capital deductions:				
Less: Other		**49**		85
Total Additional Tier 1 Capital (Standardized Approach and Advanced Approaches)	**$**	**21,500**	$	20,215
Total Tier 1 Capital (CET1 Capital + Additional Tier 1 Capital) (Standardized Approach and Advanced Approaches)	**$**	**175,743**	$	169,145
Tier 2 Capital				
Qualifying subordinated debt	**$**	**17,669**	$	15,530
Qualifying noncontrolling interests		**37**		37
Eligible allowance for credit losses[2][7]		**13,715**		13,426
Regulatory capital deduction:				
Less: Other		**312**		595
Total Tier 2 Capital (Standardized Approach)	**$**	**31,109**	$	28,398
Total Capital (Tier 1 Capital + Tier 2 Capital) (Standardized Approach)	**$**	**206,852**	$	197,543
Adjustment for excess of eligible credit reserves over expected credit losses[2][7]	**$**	**(8,816)**	$	(8,704)
Total Tier 2 Capital (Advanced Approaches)	**$**	**22,293**	$	19,694
Total Capital (Tier 1 Capital + Tier 2 Capital) (Advanced Approaches)	**$**	**198,036**	$	188,839

(1) Issuance costs of $136 million and $131 million related to outstanding noncumulative perpetual preferred stock at June 30, 2023 and December 31, 2022, respectively, were excluded from common stockholders' equity and netted against such preferred stock in accordance with Federal Reserve Board regulatory reporting requirements, which differ from those under U.S. GAAP.

(2) Citi's regulatory capital ratios and components reflect certain deferrals based on the modified regulatory capital transition provision related to the CECL standard. For additional information, see "Capital Resources—Regulatory Capital Treatment—Modified Transition of the Current Expected Credit Losses Methodology" in Citi's 2022 Form 10-K.

(3) Includes goodwill "embedded" in the valuation of significant common stock investments in unconsolidated financial institutions.

(4) Of Citi's $28.5 billion of net DTAs at June 30, 2023, $11.5 billion of net DTAs arising from net operating loss, foreign tax credit and general business credit tax carry-forwards, as well as $1.8 billion of DTAs arising from temporary differences that exceeded 10%/15% limitations, were excluded from Citi's CET1 Capital as of June 30, 2023. DTAs arising from net operating loss, foreign tax credit and general business credit tax carry-forwards are required to be entirely deducted from CET1 Capital under the U.S. Basel III rules. DTAs arising from temporary differences are required to be deducted from capital only if they exceed 10%/15% limitations under the U.S. Basel III rules.

Footnotes continue on the following page.

(5) Assets subject to 10%/15% limitations include MSRs, DTAs arising from temporary differences and significant common stock investments in unconsolidated financial institutions. At June 30, 2023 and December 31, 2022, this deduction related only to DTAs arising from temporary differences that exceeded the 10% limitation.

(6) Represents Citigroup Capital XIII trust preferred securities, which are permanently grandfathered as Tier 1 Capital under the U.S. Basel III rules.

(7) Under the Standardized Approach, the allowance for credit losses is eligible for inclusion in Tier 2 Capital up to 1.25% of credit risk-weighted assets, with any excess allowance for credit losses being deducted in arriving at credit risk-weighted assets, which differs from the Advanced Approaches framework, in which eligible credit reserves that exceed expected credit losses are eligible for inclusion in Tier 2 Capital to the extent that the excess reserves do not exceed 0.6% of credit risk-weighted assets. The total amount of eligible credit reserves in excess of expected credit losses that were eligible for inclusion in Tier 2 Capital, subject to limitation, under the Advanced Approaches framework were $4.9 billion and $4.7 billion at June 30, 2023 and December 31, 2022, respectively.

Citigroup Capital Rollforward

In millions of dollars	Three Months Ended June 30, 2023	Six Months Ended June 30, 2023
CET1 Capital, beginning of period	**$ 153,753**	**$ 148,930**
Net income	**2,915**	**7,521**
Common and preferred dividends declared	**(1,292)**	**(2,569)**
Net increase in treasury stock	**(985)**	**(280)**
Net increase in common stock and additional paid-in capital	**210**	**126**
Net change in CTA net of hedges, net of tax	**23**	**865**
Net change in unrealized gains (losses) on debt securities AFS, net of tax	**126**	**962**
Net increase in defined benefit plans liability adjustment, net of tax	**(136)**	**(240)**
Net change in adjustment related to change in fair value of financial liabilities attributable to own creditworthiness, net of tax	**111**	**189**
Net decrease in excluded component of fair value hedges	**11**	**23**
Net change in goodwill, net of related DTLs	**(89)**	**74**
Net change in identifiable intangible assets other than MSRs, net of related DTLs	**76**	**(120)**
Net increase in defined benefit pension plan net assets	**(66)**	**(59)**
Net decrease in DTAs arising from net operating loss, foreign tax credit and general business credit carry-forwards	**322**	**736**
Net increase in excess over 10%/15% limitations for other DTAs, certain common stock investments and MSRs	**(783)**	**(1,503)**
Net decrease in CECL transition provision	**—**	**(757)**
Other	**47**	**345**
Net increase in CET1 Capital	**$ 490**	**$ 5,313**
CET1 Capital, end of period (Standardized Approach and Advanced Approaches)	**$ 154,243**	**$ 154,243**
Additional Tier 1 Capital, beginning of period	**$ 21,496**	**$ 20,215**
Net increase in qualifying perpetual preferred stock	**—**	**1,245**
Net increase in qualifying trust preferred securities	**2**	**4**
Other	**2**	**36**
Net increase in Additional Tier 1 Capital	**$ 4**	**$ 1,285**
Tier 1 Capital, end of period (Standardized Approach and Advanced Approaches)	**$ 175,743**	**$ 175,743**
Tier 2 Capital, beginning of period (Standardized Approach)	**$ 28,337**	**$ 28,398**
Net increase in qualifying subordinated debt	**2,489**	**2,139**
Net increase in eligible allowance for credit losses	**239**	**289**
Other	**44**	**283**
Net increase in Tier 2 Capital (Standardized Approach)	**$ 2,772**	**$ 2,711**
Tier 2 Capital, end of period (Standardized Approach)	**$ 31,109**	**$ 31,109**
Total Capital, end of period (Standardized Approach)	**$ 206,852**	**$ 206,852**
Tier 2 Capital, beginning of period (Advanced Approaches)	**$ 19,749**	**$ 19,694**
Net increase in qualifying subordinated debt	**2,489**	**2,139**
Net increase in excess of eligible credit reserves over expected credit losses	**11**	**177**
Other	**44**	**283**
Net increase in Tier 2 Capital (Advanced Approaches)	**$ 2,544**	**$ 2,599**
Tier 2 Capital, end of period (Advanced Approaches)	**$ 22,293**	**$ 22,293**
Total Capital, end of period (Advanced Approaches)	**$ 198,036**	**$ 198,036**

Citigroup Risk-Weighted Assets Rollforward (Basel III Standardized Approach)

In millions of dollars	Three Months Ended June 30, 2023	Six Months Ended June 30, 2023
Total Risk-Weighted Assets, beginning of period	**$ 1,144,359**	**$ 1,142,985**
Changes in Credit Risk-Weighted Assets		
General credit risk exposures[(1)]	**4,990**	**(9,362)**
Derivatives[(2)]	**10,313**	**11,470**
Repo-style transactions[(3)]	**1,119**	**12,044**
Securitization exposures	**(364)**	**92**
Equity exposures[(4)]	**589**	**2,377**
Other exposures[(5)]	**1,683**	**3,827**
Net increase in Credit Risk-Weighted Assets	**$ 18,330**	**$ 20,448**
Changes in Market Risk-Weighted Assets		
Risk levels	**$ (6,795)**	**$ (8,876)**
Model and methodology updates	**(2,444)**	**(1,107)**
Net decrease in Market Risk-Weighted Assets[(6)]	**$ (9,239)**	**$ (9,983)**
Total Risk-Weighted Assets, end of period	**$ 1,153,450**	**$ 1,153,450**

(1) General credit risk exposures include cash and balances due from depository institutions, securities, and loans and leases. General credit risk exposures increased during the three months ended June 30, 2023, primarily due to an increase in card activities. General credit risk exposures decreased during the six months ended June 30, 2023, primarily driven by divestitures and non-strategic portfolio exits.

(2) Derivative exposures increased during the three and six months ended June 30, 2023, mainly driven by movements across multiple business areas, notably in rates and currencies.

(3) Repo-style transactions include repurchase and reverse repurchase transactions, as well as securities borrowing and securities lending transactions. Repo-style transactions increased during the three and six months ended June 30, 2023, mainly due to increased activities across multiple business areas.

(4) Equity exposures increased during the three and six months ended June 30, 2023, primarily due to increases in investment market share prices.

(5) Other exposures increased during the three and six months ended June 30, 2023, mainly driven by increases in other assets.

(6) Market risk-weighted assets decreased during the three and six months ended June 30, 2023, primarily due to exposure changes, partially offset by changes in model inputs related to volatility and correlation between market risk factors.

Citigroup Risk-Weighted Assets Rollforward (Basel III Advanced Approaches)

In millions of dollars	Three Months Ended June 30, 2023	Six Months Ended June 30, 2023
Total Risk-Weighted Assets, beginning of period	**$ 1,252,390**	**$ 1,221,538**
Changes in Credit Risk-Weighted Assets		
General credit risk exposures[(1)]	**(4,478)**	**13,130**
Derivatives[(2)]	**(8,382)**	**(3,366)**
Repo-style transactions[(3)]	**2,201**	**3,498**
Securitization exposures	**(1,561)**	**532**
Equity exposures[(4)]	**417**	**2,828**
Other exposures[(5)]	**2,764**	**6,210**
Net increase in Credit Risk-Weighted Assets	**$ (9,039)**	**$ 22,832**
Changes in Market Risk-Weighted Assets		
Risk levels	**$ (6,636)**	**$ (8,521)**
Model and methodology updates	**(2,444)**	**(1,107)**
Net decrease in Market Risk-Weighted Assets[(6)]	**$ (9,080)**	**$ (9,628)**
Net decrease in Operational Risk-Weighted Assets	**$ —**	**$ (471)**
Total Risk-Weighted Assets, end of period	**$ 1,234,271**	**$ 1,234,271**

(1) General credit risk exposures decreased during the three months ended June 30, 2023, mainly driven by loans, partly offset by an increase in card activities. General credit risk exposures increased during the six months ended June 30, 2023, primarily driven by card activities.
(2) Derivative exposures decreased during the three and six months ended June 30, 2023, mainly driven by changes in CVA.
(3) Repo-style transactions increased during the three and six months ended June 30, 2023, mainly due to increased activities across multiple business areas.
(4) Equity exposures increased during the three and six months ended June 30, 2023, primarily due to increases in investment market share prices.
(5) Other exposures increased during the three and six months ended June 30, 2023, mainly driven by increases in other assets.
(6) Market risk-weighted assets decreased during the three and six months ended June 30, 2023, primarily due to exposure changes, partially offset by changes in model inputs related to volatility and correlation between market risk factors.

Supplementary Leverage Ratio

The following table presents Citi's Supplementary Leverage ratio and related components as of June 30, 2023, March 31, 2023 and December 31, 2022:

In millions of dollars, except ratios	**June 30, 2023**	March 31, 2023	December 31, 2022
Tier 1 Capital	**$ 175,743**	$ 175,249	$ 169,145
Total Leverage Exposure			
On-balance sheet assets[1][2]	**$ 2,467,128**	$ 2,463,758	$ 2,432,823
Certain off-balance sheet exposures[3]			
Potential future exposure on derivative contracts	**144,823**	143,328	133,071
Effective notional of sold credit derivatives, net[4]	**31,833**	30,931	34,117
Counterparty credit risk for repo-style transactions[5]	**19,399**	18,255	17,169
Other off-balance sheet exposures	**318,185**	320,800	326,553
Total of certain off-balance sheet exposures	**$ 514,240**	$ 513,314	$ 510,910
Less: Tier 1 Capital deductions	**37,822**	37,328	36,960
Total Leverage Exposure	**$ 2,943,546**	$ 2,939,744	$ 2,906,773
Supplementary Leverage ratio	**5.97 %**	5.96 %	5.82 %

(1) Represents the daily average of on-balance sheet assets for the quarter.
(2) Citi's regulatory capital ratios and components reflect certain deferrals based on the modified regulatory capital transition provision related to the CECL standard. For additional information, see "Capital Resources—Regulatory Capital Treatment—Modified Transition of the Current Expected Credit Losses Methodology" in Citi's 2022 Form 10-K.
(3) Represents the average of certain off-balance sheet exposures calculated as of the last day of each month in the quarter.
(4) Under the U.S. Basel III rules, banking organizations are required to include in Total Leverage Exposure the effective notional amount of sold credit derivatives, with netting of exposures permitted if certain conditions are met.
(5) Repo-style transactions include repurchase and reverse repurchase transactions as well as securities borrowing and securities lending transactions.

As presented in the table above, Citigroup's Supplementary Leverage ratio was approximately 6.0% at June 30, 2023 and March 31, 2023, compared to approximately 5.8% at December 31, 2022. The ratio remained largely unchanged from the first quarter of 2023. The ratio increased from the fourth quarter of 2022, primarily driven by an increase in Tier 1 Capital due to year-to-date net income of $7.5 billion, partially offset by an increase in Total Leverage Exposure, largely driven by higher average on-balance sheet assets.

Capital Resources of Citigroup's Subsidiary U.S. Depository Institutions

Citigroup's subsidiary U.S. depository institutions are also subject to regulatory capital standards issued by their respective primary bank regulatory agencies, which are similar to the standards of the Federal Reserve Board.

The following tables present the capital components and ratios for Citibank, Citi's primary subsidiary U.S. depository institution, as of June 30, 2023, March 31, 2023 and December 31, 2022:

		Advanced Approaches			Standardized Approach		
In millions of dollars, except ratios	**Required Capital Ratios[1]**	**June 30, 2023**	March 31, 2023	December 31, 2022	**June 30, 2023**	March 31, 2023	December 31, 2022
CET1 Capital[2]		**$ 150,482**	$ 151,724	$ 149,593	**$ 150,482**	$ 151,724	$ 149,593
Tier 1 Capital[2]		**152,612**	153,853	151,720	**152,612**	153,853	151,720
Total Capital (Tier 1 Capital + Tier 2 Capital)[2][3]		**165,840**	167,065	165,131	**173,517**	174,608	172,647
Total Risk-Weighted Assets		**1,041,217**	1,038,394	1,003,747	**986,744**	968,749	982,914
Credit Risk[2]		**$ 758,445**	$ 762,148	$ 728,082	**$ 944,565**	$ 932,787	$ 948,150
Market Risk		**42,058**	35,532	34,403	**42,179**	35,962	34,764
Operational Risk		**240,714**	240,714	241,262	**—**	—	—
CET1 Capital ratio[4][5]	**7.0 %**	**14.45 %**	14.61 %	14.90 %	**15.25 %**	15.66 %	15.22 %
Tier 1 Capital ratio[4][5]	**8.5**	**14.66**	14.82	15.12	**15.47**	15.88	15.44
Total Capital ratio[4][5]	**10.5**	**15.93**	16.09	16.45	**17.58**	18.02	17.56

In millions of dollars, except ratios	**Required Capital Ratios**	**June 30, 2023**	March 31, 2023	December 31, 2022
Quarterly Adjusted Average Total Assets[2][6]		**$ 1,716,982**	$ 1,743,596	$ 1,738,744
Total Leverage Exposure[2][7]		**2,162,693**	2,191,870	2,189,541
Leverage ratio[5]	**5.0 %**	**8.89 %**	8.82 %	8.73 %
Supplementary Leverage ratio[5]	**6.0**	**7.06**	7.02	6.93

(1) Citibank's required risk-based capital ratios are inclusive of the 2.5% Capital Conservation Buffer (all of which must be composed of CET1 Capital).

(2) Citibank's regulatory capital ratios and components reflect certain deferrals based on the modified regulatory capital transition provision related to the CECL standard. For additional information, see "Capital Resources—Regulatory Capital Treatment—Modified Transition of the Current Expected Credit Losses Methodology" in Citi's 2022 Form 10-K.

(3) Under the Standardized Approach, the allowance for credit losses is eligible for inclusion in Tier 2 Capital up to 1.25% of credit risk-weighted assets, with any excess allowance for credit losses being deducted in arriving at credit risk-weighted assets, which differs from the Advanced Approaches framework, in which eligible credit reserves that exceed expected credit losses are eligible for inclusion in Tier 2 Capital to the extent that the excess reserves do not exceed 0.6% of credit risk-weighted assets.

(4) Citibank's binding CET1 Capital, Tier 1 Capital and Total Capital ratios were derived under the Basel III Advanced Approaches framework for all periods presented.

(5) Citibank must maintain required CET1 Capital, Tier 1 Capital, Total Capital and Leverage ratios of 6.5%, 8.0%, 10.0% and 5.0%, respectively, to be considered "well capitalized" under the revised Prompt Corrective Action (PCA) regulations applicable to insured depository institutions as established by the U.S. Basel III rules. Citibank must also maintain a required Supplementary Leverage ratio of 6.0% to be considered "well capitalized."

(6) Leverage ratio denominator. Represents quarterly average total assets less amounts deducted from Tier 1 Capital.

(7) Supplementary Leverage ratio denominator.

As indicated in the table above, Citibank's capital ratios at June 30, 2023 were in excess of the regulatory capital requirements under the U.S. Basel III rules. In addition, Citibank was "well capitalized" as of June 30, 2023.

As presented in the table above, Citibank's Supplementary Leverage ratio was 7.1% at June 30, 2023 and 7.0% at March 31, 2023, compared to 6.9% at December 31, 2022. The quarter-over-quarter increase was primarily driven by an increase in Tier 1 Capital due to net income in the second quarter of 2023, partially offset by dividends, and a decrease in Total Leverage Exposure, primarily driven by higher average on-balance sheet assets. The year-to-date increase was primarily driven by an increase in Tier 1 Capital due to net income in 2023, partially offset by dividends, and a decrease in Total Leverage Exposure, primarily driven by higher average on-balance sheet assets and off-balance sheet exposures.

Impact of Changes on Citigroup and Citibank Capital Ratios

The following tables present the estimated sensitivity of Citigroup's and Citibank's capital ratios to changes of $100 million in CET1 Capital, Tier 1 Capital and Total Capital (numerator), and changes of $1 billion in Advanced Approaches and Standardized Approach risk-weighted assets and quarterly adjusted average total assets, as well as Total Leverage Exposure (denominator), as of June 30, 2023. This information is provided for the purpose of analyzing the impact that a change in Citigroup's or Citibank's financial position or results of operations could have on these ratios. These sensitivities only consider a single change to either a component of capital, risk-weighted assets, quarterly adjusted average total assets or Total Leverage Exposure. Accordingly, an event that affects more than one factor may have a larger basis point impact than is reflected in these tables.

	Common Equity Tier 1 Capital ratio		Tier 1 Capital ratio		Total Capital ratio	
In basis points	Impact of $100 million change in Common Equity Tier 1 Capital	Impact of $1 billion change in risk-weighted assets	Impact of $100 million change in Tier 1 Capital	Impact of $1 billion change in risk-weighted assets	Impact of $100 million change in Total Capital	Impact of $1 billion change in risk-weighted assets
Citigroup						
Advanced Approaches	**0.8**	**1.0**	**0.8**	**1.2**	**0.8**	**1.3**
Standardized Approach	**0.9**	**1.2**	**0.9**	**1.3**	**0.9**	**1.6**
Citibank						
Advanced Approaches	**1.0**	**1.4**	**1.0**	**1.4**	**1.0**	**1.5**
Standardized Approach	**1.0**	**1.5**	**1.0**	**1.6**	**1.0**	**1.8**

	Leverage ratio		Supplementary Leverage ratio	
In basis points	Impact of $100 million change in Tier 1 Capital	Impact of $1 billion change in quarterly adjusted average total assets	Impact of $100 million change in Tier 1 Capital	Impact of $1 billion change in Total Leverage Exposure
Citigroup	**0.4**	**0.3**	**0.3**	**0.2**
Citibank	**0.6**	**0.5**	**0.5**	**0.3**

Citigroup Broker-Dealer Subsidiaries

At June 30, 2023, Citigroup Global Markets Inc., a U.S. broker-dealer registered with the SEC that is an indirect wholly owned subsidiary of Citigroup, had net capital, computed in accordance with the SEC's net capital rule, of $15 billion, which exceeded the minimum requirement by $11 billion.

Moreover, Citigroup Global Markets Limited, a broker-dealer registered with the United Kingdom's Prudential Regulation Authority (PRA) that is also an indirect wholly owned subsidiary of Citigroup, had total regulatory capital of $27 billion at June 30, 2023, which exceeded the PRA's minimum regulatory capital requirements.

In addition, certain of Citi's other broker-dealer subsidiaries are subject to regulation in the countries in which they do business, including requirements to maintain specified levels of net capital or its equivalent. Citigroup's other principal broker-dealer subsidiaries were in compliance with their regulatory capital requirements at June 30, 2023.

Total Loss-Absorbing Capacity (TLAC)

The table below details Citi's eligible external TLAC and long-term debt (LTD) amounts and ratios, and each TLAC and LTD regulatory requirement, as well as the surplus amount in dollars in excess of each requirement:

	June 30, 2023	
In billions of dollars, except ratios	**External TLAC**	**LTD**
Total eligible amount	**$ 338**	**$ 154**
% of Advanced Approaches risk-weighted assets	**27.4 %**	**12.5 %**
Regulatory requirement[1][2]	**22.5**	**9.5**
Surplus amount	**$ 60**	**$ 37**
% of Total Leverage Exposure	**11.5 %**	**5.2 %**
Regulatory requirement	**9.5**	**4.5**
Surplus amount	**$ 58**	**$ 22**

(1) External TLAC includes method 1 GSIB surcharge of 2.0%.
(2) LTD includes method 2 GSIB surcharge of 3.5%.

As of June 30, 2023, Citi exceeded each of the TLAC and LTD regulatory requirements, resulting in a $22 billion surplus above its binding TLAC requirement of LTD as a percentage of Total Leverage Exposure.

For additional information on Citi's TLAC-related requirements, see "Capital Resources—Total Loss-Absorbing Capacity (TLAC)" in Citi's 2022 Form 10-K.

Capital Resources (Full Adoption of CECL)[1]

The following tables present Citigroup's and Citibank's capital components and ratios under a hypothetical scenario where the full impact of CECL is reflected as of June 30, 2023:

	Citigroup				Citibank		
	Required Capital Ratios, Advanced Approaches	Required Capital Ratios, Standardized Approach	Advanced Approaches	Standardized Approach	Required Capital Ratios[2]	Advanced Approaches	Standardized Approach
CET1 Capital ratio	**10.5 %**	**12.0 %**	**12.35 %**	**13.21 %**	**7.0 %**	**14.32 %**	**15.11 %**
Tier 1 Capital ratio	**12.0**	**13.5**	**14.09**	**15.08**	**8.5**	**14.53**	**15.33**
Total Capital ratio	**14.0**	**15.5**	**15.90**	**17.78**	**10.5**	**15.80**	**17.45**

	Required Capital Ratios	Citigroup	Required Capital Ratios	Citibank
Leverage ratio	**4.0 %**	**7.15 %**	**5.0 %**	**8.81 %**
Supplementary Leverage ratio	**5.0**	**5.90**	**6.0**	**6.99**

(1) See footnote 2 on the "Components of Citigroup Capital" table above.
(2) Citibank's required capital ratios were the same under the Standardized Approach and the Advanced Approaches framework.

Regulatory Capital Standards and Developments

Basel III Revisions

On July 27, 2023, the U.S. banking agencies issued a notice of proposed rulemaking, known as the Basel III Endgame (capital proposal), that would amend U.S. regulatory capital requirements.

The capital proposal would maintain the current capital rule's dual-requirement structure for risk-weighted assets but would eliminate the use of internal models to calculate credit risk and operational risk components of risk-weighted assets. Large banking organizations, such as Citi, would be required to calculate their risk-based capital ratios under both the new expanded risk-based approach and the Standardized Approach and use the lower of the two for each risk-based capital ratio for determining the binding constraints.

The expanded risk-based approach is designed to align with the international capital standards adopted by the Basel Committee on Banking Supervision (Basel Committee). The Basel Committee finalized the Basel III reforms in December 2017, which included revisions to the methodologies to determine credit, market and operational risk-weighted asset amounts.

If adopted as proposed, the capital proposal's impact on risk-weighted asset amounts would also affect several other requirements including TLAC, external long-term debt and the short-term wholesale funding score included in the GSIB surcharge under method 2 (see "GSIB Surcharge" below for additional changes in that area). The proposal has a three-year transition period that would begin on July 1, 2025. Citi is currently reviewing the proposal and will participate in the 120-day comment period. For additional information, see "Executive Summary" above.

GSIB Surcharge

Separately, the FRB proposed changes to the GSIB surcharge rule that aim to make it more risk sensitive. Proposed changes include measuring certain systemic indicators on a daily versus quarterly average basis, changing certain of the risk indicators, and shortening the time to come into compliance with each year's surcharge. In addition, the proposal would narrow surcharge bands under method 2 from 50 bps to 10 bps to reduce cliff effects when moving between bands. This proposal is also subject to a 120-day comment period and provides that it would be effective two full calendar quarters after its finalization.

Tangible Common Equity, Book Value Per Share, Tangible Book Value Per Share and Return on Equity

Tangible common equity (TCE), as defined by Citi, represents common stockholders' equity less goodwill and identifiable intangible assets (other than mortgage servicing rights (MSRs)). Return on tangible common equity (RoTCE) represents annualized net income available to common shareholders as a percentage of average TCE. Tangible book value per share (TBVPS) represents average TCE divided by average common shares outstanding. Other companies may calculate these measures differently. TCE, RoTCE and TBVPS are non-GAAP financial measures.

In millions of dollars or shares, except per share amounts	**June 30, 2023**	December 31, 2022
Total Citigroup stockholders' equity	**$ 208,719**	$ 201,189
Less: Preferred stock	**20,245**	18,995
Common stockholders' equity	**$ 188,474**	$ 182,194
Less:		
Goodwill	**19,998**	19,691
Identifiable intangible assets (other than MSRs)	**3,895**	3,763
Goodwill and identifiable intangible assets (other than MSRs) related to assets held-for-sale (HFS)	**246**	589
Tangible common equity (TCE)	**$ 164,335**	$ 158,151
Common shares outstanding (CSO)	**1,925.7**	1,937.0
Book value per share (common stockholders' equity/CSO)	**$ 97.87**	$ 94.06
Tangible book value per share (TCE/CSO)	**85.34**	81.65

	Three Months Ended June 30,		**Six Months Ended June 30,**	
In millions of dollars	**2023**	2022	**2023**	2022
Net income available to common shareholders	**$ 2,627**	$ 4,309	**$ 6,956**	$ 8,336
Average common stockholders' equity	**188,214**	178,981	**186,161**	180,075
Average TCE	**164,142**	154,439	**162,145**	155,318
Return on average common stockholders' equity	**5.6 %**	9.7 %	**7.5 %**	9.3 %
RoTCE	**6.4**	11.2	**8.7**	10.8

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(1) For additional information regarding certain credit risk, market risk and other quantitative and qualitative information, refer to Citi's Pillar 3 Basel III Advanced Approaches Disclosures, as required by the rules of the Federal Reserve Board, on Citi's Investor Relations website.

MANAGING GLOBAL RISK

For Citi, effective risk management is of primary importance to its overall operations. Accordingly, Citi's risk management process has been designed to monitor, evaluate and manage the principal risks it assumes in conducting its activities. Specifically, the activities that Citi engages in, and the risks those activities generate, must be consistent with Citi's Mission and Value Proposition and the key Leadership Principles that support it, as well as Citi's risk appetite. For more information on managing global risk at Citi, see "Managing Global Risk" in Citi's 2022 Form 10-K.

CREDIT RISK

For more information on credit risk, including Citi's credit risk management, measurement and stress testing, and Citi's consumer and corporate credit portfolios, see "Credit Risk" and "Risk Factors" in Citi's 2022 Form 10-K.

Loans

The table below details the average loans, by business and/or segment, and the total Citigroup end-of-period loans for each of the periods indicated:

In billions of dollars	**2Q23**	1Q23	2Q22
Personal Banking and Wealth Management			
U.S. Retail banking	**$ 40**	$ 38	$ 34
U.S. Cards	**149**	146	133
Global Wealth	**150**	149	150
Total	**$ 339**	$ 333	$ 317
Institutional Clients Group			
Services	**$ 80**	$ 79	$ 85
Banking	**185**	191	199
Markets	**13**	13	13
Total	**$ 278**	$ 283	$ 297
Total *Legacy Franchises*[(1)]	**$ 37**	$ 38	$ 43
Total Citigroup loans (AVG)	**$ 654**	$ 654	$ 657
Total Citigroup loans (EOP)	**$ 661**	$ 652	$ 657

(1) See footnote 2 to the table in "Credit Risk—Consumer Credit—Consumer Credit Portfolio" below.

Citi's loan portfolio is well diversified across consumer and corporate loans, with an aggregate duration of 1.2 years, as a majority of loans are at variable rates.

On an average basis, loans were largely unchanged year-over-year and sequentially as growth in *PBWM* was offset by a decline in *ICG* and *Legacy Franchises. PBWM* average loans increased 7% year-over-year, primarily driven by loan growth in cards, mortgages and installment lending. *ICG* average loans decreased 6% year-over-year, reflecting actions taken to reduce RWA. *Legacy Franchises* average loans decreased 14%, primarily reflecting the impact of the continued wind-downs, particularly in Korea, partially offset by higher lending volumes in Mexico Consumer.

End-of-period loans increased 1% year-over-year, as growth in *PBWM*, reflecting an increase in U.S. Personal Banking, was largely offset by declines in *ICG* and *Legacy Franchises.* End-of-period loans increased 1% sequentially.

CORPORATE CREDIT

The following table details Citi's corporate credit portfolio within *ICG* and the Mexico SBMM component of *Legacy Franchises* (excluding certain loans managed on a delinquency basis, loans carried at fair value and loans held-for-sale), and before consideration of collateral or hedges, by remaining tenor for the periods indicated:

	June 30, 2023				March 31, 2023				December 31, 2022			
In billions of dollars	**Due within 1 year**	**Greater than 1 year but within 5 years**	**Greater than 5 years**	**Total exposure**	Due within 1 year	Greater than 1 year but within 5 years	Greater than 5 years	Total exposure	Due within 1 year	Greater than 1 year but within 5 years	Greater than 5 years	Total exposure
Direct outstandings (on-balance sheet)[1]	**$ 127**	**$ 118**	**$ 35**	**$ 280**	$ 124	$ 124	$ 35	$ 283	$ 134	$ 122	$ 27	$ 283
Unfunded lending commitments (off-balance sheet)[2]	**135**	**260**	**16**	**411**	126	256	16	398	140	256	10	406
Total exposure	**$ 262**	**$ 378**	**$ 51**	**$ 691**	$ 250	$ 380	$ 51	$ 681	$ 274	$ 378	$ 37	$ 689

(1) Includes drawn loans, overdrafts, bankers' acceptances and leases.
(2) Includes unused commitments to lend, letters of credit and financial guarantees.

Portfolio Mix—Geography and Counterparty

Citi's corporate credit portfolio is diverse across geography and counterparty. The following table presents the percentage of this portfolio by region based on Citi's internal management geography:

	June 30, 2023	March 31, 2023	December 31, 2022
North America	**56 %**	56 %	56 %
EMEA	**25**	25	25
Asia	**12**	12	12
Latin America	**7**	7	7
Total	**100 %**	100 %	100 %

The maintenance of accurate and consistent risk ratings across the corporate credit portfolio facilitates the comparison of credit exposure across all lines of business, geographic regions and products. Counterparty risk ratings reflect an estimated probability of default for a counterparty, and internal risk ratings are derived by leveraging validated statistical models and scorecards in combination with consideration of factors specific to the obligor or market, such as management experience, competitive position, regulatory environment and commodity prices. Facility risk ratings are assigned that reflect the probability of default of the obligor and factors that affect the loss given default of the facility, such as support or collateral. Internal obligor ratings that generally correspond to BBB and above are considered investment grade, while those below are considered non-investment grade.

The following table presents the corporate credit portfolio by facility risk rating as a percentage of the total corporate credit portfolio:

	Total exposure		
	June 30, 2023	March 31, 2023	December 31, 2022
AAA/AA/A	**49 %**	50 %	50 %
BBB	**34**	33	34
BB/B	**15**	15	14
CCC or below	**2**	2	2
Total	**100 %**	100 %	100 %

Note: Total exposure includes direct outstandings and unfunded lending commitments.

In addition to the obligor and facility risk ratings assigned to all exposures, Citi may classify exposures in the corporate credit portfolio. These classifications are consistent with Citi's interpretation of the U.S. banking regulators' definition of criticized exposures, which may categorize exposures as special mention, substandard, doubtful or loss.

Risk ratings and classifications are reviewed regularly and adjusted as appropriate. The credit review process incorporates quantitative and qualitative factors, including financial and non-financial disclosures or metrics, idiosyncratic events or changes to the competitive, regulatory or macroeconomic environment.

Citi believes the corporate credit portfolio to be appropriately rated and classified as of June 30, 2023. Citi has taken action to adjust internal ratings and classifications of exposures as both the macroeconomic environment and obligor-specific factors have changed, particularly where additional stress has been seen.

As obligor risk ratings are downgraded, the probability of default increases. Downgrades of obligor risk ratings tend to result in a higher provision for credit losses. In addition, appetite per obligor is reduced consistent with the ratings, and downgrades may result in the purchase of additional credit derivatives or other risk/structural mitigants to hedge the incremental credit risk, or may result in Citi's seeking to reduce exposure to an obligor or an industry sector. Citi will continue to review exposures to ensure that the appropriate probability of default is incorporated into all risk assessments.

See Note 13 for additional information on Citi's corporate credit portfolio.

Portfolio Mix—Industry

Citi's corporate credit portfolio is diversified by industry. The following table details the allocation of Citi's total corporate credit portfolio by industry:

	Total exposure		
	June 30, 2023	March 31, 2023	December 31, 2022
Transportation and industrials	**21 %**	21 %	20 %
Technology, media and telecom	**12**	12	12
Consumer retail	**12**	12	11
Real estate	**10**	10	10
Commercial	**8**	8	8
Residential	**2**	2	2
Banks and finance companies[(1)]	**10**	10	10
Power, chemicals, metals and mining	**9**	9	9
Energy and commodities	**7**	7	7
Health	**6**	5	6
Insurance	**4**	4	4
Asset managers and funds	**3**	4	5
Public sector	**3**	3	3
Financial markets infrastructure	**2**	2	2
Other industries	**1**	1	1
Total	**100 %**	100 %	100 %

(1) As of the periods in the table, Citi had less than 1% exposure to securities firms. See corporate credit portfolio by industry, below.

The following table details Citi's corporate credit portfolio by industry as of June 30, 2023:

					Non-investment grade			Selected metrics		
In millions of dollars	Total credit exposure	Funded[1]	Unfunded[1]	Investment grade	Non-criticized	Criticized performing	Criticized non-performing[2]	30 days or more past due and accruing	Net credit losses (recoveries)	Credit derivative hedges[3]
Transportation and industrials	**$ 143,468**	**$ 58,248**	**$ 85,220**	**$ 112,885**	**$ 23,826**	**$ 6,452**	**$ 305**	**$ 169**	**$ 28**	**$ (7,471)**
Autos[4]	47,759	21,016	26,743	41,253	5,187	1,268	51	9	18	(2,444)
Transportation	26,137	10,325	15,812	18,924	4,842	2,286	85	15	8	(1,234)
Industrials	69,572	26,907	42,665	52,708	13,797	2,898	169	145	2	(3,793)
Technology, media and telecom	**81,826**	**28,948**	**52,878**	**65,469**	**12,272**	**3,769**	**316**	**101**	**13**	**(6,323)**
Consumer retail	**81,114**	**34,327**	**46,787**	**64,081**	**13,672**	**3,102**	**259**	**142**	**13**	**(5,373)**
Real estate	**69,162**	**48,142**	**21,020**	**61,329**	**4,018**	**3,640**	**175**	**57**	**5**	**(681)**
Commercial	54,395	35,155	19,240	46,639	4,012	3,569	175	57	5	(681)
Residential	14,767	12,987	1,780	14,690	6	71	—	—	—	—
Banks and finance companies	**71,627**	**43,277**	**28,350**	**60,984**	**9,138**	**1,360**	**145**	**12**	**31**	**(801)**
Power, chemicals, metals and mining	**60,783**	**19,869**	**40,914**	**47,267**	**11,649**	**1,706**	**161**	**149**	**8**	**(4,964)**
Power	24,033	4,878	19,155	19,936	3,371	598	128	22	7	(2,239)
Chemicals	22,477	8,658	13,819	17,252	4,503	711	11	44	1	(2,084)
Metals and mining	14,273	6,333	7,940	10,079	3,775	397	22	83	—	(641)
Energy and commodities[5]	**44,895**	**12,799**	**32,096**	**37,771**	**5,970**	**1,040**	**114**	**43**	**(12)**	**(3,337)**
Health	**38,213**	**9,560**	**28,653**	**32,247**	**4,457**	**1,360**	**149**	**22**	**7**	**(2,935)**
Insurance	**29,640**	**4,101**	**25,539**	**28,732**	**884**	**24**	**—**	**9**	**—**	**(4,775)**
Asset managers and funds	**23,503**	**6,384**	**17,119**	**21,880**	**1,537**	**73**	**13**	**227**	**—**	**(272)**
Public sector	**24,042**	**10,849**	**13,193**	**20,839**	**2,732**	**462**	**9**	**23**	**4**	**(1,562)**
Financial markets infrastructure	**16,701**	**141**	**16,560**	**16,701**	**—**	**—**	**—**	**66**	**—**	**(7)**
Securities firms	**1,216**	**292**	**924**	**788**	**395**	**33**	**—**	**5**	**—**	**(2)**
Other industries	**5,139**	**2,914**	**2,225**	**3,157**	**1,717**	**252**	**13**	**40**	**—**	**(10)**
Total	**$ 691,329**	**$ 279,851**	**$ 411,478**	**$ 574,130**	**$ 92,267**	**$ 23,273**	**$ 1,659**	**$ 1,065**	**$ 97**	**$ (38,513)**

(1) Excludes $0.6 billion and $0.1 billion of funded and unfunded exposure at June 30, 2023, respectively, primarily related to the delinquency-managed loans. Funded balances also exclude loans carried at fair value of $5.5 billion at June 30, 2023.

(2) Includes non-accrual loan exposures and criticized unfunded exposures.

(3) Represents the amount of purchased credit protection in the form of derivatives to economically hedge funded and unfunded exposures. Of the $38.5 billion of purchased credit protection, $35.9 billion represents the total notional amount of purchased credit derivatives on individual reference entities. The remaining $2.6 billion represents the first loss tranche of portfolios of purchased credit derivatives with a total notional of $20.9 billion, where the protection seller absorbs the first loss on the referenced loan portfolios.

(4) Autos total credit exposure includes securitization financing facilities secured by auto loans and leases, extended mainly to the finance company subsidiaries of global auto manufacturers, bank subsidiaries and independent auto finance companies, of approximately $16.9 billion ($8.7 billion in funded, with 100% rated investment grade) as of June 30, 2023.

(5) In addition to this exposure, Citi has energy-related exposure within the public sector (e.g., energy-related state-owned entities) and the transportation and industrials sector (e.g., off-shore drilling entities) included in the table above. As of June 30, 2023, Citi's total exposure to these energy-related entities was approximately $4.8 billion, of which approximately $2.4 billion consisted of direct outstanding funded loans.

Exposure to Commercial Real Estate

As of June 30, 2023, Citi's total credit exposure to commercial real estate (CRE) was $66 billion (unchanged from March 31, 2023), including $8 billion of exposure related to office buildings. This total CRE exposure consisted of (i) approximately $55 billion related to corporate clients (unchanged from March 31, 2023), mainly included in the real estate category in the table above, and (ii) approximately $11 billion related to Private bank clients (unchanged from March 31, 2023) within *PBWM* that is not in the table above as they are not considered corporate exposures.

In addition, as of June 30, 2023, approximately 87% of Citi's total CRE exposure was rated investment grade and more than 76% was to borrowers in the U.S.

As of June 30, 2023, the ACLL attributed to the total funded CRE exposure (including the Private bank) was approximately 1.24%, and there were $160 million of non-accrual CRE loans.

The following table details Citi's corporate credit portfolio by industry as of December 31, 2022:

				Non-investment grade			Selected metrics		
In millions of dollars	Total credit exposure	Funded[1]	Unfunded[1]	Investment grade	Non-criticized	Criticized performing	Criticized non-performing[2]	30 days or more past due and accruing	Net credit losses (recoveries)	Credit derivative hedges[3]
Transportation and industrials	$ 139,225	$ 57,271	$ 81,954	$ 109,197	$ 19,697	$ 9,850	$ 481	$ 403	$ —	$ (8,459)
Autos[4]	47,482	21,995	25,487	40,795	5,171	1,391	125	52	—	(3,084)
Transportation	24,843	10,374	14,469	18,078	3,156	3,444	165	57	(30)	(1,270)
Industrials	66,900	24,902	41,998	50,324	11,370	5,015	191	294	30	(4,105)
Technology, media and telecom	81,211	28,931	52,280	65,386	12,308	3,308	209	169	11	(6,050)
Consumer retail	78,255	32,687	45,568	60,215	14,830	2,910	300	195	28	(5,395)
Real estate	70,676	48,539	22,137	63,023	4,722	2,881	50	138	2	(739)
Commercial	54,139	34,112	20,027	46,670	4,716	2,703	50	96	2	(739)
Residential	16,537	14,427	2,110	16,353	6	178	—	42	—	—
Banks and finance companies	65,623	42,276	23,347	57,368	5,718	2,387	150	266	65	(1,113)
Power, chemicals, metals and mining	59,404	18,326	41,078	47,395	10,466	1,437	106	226	34	(5,063)
Power	22,718	4,827	17,891	18,822	3,325	512	59	129	(3)	(2,306)
Chemicals	23,147	7,765	15,382	19,033	3,534	564	16	55	30	(2,098)
Metals and mining	13,539	5,734	7,805	9,540	3,607	361	31	42	7	(659)
Energy and commodities[5]	46,309	13,069	33,240	38,918	6,076	1,200	115	180	11	(3,852)
Health	41,836	8,771	33,065	36,954	3,737	978	167	84	7	(2,855)
Insurance	29,932	4,417	25,515	29,090	801	41	—	44	—	(3,884)
Asset managers and funds	35,983	13,162	22,821	34,431	1,492	60	—	95	—	(759)
Public sector	23,705	11,736	11,969	20,663	2,084	956	2	77	4	(1,633)
Financial markets infrastructure	8,742	60	8,682	8,672	70	—	—	—	—	(18)
Securities firms	1,462	569	893	625	678	157	2	2	—	(2)
Other industries	6,697	3,651	3,046	4,842	1,568	238	49	19	16	(8)
Total	$ 689,060	$ 283,465	$ 405,595	$ 576,779	$ 84,247	$ 26,403	$ 1,631	$ 1,898	$ 178	$ (39,830)

(1) Excludes $0.6 billion and $0.1 billion of funded and unfunded exposure at December 31, 2022, respectively, primarily related to the delinquency-managed loans. Funded balances also exclude loans carried at fair value of $5.1 billion at December 31, 2022.

(2) Includes non-accrual loan exposures and criticized unfunded exposures.

(3) Represents the amount of purchased credit protection in the form of derivatives to economically hedge funded and unfunded exposures. Of the $39.8 billion of purchased credit protection, $36.6 billion represents the total notional amount of purchased credit derivatives on individual reference entities. The remaining $3.2 billion represents the first loss tranche of portfolios of purchased credit derivatives with a total notional of $27.6 billion, where the protection seller absorbs the first loss on the referenced loan portfolios.

(4) Autos total credit exposure includes securitization financing facilities secured by auto loans and leases, extended mainly to the finance company subsidiaries of global auto manufacturers, bank subsidiaries and independent auto finance companies, of approximately $17.4 billion ($10.3 billion in funded, with more than 99% rated investment grade) as of December 31, 2022.

(5) In addition to this exposure, Citi has energy-related exposure within the public sector (e.g., energy-related state-owned entities) and the transportation and industrials sector (e.g., off-shore drilling entities) included in the table above. As of December 31, 2022, Citi's total exposure to these energy-related entities was approximately $4.7 billion, of which approximately $2.4 billion consisted of direct outstanding funded loans.

Credit Risk Mitigation

As part of its overall risk management activities, Citigroup uses credit derivatives and other risk mitigants to hedge portions of the credit risk in its corporate credit portfolio, in addition to outright asset sales. Citi may enter into partial-term hedges as well as full-term hedges. In advance of the expiration of partial-term hedges, Citi will determine, among other factors, the economic feasibility of hedging the remaining life of the instrument. The results of the mark-to-market and any realized gains or losses on credit derivatives are reflected primarily in *Principal transactions* in the Consolidated Statement of Income.

At June 30, 2023, March 31, 2023 and Dec 31, 2022, *ICG* had economic hedges on the corporate credit portfolio of $38.5 billion, $39.8 billion and $39.8 billion, respectively. Citi's expected credit loss model used in the calculation of its ACL does not include the favorable impact of credit derivatives and other mitigants that are marked-to-market. In addition, the reported amounts of direct outstandings and unfunded lending commitments in the tables above do not reflect the impact of these hedging transactions. The credit protection was economically hedging underlying *ICG* corporate credit portfolio exposures with the following risk rating distribution:

Rating of Hedged Exposure

	June 30, 2023	March 31, 2023	December 31, 2022
AAA/AA/A	**42 %**	42 %	39 %
BBB	**43**	44	45
BB/B	**13**	11	12
CCC or below	**2**	3	4
Total	**100 %**	100 %	100 %

CONSUMER CREDIT

Consumer Credit Portfolio

The following table presents Citi's quarterly end-of-period consumer loans[1]:

In billions of dollars	2Q22[2]	3Q22[2]	4Q22[2]	1Q23[2]	**2Q23[2]**
Personal Banking and Wealth Management					
U.S. Personal Banking					
Cards					
Branded cards	$ 91.6	$ 93.7	$ 100.2	$ 97.1	**$ 103.0**
Retail services	45.8	46.7	50.5	48.4	**50.0**
Retail banking					
Mortgages[5]	32.3	32.3	33.4	35.3	**37.4**
Personal, small business and other	3.1	3.5	3.7	3.9	**4.1**
Global Wealth[3][4]					
Cards	4.0	4.0	4.6	4.4	**4.5**
Mortgages[5]	77.8	82.0	84.0	85.2	**87.0**
Personal, small business and other[6]	67.0	65.1	60.6	60.3	**59.0**
Total	**$ 321.6**	**$ 327.3**	**$ 337.0**	**$ 334.6**	**$ 345.0**
Legacy Franchises					
Asia Consumer[7]	$ 17.3	$ 13.4	$ 13.3	$ 10.0	**$ 9.1**
Mexico Consumer (excludes Mexico SBMM)	13.5	13.7	14.8	16.3	**17.8**
Legacy Holdings Assets[8]	3.2	3.2	3.0	2.8	**2.7**
Total	**$ 34.0**	**$ 30.3**	**$ 31.1**	**$ 29.1**	**$ 29.6**
Total consumer loans	**$ 355.6**	**$ 357.6**	**$ 368.1**	**$ 363.7**	**$ 374.6**

(1) End-of-period loans include interest and fees on credit cards.

(2) Asia Consumer loan balances, reported within *Legacy Franchises*, exclude any loans reclassified to held-for-sale (HFS) as of the date Citi enters into a sale agreement for the respective Asia Consumer banking business. These reclassified HFS loans are instead reported in *Other assets* on the Consolidated Balance Sheet until sale closing. The remaining Asia Consumer loan portfolios—China, Korea, Russia and Poland—are held-for-investment and included in end-of-period consumer loans for all periods presented. All HFS portfolios were reclassified prior to the end of 1Q22 except for a $1.8 billion portfolio, which was moved to HFS in 1Q23.

(3) Consists of $99.5 billion, $98.9 billion, $98.2 billion, $99.3 billion and $94.6 billion of loans in North America as of June 30, 2023, March 31, 2023, December 31, 2022, September 30, 2022 and June 30, 2022, respectively. For additional information on the credit quality of the Global Wealth portfolio, see Note 13.

(4) Consists of $51.0 billion, $51.0 billion, $51.0 billion, $51.8 billion and $54.2 billion of loans outside North America as of June 30, 2023, March 31, 2023, December 31, 2022, September 30, 2022 and June 30, 2022, respectively.

(5) See Note 13 for details on loan-to-value ratios for the portfolios and FICO scores for the U.S. portfolio.

(6) At June 30, 2023, includes approximately $48 billion of classifiably managed loans. Over 90% of these loans are fully collateralized (consisting primarily of marketable investment securities, commercial real estate and limited partner capital commitments in private equity) and have experienced very low historical net credit losses (NCLs). As discussed below, approximately 97% of the classifiably managed portion of these loans are investment grade. See "Consumer Loan Delinquencies Amounts and Ratios" below for details on the delinquency-managed portfolio.

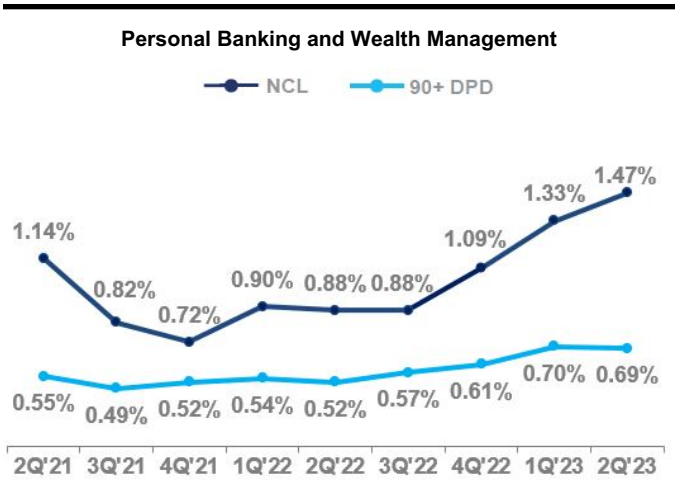
(7) Asia Consumer also includes loans and leases in certain EMEA countries for all periods presented.

(8) Primarily consists of certain North America consumer mortgages.

For information on changes to Citi's consumer loans, see "Credit Risk—Loans" above.

Consumer Credit Trends

Personal Banking and Wealth Management (PBWM)

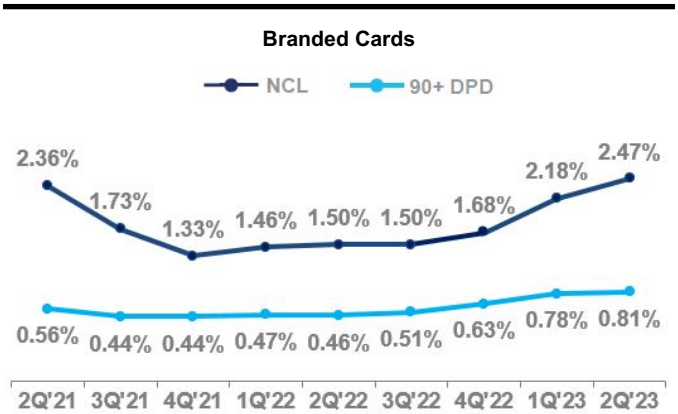


As indicated above, *PBWM* consists of U.S. Personal Banking and Global Wealth Management (Global Wealth). U.S. Personal Banking provides card products through Branded cards and Retail services, and also includes mortgages and home equity, small business and personal consumer loans through Citi's Retail banking network. The Retail bank is concentrated in six major U.S. metropolitan areas. Global Wealth provides investment services, cards, mortgages and personal, small business and other consumer loans through the Private bank, Wealth at Work and Citigold.

As of June 30, 2023, 44% of *PBWM* consumer loans consisted of U.S. cards loans. U.S. cards net credit losses represented approximately 93% of total *PBWM* losses.

As shown in the chart above, the second quarter of 2023 net credit loss rate in *PBWM* increased quarter-over-quarter and year-over-year, driven by a continued increase in net flow rates, primarily reflecting ongoing normalization from recent low levels in U.S. cards.

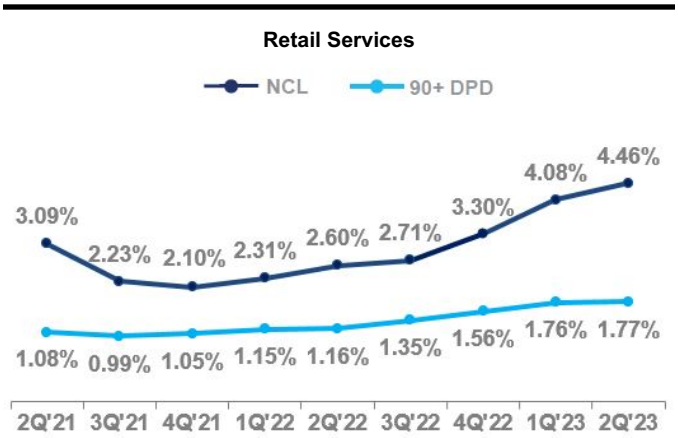
PBWM's 90+ days past due delinquency rate was broadly stable quarter-over-quarter, and increased year-over-year. The year-over-year increase was largely driven by a continued increase in net flow rates, primarily reflecting the ongoing normalization in U.S. cards.



U.S. Personal Banking's Branded cards portfolio includes proprietary and co-branded cards.

As shown in the chart above, the second quarter of 2023 net credit loss rate in Branded cards increased quarter-over-quarter and year-over-year, driven by a continued increase in net flow rates, primarily reflecting ongoing normalization toward pre-pandemic levels from recent low levels (for example, the 4Q'19 and 1Q'20 net credit loss rates were 3.10% and 3.40%, respectively).

The 90+ days past due delinquency rate increased quarter-over-quarter and year-over-year, also driven by a continued increase in net flow rates, primarily reflecting the ongoing normalization toward pre-pandemic levels from recent low levels (for example, the 4Q'19 and 1Q'20 90+ days past due delinquency rates were 0.95% and 1.01%, respectively).

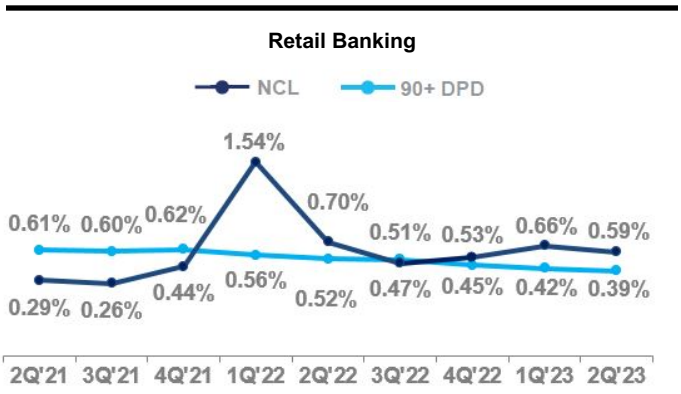


U.S. Personal Banking's Retail services partners directly with more than 20 retailers and dealers to offer private label and co-branded cards. Retail services' target market focuses on select industry segments such as home improvement, specialty retail, consumer electronics and fuel. Retail services continually evaluates opportunities to add partners within target industries that have strong loyalty, lending or payment programs and growth potential.

As shown in the chart above, the second quarter of 2023 net credit loss rate in Retail services increased quarter-over-quarter and year-over-year, driven by a continued increase in net flow rates, primarily reflecting the ongoing normalization toward pre-pandemic levels from recent low levels (for example, the 4Q'19 and 1Q'20 net credit loss rates were 5.05% and 5.35%, respectively).

The 90+ days past due delinquency rate was broadly stable quarter-over-quarter, and increased year-over-year. The year-over-year increase was driven by a continued increase in net flow rates, primarily reflecting the ongoing normalization (for example, the 4Q'19 and 1Q'20 90+ days past due delinquency rates were 1.91% and 1.96%, respectively).

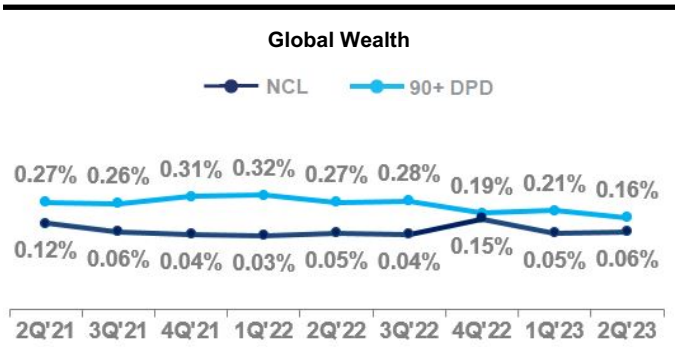
For additional information on cost of credit, loan delinquency and other information for Citi's cards portfolios, see each respective business's results of operations above and Note 13.



U.S. Personal Banking's Retail banking portfolio consists primarily of consumer mortgages (including home equity) and unsecured lending products, such as small business loans and personal loans. The portfolio is generally delinquency managed, where Citi evaluates credit risk based on FICO scores, delinquencies and the value of underlying collateral. The consumer mortgages in this portfolio have historically been extended to high credit quality customers, generally with loan-to-value ratios that are less than or equal to 80% on first and second mortgages. For additional information, see "Loan-to-Value (LTV) Ratios" in Note 13.

As shown in the chart above, the net credit loss rate in Retail banking for the second quarter of 2023 decreased quarter-over-quarter, due to a decrease in overdraft losses, and decreased year-over-year, primarily driven by the impact of industry-wide episodic overdraft losses in the prior-year period.

The 90+ days past due delinquency rate decreased quarter-over-quarter and year-over-year, primarily driven by lower delinquencies in U.S. mortgages, which reflected the lasting effects of government stimulus, unemployment benefits and consumer relief programs.

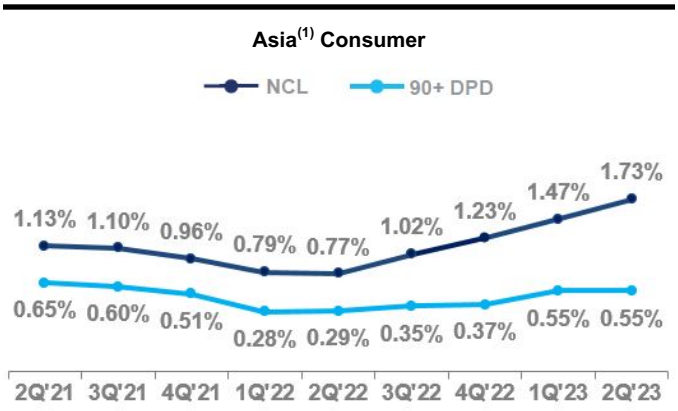


As discussed above, the Global Wealth credit portfolio primarily consists of consumer mortgages, cards and other lending products extended to customer segments that range from the affluent to ultra-high-net-worth through the Private bank, Wealth at Work and Citigold. These customer segments represent a target market that is characterized by historically low default rates and delinquencies.

As of June 30, 2023, approximately $48 billion, or 32%, of the portfolio was classifiably managed and primarily consisted of margin lending, commercial real estate, subscription credit finance and other lending programs. These classifiably managed loans are primarily evaluated for credit risk based on their internal risk rating, of which 97% is rated investment grade. While the delinquency rate in the chart above is calculated only for the delinquency-managed portfolio, the net credit loss rate is calculated using net credit losses for both the delinquency and classifiably managed portfolios.

As shown in the chart above, the net credit loss and 90+ days past due delinquency rates in Global Wealth for the second quarter of 2023 were broadly stable quarter-over-quarter and year-over-year. The low levels of net credit losses and the 90+ days past due delinquency rate continued to reflect the strong credit profiles of the portfolios.

Legacy Franchises

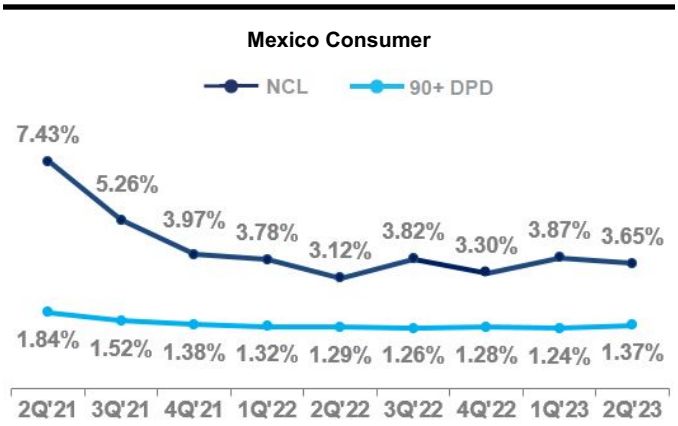


(1) Asia Consumer includes *Legacy Franchises* activities in certain EMEA countries for all periods presented.

Asia Consumer provides credit cards, consumer mortgages and small business and personal loans. Asia Consumer also includes loans and leases in certain EMEA countries for all periods presented.

As shown in the chart above, the net credit loss rate in Asia Consumer (for the remaining consumer banking portfolios held-for-investment (China, Korea, Russia and Poland)) for the second quarter of 2023 increased quarter-over-quarter and year-over-year. The increases were primarily driven by lower average loans due to the ongoing wind-downs of the remaining businesses, particularly Korea, and the reclassification of a portfolio to HFS in the first quarter of 2023.

The 90+ days past due delinquency rate was unchanged quarter-over-quarter and increased year-over-year, mainly driven by lower loans due to the ongoing wind-downs of the remaining businesses and the reclassification of a portfolio to HFS in the first quarter of 2023. The overall performance of the remaining Asia Consumer portfolios continues to reflect the strong credit profiles of the customer segments.



Mexico Consumer operates in Mexico through Citibanamex and provides cards, consumer mortgages and small business and personal loans. Mexico Consumer serves a more mass-market segment in Mexico and focuses on developing multiproduct relationships with customers.

As shown in the chart above, the net credit loss rate in Mexico Consumer for the second quarter of 2023 decreased quarter-over-quarter, primarily due to higher recoveries in the second quarter of 2023, and increased year-over-year, primarily driven by the gradual normalization of loss rates after peak losses experienced during the pandemic.

The 90+ days past due delinquency rate increased quarter-over-quarter and year-over-year, driven by the gradual normalization of delinquency rates after peak delinquencies during the pandemic.

For additional information on cost of credit, loan delinquency and other information for Citi's consumer loan portfolios, see each respective business's results of operations above and Note 13.

U.S. Cards FICO Distribution

The following tables present the current FICO score distributions for Citi's Branded cards and Retail services portfolios based on end-of-period receivables. FICO scores are updated monthly for substantially all of the portfolio and on a quarterly basis for the remaining portfolio.

Branded Cards

FICO distribution[1]	**June 30, 2023**	March 31, 2023	June 30, 2022
> 760	**47 %**	45 %	49 %
680–760	**38**	39	38
< 680	**15**	16	13
Total	**100 %**	100 %	100 %

Retail Services

FICO distribution[1]	**June 30, 2023**	March 31, 2023	June 30, 2022
> 760	**27 %**	26 %	28 %
680–760	**42**	42	43
< 680	**31**	32	29
Total	**100 %**	100 %	100 %

(1) The FICO bands in the tables are consistent with general industry peer presentations.

The FICO distribution of both card portfolios trended up from the prior quarter, reflecting seasonal portfolio quality improvements, and declined from the prior year, reflecting the ongoing normalization in net credit loss and delinquency rates in both portfolios. The FICO distribution continued to reflect strong underlying credit quality and benefits from the continued impacts of government stimulus, unemployment benefits and customer relief programs. See Note 13 for additional information on FICO scores.

Additional Consumer Credit Details

Consumer Loan Delinquencies Amounts and Ratios

In millions of dollars, except EOP loan amounts in billions	EOP loans[1]	90+ days past due[2]			30–89 days past due[2]		
	June 30, 2023	**June 30, 2023**	March 31, 2023	June 30, 2022	**June 30, 2023**	March 31, 2023	June 30, 2022
Personal Banking and Wealth Management[3][4][5]							
Total	**$ 345.0**	**$ 2,041**	$ 1,982	$ 1,383	**$ 2,213**	$ 1,987	$ 1,435
Ratio		**0.69 %**	0.70 %	0.52 %	**0.75 %**	0.70 %	0.54 %
U.S. Personal Banking							
Total	**$ 194.5**	**$ 1,882**	$ 1,772	$ 1,128	**$ 1,974**	$ 1,725	$ 1,201
Ratio		**0.97 %**	0.96 %	0.66 %	**1.02 %**	0.94 %	0.70 %
Cards[4]							
Total	**153.0**	**1,723**	1,608	949	**1,741**	1,545	1,009
Ratio		**1.13 %**	1.11 %	0.69 %	**1.14 %**	1.06 %	0.73 %
Branded cards	**103.0**	**837**	754	420	**834**	740	428
Ratio		**0.81 %**	0.78 %	0.46 %	**0.81 %**	0.76 %	0.47 %
Retail services	**50.0**	**886**	854	529	**907**	805	581
Ratio		**1.77 %**	1.76 %	1.16 %	**1.81 %**	1.66 %	1.27 %
Retail banking[3]	**41.5**	**159**	164	179	**233**	180	192
Ratio		**0.39 %**	0.42 %	0.52 %	**0.57 %**	0.47 %	0.55 %
Global Wealth delinquency-managed loans[5]	**$ 102.1**	**$ 159**	$ 210	$ 255	**$ 239**	$ 262	$ 234
Ratio		**0.16 %**	0.21 %	0.27 %	**0.23 %**	0.26 %	0.25 %
Global Wealth classifiably managed loans[6]	**$ 48.4**	**N/A**	N/A	N/A	**N/A**	N/A	N/A
Legacy Franchises							
Total	**$ 29.6**	**$ 413**	$ 393	$ 393	**$ 359**	$ 338	$ 293
Ratio		**1.40 %**	1.36 %	1.16 %	**1.22 %**	1.17 %	0.87 %
Asia Consumer[7][8]	**9.1**	**50**	55	51	**60**	65	70
Ratio		**0.55 %**	0.55 %	0.29 %	**0.66 %**	0.65 %	0.40 %
Mexico Consumer	**17.8**	**243**	202	174	**228**	205	159
Ratio		**1.37 %**	1.24 %	1.29 %	**1.28 %**	1.26 %	1.18 %
Legacy Holdings Assets (consumer)[9]	**2.7**	**120**	136	168	**71**	68	64
Ratio		**4.80 %**	5.44 %	5.60 %	**2.84 %**	2.72 %	2.13 %
Total Citigroup consumer	**$ 374.6**	**$ 2,454**	$ 2,375	$ 1,776	**$ 2,572**	$ 2,325	$ 1,728
Ratio		**0.75 %**	0.76 %	0.59 %	**0.79 %**	0.74 %	0.58 %

(1) End-of-period (EOP) loans include interest and fees on credit cards.
(2) The ratios of 90+ days past due and 30–89 days past due are calculated based on EOP loans, net of unearned income.
(3) The 90+ days past due and 30–89 days past due and related ratios for Retail banking exclude loans guaranteed by U.S. government-sponsored agencies since the potential risk of loss predominantly resides with the U.S. government-sponsored agencies. The amounts excluded for loans 90+ days past due and (EOP loans) were $73 million ($0.5 billion), $80 million ($0.6 billion) and $119 million ($0.7 billion) at June 30, 2023, March 31, 2023 and June 30, 2022, respectively. The amounts excluded for loans 30–89 days past due (the 30–89 days past due EOP loans have the same adjustments as the 90+ days past due EOP loans) were $68 million, $57 million and $72 million at June 30, 2023, March 31, 2023 and June 30, 2022, respectively. The EOP loans in the table include the guaranteed loans.
(4) The 90+ days past due balances for Branded cards and Retail services are generally still accruing interest. Citi's policy is generally to accrue interest on credit card loans until 180 days past due, unless notification of bankruptcy filing has been received earlier.
(5) Excludes EOP classifiably managed Private bank loans. These loans are not included in the delinquency numerator, denominator and ratios.
(6) These loans are evaluated for non-accrual status and write-off primarily based on their internal risk classification and not solely on their delinquency status, and therefore delinquency metrics are excluded from this table. As of June 30, 2023, March 31, 2023 and June 30, 2022, 97%, 93% and 94% of Global Wealth classifiably managed loans were rated investment grade. For additional information on the credit quality of the Global Wealth portfolio, including classifiably managed portfolios, see "Consumer Credit Trends" above.
(7) Asia Consumer includes delinquencies and loans in certain EMEA countries for all periods presented.

(8) Citi has entered into agreements to sell certain Asia consumer banking businesses. Accordingly, the loans of these businesses have been reclassified as HFS in *Other assets* on the Consolidated Balance Sheet, and hence the loans and related delinquencies and ratios are not included in this table. The reclassifications commenced as follows: Bahrain, India, Indonesia, Malaysia, Taiwan, Thailand and Vietnam in 1Q22 (Bahrain, Malaysia and Thailand closed in 4Q22; India and Vietnam closed in 1Q23). In addition, a portfolio was reclassified to HFS in the first quarter of 2023. See Note 2 for additional information.

(9) The 90+ days past due and 30–89 days past due and related ratios exclude U.S. mortgage loans that are primarily related to U.S. mortgages guaranteed by U.S. government-sponsored agencies since the potential risk of loss predominantly resides with the U.S. agencies. The amounts excluded for 90+ days past due and (EOP loans) were $77 million ($0.2 billion), $81 million ($0.3 billion) and $84 million ($0.2 billion) at June 30, 2023, March 31, 2023 and June 30, 2022, respectively. The amounts excluded for loans 30–89 days past due (the 30–89 days past due EOP loans have the same adjustments as the 90+ days past due EOP loans) were $31 million, $30 million and $27 million at June 30, 2023, March 31, 2023 and June 30, 2022, respectively. The EOP loans in the table include the guaranteed loans.

N/A Not applicable

Consumer Loan Net Credit Losses (NCLs) and Ratios

	Average loans[1]	Net credit losses[2]		
In millions of dollars, except average loan amounts in billions	**2Q23**	**2Q23**	1Q23	2Q22
***Personal Banking and Wealth Management*[2]**				
Total	**$ 338.7**	**$ 1,241**	$ 1,094	$ 699
Ratio		**1.47 %**	1.33 %	0.88 %
U.S. Personal Banking				
Total	**$ 189.1**	**$ 1,218**	$ 1,074	$ 679
Ratio		**2.58 %**	2.37 %	1.63 %
Cards				
Total	**148.8**	**1,159**	1,012	619
Ratio		**3.12 %**	2.82 %	1.87 %
Branded cards	**99.8**	**614**	521	329
Ratio		**2.47 %**	2.18 %	1.50 %
Retail services	**49.0**	**545**	491	290
Ratio		**4.46 %**	4.08 %	2.60 %
Retail banking	**40.3**	**59**	62	60
Ratio		**0.59 %**	0.66 %	0.70 %
Global Wealth	**$ 149.6**	**$ 23**	$ 20	$ 20
Ratio		**0.06 %**	0.05 %	0.05 %
Legacy Franchises				
Total	**$ 29.1**	**$ 188**	$ 186	$ 128
Ratio		**2.59 %**	2.47 %	1.45 %
Asia Consumer[3][4]	**9.5**	**41**	44	35
Ratio		**1.73 %**	1.47 %	0.77 %
Mexico Consumer	**16.8**	**153**	148	105
Ratio		**3.65 %**	3.87 %	3.12 %
Legacy Holdings Assets (consumer)	**2.8**	**(6)**	(6)	(12)
Ratio		**(0.86)%**	(0.84)%	(1.34)%
Total Citigroup	**$ 367.8**	**$ 1,429**	$ 1,280	$ 827
Ratio		**1.56 %**	1.43 %	0.94 %

(1) Average loans include interest and fees on credit cards.

(2) The ratios of net credit losses are calculated based on average loans, net of unearned income.

(3) Asia Consumer includes NCLs and average loans in certain EMEA countries (Russia and Poland) for all periods presented.

(4) Approximately $8 million, $11 million and $50 million in NCLs relating to certain Asia Consumer businesses classified as held-for-sale in *Other assets* and *Other liabilities* on the Consolidated Balance Sheet were recorded as a reduction in revenue (*Other revenue*) in 2Q23, 1Q23 and 2Q22, respectively. Accordingly, these NCLs are not included in this table. See Note 2 for additional information regarding businesses held-for-sale.

ADDITIONAL CONSUMER AND CORPORATE CREDIT DETAILS

Loans Outstanding

In millions of dollars	**2nd Qtr. 2023**	1st Qtr. 2023	4th Qtr. 2022	3rd Qtr. 2022	2nd Qtr. 2022
Consumer loans					
In North America offices[1]					
Residential first mortgages[2]	**$ 102,680**	$ 98,790	$ 96,039	$ 93,381	$ 88,662
Home equity loans[2]	**4,000**	4,244	4,580	4,794	5,074
Credit cards	**152,951**	145,543	150,643	140,404	137,412
Personal, small business and other	**37,161**	37,812	37,752	40,110	39,436
Total	**$ 296,792**	$ 286,389	$ 289,014	$ 278,689	$ 270,584
In offices outside North America[1]					
Residential mortgages[2]	**$ 27,090**	$ 26,913	$ 28,114	$ 27,281	$ 28,129
Credit cards	**13,714**	13,033	12,955	11,764	11,858
Personal, small business and other	**36,995**	37,361	37,984	39,849	45,034
Total	**$ 77,799**	$ 77,307	$ 79,053	$ 78,894	$ 85,021
Consumer loans, net of unearned income[3]	**$ 374,591**	$ 363,696	$ 368,067	$ 357,583	$ 355,605
Corporate loans					
In North America offices[1]					
Commercial and industrial	**$ 59,790**	$ 59,790	$ 56,176	$ 52,990	$ 55,823
Financial institutions	**36,268**	38,524	43,399	43,667	46,088
Mortgage and real estate[2]	**17,495**	18,562	17,829	17,762	17,359
Installment and other	**22,153**	23,578	23,767	21,222	20,466
Lease financing	**224**	299	308	383	379
Total	**$ 135,930**	$ 140,753	$ 141,479	$ 136,024	$ 140,115
In offices outside North America[1]					
Commercial and industrial	**$ 95,836**	$ 92,803	$ 93,967	$ 100,570	$ 108,274
Financial institutions	**21,701**	22,272	21,931	23,604	24,654
Mortgage and real estate[2]	**6,076**	4,975	4,179	4,005	4,455
Installment and other	**23,395**	24,800	23,347	19,653	19,862
Lease financing	**49**	49	46	48	53
Governments and official institutions	**3,034**	2,647	4,205	4,473	4,315
Total	**$ 150,091**	$ 147,546	$ 147,675	$ 152,353	$ 161,613
Corporate loans, net of unearned income[4]	**$ 286,021**	$ 288,299	$ 289,154	$ 288,377	$ 301,728
Total loans—net of unearned income	**$ 660,612**	$ 651,995	$ 657,221	$ 645,960	$ 657,333
Allowance for credit losses on loans (ACLL)	**(17,496)**	(17,169)	(16,974)	(16,309)	(15,952)
Total loans—net of unearned income and ACLL	**$ 643,116**	$ 634,826	$ 640,247	$ 629,651	$ 641,381
ACLL as a percentage of total loans—net of unearned income[5]	**2.67 %**	2.65 %	2.60 %	2.54 %	2.44 %
ACLL for consumer loan losses as a percentage of total consumer loans—net of unearned income[5]	**3.97 %**	3.96 %	3.84 %	3.74 %	3.65 %
ACLL for corporate loan losses as a percentage of total corporate loans—net of unearned income[5]	**0.94 %**	0.98 %	1.01 %	1.04 %	1.00 %

(1) North America includes the U.S., Canada and Puerto Rico. Mexico is included in offices outside North America. The classification of corporate loans between offices in North America and outside North America is based on the domicile of the booking unit. The difference between the domicile of the booking unit and the domicile of the managing unit is not material.

(2) Loans secured primarily by real estate.

(3) Consumer loans are net of unearned income of $769 million, $748 million, $712 million, $671 million and $631 million at June 30, 2023, March 31, 2023, December 31, 2022, September 30, 2022 and June 30, 2022, respectively. Unearned income on consumer loans primarily represents unamortized origination fees and costs, premiums and discounts.

(4) Corporate loans include Mexico SBMM loans and are net of unearned income of $(795) million, $(801) million, $(797) million, $(750) million and $(759) million at June 30, 2023, March 31, 2023, December 31, 2022, September 30, 2022 and June 30, 2022, respectively. Unearned income on corporate loans primarily represents interest received in advance, but not yet earned, on loans originated on a discounted basis.

(5) Because loans carried at fair value do not have an ACLL, they are excluded from the ACLL ratio calculation.

Details of Credit Loss Experience

In millions of dollars	**2nd Qtr. 2023**	1st Qtr. 2023	4th Qtr. 2022	3rd Qtr. 2022	2nd Qtr. 2022
Allowance for credit losses on loans (ACLL) at beginning of period	**$ 17,169**	$ 16,974	$ 16,309	$ 15,952	$ 15,393
Adjustment to opening balance:					
Financial instruments—TDRs and vintage disclosures[1]	**$ —**	$ (352)	$ —	$ —	$ —
Adjusted ACLL at beginning of period	**$ 17,169**	$ 16,622	$ 16,309	$ 15,952	$ 15,393
Provision for credit losses on loans (PCLL)					
Consumer	**$ 1,838**	$ 1,800	$ 1,779	$ 1,281	$ 1,440
Corporate	**(77)**	(63)	(6)	47	(56)
Total	**$ 1,761**	$ 1,737	$ 1,773	$ 1,328	$ 1,384
Gross credit losses on loans					
Consumer					
In U.S. offices	**$ 1,513**	$ 1,329	$ 1,117	$ 946	$ 934
In offices outside the U.S.	**280**	266	220	248	221
Corporate					
In U.S. offices	**26**	16	51	8	21
In offices outside the U.S.	**60**	23	79	35	36
Total	**$ 1,879**	$ 1,634	$ 1,467	$ 1,237	$ 1,212
Gross recoveries on loans					
Consumer					
In U.S. offices	**$ 301**	$ 262	$ 235	$ 252	$ 265
In offices outside the U.S.	**63**	53	40	61	63
Corporate					
In U.S. offices	**7**	10	1	34	2
In offices outside the U.S.	**4**	7	11	3	32
Total	**$ 375**	$ 332	$ 287	$ 350	$ 362
Net credit losses on loans (NCLs)					
In U.S. offices	**$ 1,231**	$ 1,073	$ 932	$ 668	$ 688
In offices outside the U.S.	**273**	229	248	219	162
Total	**$ 1,504**	$ 1,302	$ 1,180	$ 887	$ 850
Other—net[2][3][4][5][6][7]	**$ 70**	$ 112	$ 72	$ (84)	$ 25
Allowance for credit losses on loans (ACLL) at end of period	**$ 17,496**	$ 17,169	$ 16,974	$ 16,309	$ 15,952
ACLL as a percentage of EOP loans[8]	**2.67 %**	2.65 %	2.60 %	2.54 %	2.44 %
Allowance for credit losses on unfunded lending commitments (ACLUC)[9]	**$ 1,862**	$ 1,959	$ 2,151	$ 2,089	$ 2,193
Total ACLL and ACLUC	**$ 19,358**	$ 19,128	$ 19,125	$ 18,398	$ 18,145
Net consumer credit losses on loans	**$ 1,429**	$ 1,280	$ 1,062	$ 881	$ 827
As a percentage of average consumer loans	**1.56 %**	1.43 %	1.17 %	0.98 %	0.94 %
Net corporate credit losses on loans	**$ 75**	$ 22	$ 118	$ 6	$ 23
As a percentage of average corporate loans	**0.11 %**	0.03 %	0.16 %	0.01 %	0.03 %
ACLL by type at end of period[10]					
Consumer	**$ 14,866**	$ 14,389	$ 14,119	$ 13,361	$ 12,983
Corporate	**2,630**	2,780	2,855	2,948	2,969
Total	**$ 17,496**	$ 17,169	$ 16,974	$ 16,309	$ 15,952

(1) On January 1, 2023, Citi adopted Accounting Standards Update (ASU) 2022-02, *Financial Instruments—Credit Losses (Topic 326): TDRs and Vintage Disclosures*. The ASU eliminated the accounting and disclosure requirements for TDRs, including the requirement to measure the ACLL for TDRs using a discounted cash flow (DCF) approach. On January 1, 2023, Citi recorded a $352 million decrease in the *Allowance for loan losses*, along with a $290 million after-tax increase to *Retained earnings*.

(2) Includes all adjustments to the allowance for credit losses, such as changes in the allowance from acquisitions, dispositions, securitizations, FX translation, purchase accounting adjustments, etc.

(3) The second quarter of 2023 includes an increase of approximately $70 million related to FX translation.

(4) The first quarter of 2023 includes an increase of approximately $112 million related to FX translation.

(5) The fourth quarter of 2022 includes an increase of approximately $72 million related to FX translation.
(6) The third quarter of 2022 includes a decrease of approximately $84 million related to FX translation.
(7) The second quarter of 2022 includes an increase of approximately $25 million related to FX translation.
(8) June 30, 2023, March 31, 2023, December 31, 2022, September 30, 2022 and June 30, 2022 exclude $5.8 billion, $5.1 billion, $5.4 billion, $3.9 billion and $4.5 billion, respectively, of loans that are carried at fair value.
(9) Represents additional credit reserves recorded as *Other liabilities* on the Consolidated Balance Sheet.
(10) See "Significant Accounting Policies and Significant Estimates" below. Attribution of the allowance is made for analytical purposes only and is available to absorb probable credit losses inherent in the overall portfolio.

Allowance for Credit Losses on Loans (ACLL)

The following tables detail information on Citi's ACLL, loans and coverage ratios:

	June 30, 2023		
In billions of dollars	**ACLL**	**EOP loans, net of unearned income**	**ACLL as a percentage of EOP loans[1]**
Consumer			
North America cards[2]	**$ 12.0**	**$ 153.0**	**7.9 %**
North America mortgages[3]	**0.4**	**106.5**	**0.4**
North America other[3]	**0.6**	**37.2**	**1.5**
International cards	**0.9**	**13.7**	**6.7**
International other[3]	**1.0**	**63.9**	**1.5**
Total[1]	**$ 14.9**	**$ 374.3**	**4.0 %**
Corporate			
Commercial and industrial	**$ 1.7**	**$ 152.6**	**1.1 %**
Financial institutions	**0.3**	**57.6**	**0.5**
Mortgage and real estate	**0.5**	**23.5**	**2.1**
Installment and other	**0.1**	**46.8**	**0.2**
Total[1]	**$ 2.6**	**$ 280.5**	**0.9 %**
Loans at fair value[1]	**N/A**	**$ 5.8**	**N/A**
Total Citigroup	**$ 17.5**	**$ 660.6**	**2.7 %**

	December 31, 2022		
In billions of dollars	ACLL	EOP loans, net of unearned income	ACLL as a percentage of EOP loans[1]
Consumer			
North America cards[2]	$ 11.4	$ 150.6	7.6 %
North America mortgages[3]	0.5	100.4	0.5
North America other[3]	0.6	37.8	1.6
International cards	0.8	13.0	6.2
International other[3]	0.8	66.0	1.2
Total[1]	$ 14.1	$ 367.8	3.8 %
Corporate			
Commercial and industrial	$ 1.9	$ 147.8	1.3 %
Financial institutions	0.4	64.9	0.6
Mortgage and real estate	0.4	21.9	1.8
Installment and other	0.2	49.4	0.4
Total[1]	$ 2.9	$ 284.0	1.0 %
Loans at fair value[1]	N/A	$ 5.4	N/A
Total Citigroup	$ 17.0	$ 657.2	2.6 %

(1) Excludes loans carried at fair value, since they do not have an ACLL and are excluded from the ACLL ratio calculation.
(2) Includes both Branded cards and Retail services. As of June 30, 2023, the $12.0 billion of ACLL represented approximately 31 months of coincident net credit loss coverage (based on 2Q23 NCLs). As of June 30, 2023, Branded cards ACLL as a percentage of EOP loans was 6.3% and Retail services ACLL as a percentage of EOP loans was 11.2%. As of December 31, 2022, the $11.4 billion of ACLL represented approximately 43 months of coincident net credit loss coverage (based on 4Q22 NCLs). As of December 31, 2022, Branded cards ACLL as a percentage of EOP loans was 6.2% and Retail services ACLL as a percentage of EOP loans was 10.3%.
(3) Includes residential mortgages, retail loans and personal, small business and other loans, including those extended through the Private bank network.
N/A Not applicable

The following table details Citi's corporate credit ACLL by industry exposure:

In millions of dollars, except percentages	June 30, 2023 Funded exposure[1]	ACLL	ACLL as a % of funded exposure
Transportation and industrials	**$ 58,248**	**$ 566**	**1.0 %**
Technology, media and telecom	**28,948**	**321**	**1.1**
Consumer retail	**34,327**	**299**	**0.9**
Real estate[2]	**48,142**	**572**	**1.2**
Commercial	**35,155**	**507**	**1.4**
Residential	**12,987**	**65**	**0.5**
Banks and finance companies	**43,277**	**219**	**0.5**
Power, chemicals, metals and mining	**19,869**	**228**	**1.1**
Energy and commodities	**12,799**	**175**	**1.4**
Health	**9,560**	**75**	**0.8**
Insurance	**4,101**	**15**	**0.4**
Asset managers and funds	**6,384**	**33**	**0.5**
Public sector	**10,849**	**57**	**0.5**
Financial markets infrastructure	**141**	**1**	**0.7**
Securities firms	**292**	**14**	**4.8**
Other industries	**2,914**	**48**	**1.6**
Total classifiably managed loans[3]	**$ 279,851**	**$ 2,623**	**0.9 %**
Loans managed on a delinquency basis[4]	**$ 641**	**$ 7**	**1.1 %**
Total	**$ 280,492**	**$ 2,630**	**0.9 %**

(1) Funded exposure excludes loans carried at fair value of $5.5 billion that are not subject to ACLL under the CECL standard.
(2) As of June 30, 2023, the portion of the ACLL attributed to the total funded CRE exposure (including the Private bank) was approximately 1.2%.
(3) As of June 30, 2023, the ACLL shown above reflects coverage of 0.4% of funded investment-grade exposure and 2.7% of funded non-investment-grade exposure.
(4) Primarily associated with delinquency-managed loans including commercial credit cards and other loans at June 30, 2023.

The following table details Citi's corporate credit ACLL by industry exposure:

In millions of dollars, except percentages	December 31, 2022 Funded exposure[1]	ACLL	ACLL as a % of funded exposure
Transportation and industrials	$ 57,271	$ 699	1.2 %
Technology, media and telecom	28,931	330	1.1
Consumer retail	32,687	358	1.1
Real estate	48,539	500	1.0
Commercial	34,112	428	1.3
Residential	14,427	72	0.5
Power, chemicals, metals and mining	18,326	288	1.6
Banks and finance companies	42,276	225	0.5
Energy and commodities	13,069	188	1.4
Asset managers and funds	13,162	38	0.3
Health	8,771	81	0.9
Insurance	4,417	11	0.2
Public sector	11,736	58	0.5
Financial markets infrastructure	60	—	—
Securities firms	569	11	1.9
Other industries	3,651	59	1.6
Total classifiably managed loans[2]	$ 283,465	$ 2,846	1.0 %
Loans managed on a delinquency basis[3]	$ 566	$ 9	1.6 %
Total	$ 284,031	$ 2,855	1.0 %

(1) Funded exposure excludes loans carried at fair value of $5.1 billion that are not subject to ACLL under the CECL standard.
(2) As of December 31, 2022, the ACLL shown above reflects coverage of 0.4% of funded investment-grade exposure and 3.0% of funded non-investment-grade exposure.
(3) Primarily associated with delinquency-managed loans including commercial credit cards and other loans at December 31, 2022.

Non-Accrual Loans and Assets

For additional information on Citi's non-accrual loans and assets, see "Non-Accrual Loans and Assets" in Citi's 2022 Form 10-K.

Non-Accrual Loans

The table below summarizes Citigroup's non-accrual loans as of the periods indicated. Non-accrual loans may still be current on interest payments. In situations where Citi reasonably expects that only a portion of the principal owed will ultimately be collected, all payments received are reflected as a reduction of principal and not as interest income. For all other non-accrual loans, cash interest receipts are generally recorded as revenue.

In millions of dollars	**Jun. 30, 2023**	Mar. 31, 2023	Dec. 31, 2022	Sept. 30, 2022	Jun. 30, 2022
Corporate non-accrual loans by region[1][2][3]					
North America	**$ 358**	$ 285	$ 138	$ 276	$ 304
EMEA	**350**	383	502	598	712
Latin America	**428**	462	429	555	563
Asia	**125**	83	53	56	76
Total	**$ 1,261**	$ 1,213	$ 1,122	$ 1,485	$ 1,655
Corporate non-accrual loans[1][2][3]					
Banking	**$ 931**	$ 868	$ 767	$ 1,085	$ 1,015
Services	**123**	133	153	185	353
Markets	**1**	3	3	—	11
Mexico SBMM	**206**	209	199	215	276
Total	**$ 1,261**	$ 1,213	$ 1,122	$ 1,485	$ 1,655
Consumer non-accrual loans[1]					
U.S. Personal Banking and Global Wealth	**$ 536**	$ 608	$ 541	$ 585	$ 536
Asia Consumer[4]	**24**	29	30	30	34
Mexico Consumer	**498**	480	457	486	493
Legacy Holdings Assets—Consumer	**263**	278	289	300	317
Total	**$ 1,321**	$ 1,395	$ 1,317	$ 1,401	$ 1,380
Total non-accrual loans	**$ 2,582**	$ 2,608	$ 2,439	$ 2,886	$ 3,035

(1) Corporate loans are placed on non-accrual status based upon a review by Citigroup's risk officers. Corporate non-accrual loans may still be current on interest payments. With limited exceptions, the following practices are applied for consumer loans: consumer loans, excluding credit cards and mortgages, are placed on non-accrual status at 90 days past due and are charged off at 120 days past due; residential mortgage loans are placed on non-accrual status at 90 days past due and written down to net realizable value at 180 days past due. Consistent with industry conventions, Citigroup generally accrues interest on credit card loans until such loans are charged off, which typically occurs at 180 days contractual delinquency. As such, the non-accrual loan disclosures do not include credit card loans. The balances above represent non-accrual loans within *Corporate loans* and *Consumer loans* on the Consolidated Balance Sheet.

(2) Approximately 51%, 61%, 50%, 68% and 52% of Citi's corporate non-accrual loans were performing at June 30, 2023, March 31, 2023, December 31, 2022, September 30, 2022 and June 30, 2022, respectively.

(3) The June 30, 2023 total corporate non-accrual loans represented 0.44% of total corporate loans.

(4) Asia Consumer includes balances in certain EMEA countries for all periods presented.

Modified Loans

On January 1, 2023, Citi adopted ASU 2022-02, which eliminated the accounting and disclosure requirements for TDRs (see Note 1 for additional information). See Note 13 for information on loan modifications during the six months ended June 30, 2023.

The changes in Citigroup's non-accrual loans were as follows:

In millions of dollars	Three Months Ended June 30, 2023 Corporate	Consumer	Total	Three Months Ended June 30, 2022 Corporate	Consumer	Total
Non-accrual loans at beginning of quarter	**$ 1,213**	**$ 1,395**	**$ 2,608**	$ 1,866	$ 1,517	$ 3,383
Additions	**289**	**339**	**628**	721	344	1,065
Sales and transfers to HFS	**—**	**(8)**	**(8)**	(5)	(36)	(41)
Returned to performing	**(14)**	**(128)**	**(142)**	(120)	(77)	(197)
Paydowns/settlements	**(151)**	**(99)**	**(250)**	(746)	(199)	(945)
Charge-offs	**(74)**	**(196)**	**(270)**	(56)	(140)	(196)
Other	**(2)**	**18**	**16**	(5)	(29)	(34)
Ending balance	**$ 1,261**	**$ 1,321**	**$ 2,582**	$ 1,655	$ 1,380	$ 3,035

In millions of dollars	Six Months Ended June 30, 2023 Corporate	Consumer	Total	Six Months Ended June 30, 2022 Corporate	Consumer	Total
Non-accrual loans at beginning of year	**$ 1,122**	**$ 1,317**	**$ 2,439**	$ 1,553	$ 1,826	$ 3,379
Additions	**689**	**781**	**1,470**	1,541	643	2,184
Sales and transfers to HFS	**(25)**	**(14)**	**(39)**	(6)	(224)	(230)
Returned to performing	**(89)**	**(176)**	**(265)**	(253)	(256)	(509)
Paydowns/settlements	**(320)**	**(235)**	**(555)**	(1,069)	(295)	(1,364)
Charge-offs	**(106)**	**(388)**	**(494)**	(105)	(295)	(400)
Other	**(10)**	**36**	**26**	(6)	(19)	(25)
Ending balance	**$ 1,261**	**$ 1,321**	**$ 2,582**	$ 1,655	$ 1,380	$ 3,035

The table below summarizes Citigroup's other real estate owned (OREO) assets. OREO is recorded on the Consolidated Balance Sheet within *Other assets*. This represents the carrying value of all real estate property acquired by foreclosure or other legal proceedings when Citi has taken possession of the collateral:

In millions of dollars	**Jun. 30, 2023**	Mar. 31, 2023	Dec. 31, 2022	Sept. 30, 2022	Jun. 30, 2022
OREO					
North America	**$ 17**	$ 15	$ 10	$ 9	$ 7
EMEA	**—**	—	—	—	—
Latin America	**13**	5	4	5	5
Asia	**1**	1	1	2	1
Total OREO	**$ 31**	$ 21	$ 15	$ 16	$ 13
Non-accrual assets					
Corporate non-accrual loans	**$ 1,261**	$ 1,213	$ 1,122	$ 1,485	$ 1,655
Consumer non-accrual loans	**1,321**	1,395	1,317	1,401	1,380
Non-accrual loans (NAL)	**$ 2,582**	$ 2,608	$ 2,439	$ 2,886	$ 3,035
OREO	**$ 31**	$ 21	$ 15	$ 16	$ 13
Non-accrual assets (NAA)	**$ 2,613**	$ 2,629	$ 2,454	$ 2,902	$ 3,048
NAL as a percentage of total loans	**0.39 %**	0.40 %	0.37 %	0.45 %	0.46 %
NAA as a percentage of total assets	**0.11**	0.11	0.10	0.12	0.13
ACLL as a percentage of NAL[(1)]	**678**	658	696	565	526

(1) The ACLL includes the allowance for Citi's credit card portfolios and purchased credit-deteriorated loans, while the non-accrual loans exclude credit card balances (with the exception of certain international portfolios).

LIQUIDITY RISK

For additional information on funding and liquidity at Citi, including its objectives, management and measurement, see "Liquidity Risk" and "Risk Factors—Liquidity Risks" in Citi's 2022 Form 10-K.

High-Quality Liquid Assets (HQLA)

	Citibank			Citi non-bank and other entities			Total		
In billions of dollars	**Jun. 30, 2023**	Mar. 31, 2023	Jun. 30, 2022	**Jun. 30, 2023**	Mar. 31, 2023	Jun. 30, 2022	**Jun. 30, 2023**	Mar. 31, 2023	Jun. 30, 2022
Available cash	**$ 254.3**	$ 267.1	$ 188.1	**$ 4.9**	$ 3.9	$ 1.7	**$ 259.2**	$ 271.0	$ 189.8
U.S. sovereign	**120.3**	111.9	149.4	**74.7**	77.9	55.4	**195.0**	189.8	204.8
U.S. agency/agency MBS	**45.1**	42.5	54.4	**3.8**	3.9	4.6	**48.9**	46.4	59.0
Foreign government debt[(1)]	**60.9**	54.9	60.4	**19.1**	20.6	13.9	**80.0**	75.5	74.3
Other investment grade	**0.5**	1.3	2.0	**0.2**	0.3	1.3	**0.7**	1.6	3.3
Total HQLA (AVG)	**$ 481.1**	$ 477.7	$ 454.3	**$ 102.7**	$ 106.6	$ 76.9	**$ 583.8**	$ 584.3	$ 531.2

Note: The amounts shown in the table above are presented on an average basis. For securities, the amounts represent the liquidity value that potentially could be realized and, therefore, exclude any securities that are encumbered and incorporate any haircuts applicable under the U.S. LCR rule. The table above incorporates various restrictions that could limit the transferability of liquidity between legal entities, including Section 23A of the Federal Reserve Act.

(1) Foreign government debt includes securities issued or guaranteed by foreign sovereigns, agencies and multilateral development banks. Foreign government debt securities are held largely to support local liquidity requirements and Citi's local franchises and principally include government bonds from Japan, Korea, Mexico, India and Singapore.

The table above includes average amounts of HQLA held at Citigroup's operating entities that are eligible for inclusion in the calculation of Citigroup's consolidated Liquidity Coverage ratio (LCR), pursuant to the U.S. LCR rules. These amounts include the HQLA needed to meet the minimum requirements at these entities as well as any amounts in excess of these minimums that are available to be transferred to other entities within Citigroup. Citigroup's total average HQLA as of the second quarter of 2023 remained largely unchanged sequentially.

As of June 30, 2023, Citigroup had approximately $993 billion of available liquidity resources to support client and business needs, including end-of-period HQLA ($591 billion); additional unencumbered HQLA, including excess liquidity held at bank entities that is non-transferable to other entities within Citigroup ($212 billion); and unused borrowing capacity from available assets not already accounted for within Citi's HQLA to support additional advances from the Federal Home Loan Bank (FHLB) and the Federal Reserve Bank discount window ($190 billion).

Short-Term Liquidity Measurement: Liquidity Coverage Ratio (LCR)

In addition to internal 30-day liquidity stress testing performed for Citi's major entities, operating subsidiaries and countries, Citi also monitors its liquidity by reference to the LCR. The table below details the components of Citi's LCR calculation and HQLA in excess of net outflows for the periods indicated:

In billions of dollars	**Jun. 30, 2023**	Mar. 31, 2023	Jun. 30, 2022
HQLA	**$583.8**	$ 584.3	$ 531.2
Net outflows	**491.9**	488.2	460.2
LCR	**119 %**	120 %	115 %
HQLA in excess of net outflows	**$ 91.9**	$ 96.1	$ 71.0

Note: The amounts are presented on an average basis.

As of June 30, 2023, Citigroup's average LCR decreased, from the quarter ended March 31, 2023. The decrease was primarily driven by the reduction in unsecured long-term debt.

In addition, considering Citi's total available liquidity resources at quarter end of $993 billion, Citi maintained approximately $501 billion of excess liquidity above the stressed average net outflow of approximately $492 billion, shown in the LCR table above.

Long-Term Liquidity Measurement: Net Stable Funding Ratio (NSFR)

As previously disclosed, the U.S. banking agencies adopted a rule to assess the availability of a bank's stable funding against a required level.

The rule became effective beginning July 1, 2021, while public disclosure of the ratio is required to occur on a semiannual basis beginning as of June 30, 2023. Citi was in compliance with the rule as of June 30, 2023.

Select Balance Sheet Items

This section provides details of select liquidity-related liabilities reported on Citigroup's Consolidated Balance Sheet on an average and end-of-period basis.

Cash and Investments

The table below details average and end-of-period *Cash and due from banks*, *Deposits with banks* (collectively cash) and *Investment securities*. Citi's investment portfolio consists largely of highly liquid U.S. Treasury, U.S. agency and other sovereign bonds, with an aggregate duration of less than three years. At June 30, 2023, Citi's EOP cash and *Investment securities* comprised approximately 33% of Citigroup's total assets:

In billions of dollars	**2Q23**	1Q23	2Q22
Cash and due from banks	**$ 28**	$ 28	$ 44
Deposits with banks	**310**	326	227
Investment securities	**508**	516	520
Total Citigroup cash and Investment securities (AVG)	**$ 846**	$ 870	$ 791
Total Citigroup cash and Investment securities (EOP)	**$ 804**	$ 842	$ 798

Deposits

The table below details the average deposits, by business and/or segment, and the total Citigroup end-of-period deposits for each of the periods indicated:

In billions of dollars	**2Q23**	1Q23	2Q22
Personal Banking and Wealth Management			
U.S. Personal Banking	**$ 113**	$ 111	$ 116
Global Wealth	**318**	323	319
Total	**$ 431**	$ 434	$ 435
Institutional Clients Group			
TTS	**$ 688**	$ 704	$ 672
Securities services	**125**	125	137
Markets and Banking	**24**	24	21
Total	**$ 837**	$ 853	$ 830
Legacy Franchises[(1)]	**$ 51**	$ 50	$ 51
Corporate/Other	**$ 19**	$ 26	$ 7
Total Citigroup deposits (AVG)	**$ 1,338**	$ 1,363	$ 1,323
Total Citigroup deposits (EOP)	**$ 1,320**	$ 1,330	$ 1,322

(1) See footnote 2 to the table in "Credit Risk—Consumer Credit—Consumer Credit Portfolio" above.

Citi's deposit base is spread across a diversified set of countries, industries, clients and currencies.

On an average basis, deposits increased 1% year-over-year and were down 2% sequentially. The year-over-year increase primarily reflected an increase in *Corporate/Other* and *ICG*, partially offset by a decline in *PBWM*. *Corporate/Other* average deposits increased $12 billion year-over-year, primarily driven by the issuance of institutional certificates of deposit. *ICG* average deposits increased 1% year-over-year, driven by TTS. *PBWM* average deposits decreased 1% year-over-year, largely reflecting the reallocation of deposits to higher-yielding investments. *Legacy Franchises* average deposits were largely unchanged year-over-year. The quarter-over-quarter decrease was largely driven by TTS, reflecting some non-operational outflows as expected in light of quantitative tightening, and *Corporate/Other*. Despite this decline, TTS had strong growth in operating accounts as the business continued to attract new clients and deepen existing relationships.

End-of-period deposits were largely unchanged year-over-year, as an increase in institutional certificates of deposit in *Corporate/Other* was offset by a decrease in *ICG*, driven by Securities services. End-of-period deposits decreased 1% sequentially, reflecting seasonal activity in TTS and Global Wealth.

The majority of Citi's $1.3 trillion of end-of-period deposits are institutional (approximately $818 billion), and span approximately 90 countries. A large majority of these institutional deposits are within TTS, and of these, approximately 80% are from clients that use all three TTS integrated services: payments and collections, liquidity management and working capital solutions. In addition, nearly 80% of TTS deposits are from clients that have a greater than 15-year relationship with Citi. Over the past year, TTS deposits grew at a faster rate than total Citi deposits on both an average and end-of-period basis. Citi also has a strong consumer and wealth deposit base, with $427 billion of U.S. Retail banking and Global Wealth deposits as of end-of-period, which are diversified across the Private bank, Citigold, Retail banking and Wealth at Work. As of year-end 2022, approximately 75% of U.S. Citigold clients have been with Citi for more than 10 years and approximately 50% of Private bank ultra-high-net-worth clients have been with Citi for more than 10 years. U.S. Personal Banking deposits are spread across six core urban centers.

Long-Term Debt

Weighted Average Maturity (WAM)

The following table presents Citigroup and its affiliates' (including Citibank) WAM of unsecured long-term debt issued with a remaining life greater than one year:

WAM in years	**Jun. 30, 2023**	Mar. 31, 2023	Jun. 30, 2022
Unsecured debt	**7.7**	7.5	8.0
Non-bank benchmark debt	**7.3**	7.2	7.5
TLAC-eligible debt	**8.9**	8.8	9.1

The WAM is calculated based on the contractual maturity of each security. For securities that are redeemable prior to maturity at the option of the holder, the WAM is calculated based on the earliest date an option becomes exercisable.

Long-Term Debt Outstanding

Citi's long-term debt outstanding at the Citigroup parent company includes benchmark senior and subordinated debt and what Citi refers to as customer-related debt, consisting of structured notes, such as equity- and credit-linked notes, as well as non-structured notes. Citi's issuance of customer-related debt is generally driven by customer demand and complements benchmark debt issuance as a source of funding for Citi's non-bank entities. Citi's long-term debt at the bank includes bank notes, FHLB advances and securitizations.

The following table presents Citi's end-of-period total long-term debt outstanding for each of the dates indicated:

In billions of dollars	**Jun. 30, 2023**	Mar. 31, 2023	Jun. 30, 2022
Non-bank[1]			
Benchmark debt:			
Senior debt	**$ 111.1**	$ 117.1	$ 120.3
Subordinated debt	**24.5**	22.7	24.0
Trust preferred	**1.6**	1.6	1.6
Customer-related debt	**110.3**	109.7	84.9
Local country and other[2]	**7.9**	8.7	7.8
Total non-bank	**$ 255.4**	$ 259.8	$ 238.6
Bank			
FHLB borrowings	**$ 7.5**	$ 7.3	$ 2.3
Securitizations[3]	**5.5**	6.6	9.5
Citibank benchmark senior debt	**2.6**	2.6	2.6
Local country and other[2]	**3.5**	3.4	4.4
Total bank	**$ 19.1**	$ 19.9	$ 18.8
Total long-term debt	**$ 274.5**	$ 279.7	$ 257.4

Note: Amounts represent the current value of long-term debt on Citi's Consolidated Balance Sheet that, for certain debt instruments, includes consideration of fair value, hedging impacts and unamortized discounts and premiums.

(1) Non-bank includes long-term debt issued to third parties by the parent holding company (Citigroup) and Citi's non-bank subsidiaries (including broker-dealer subsidiaries) that are consolidated into Citigroup. As of June 30, 2023, non-bank included $92.4 billion of long-term debt issued by Citi's broker-dealer and other subsidiaries that are consolidated into Citigroup. Certain Citigroup consolidated hedging activities are also included in this line.

(2) Local country and other includes debt issued by Citi's affiliates in support of their local operations. Within non-bank, certain secured financing is also included.

(3) Predominantly credit card securitizations, primarily backed by Branded cards receivables.

Citi's total long-term debt outstanding increased 7% year-over-year, largely driven by the issuance of customer-related debt at the non-bank entities and increased FHLB borrowings at the bank. The increase was partially offset by the decline in senior benchmark debt at the non-bank entities, as well as lower securitizations at the bank. Sequentially, long-term debt outstanding decreased 2%, largely driven by a decline in senior benchmark debt at the non-bank entities.

As part of its liability management, Citi has considered, and may continue to consider, opportunities to redeem or repurchase its long-term debt pursuant to open market purchases, tender offers or other means. Such redemptions and repurchases help reduce Citi's overall funding costs. During the second quarter of 2023, Citi redeemed or repurchased an aggregate of approximately $8.9 billion of its outstanding long-term debt.

Long-Term Debt Issuances and Maturities

The table below details Citi's long-term debt issuances and maturities (including repurchases and redemptions) during the periods presented:

	2Q23		1Q23		2Q22	
In billions of dollars	**Maturities**	**Issuances**	Maturities	Issuances	Maturities	Issuances
Non-bank						
Benchmark debt:						
Senior debt	**$ 5.3**	**$ —**	$ 1.7	$ —	$ 3.5	$ 6.0
Subordinated debt	**1.3**	**3.2**	—	—	—	—
Trust preferred	**—**	**—**	—	—	—	—
Customer-related debt	**12.5**	**10.6**	9.0	14.1	5.0	21.8
Local country and other	**0.9**	**0.6**	0.4	1.5	0.3	0.4
Total non-bank	**$ 20.0**	**$ 14.4**	$ 11.1	$ 15.6	$ 8.8	$ 28.2
Bank						
FHLB borrowings	**$ 2.3**	**$ 2.5**	$ —	$ —	$ 1.0	$ 2.3
Securitizations	**1.1**	**—**	1.0	—	—	—
Citibank benchmark senior debt	—	**—**	—	—	0.9	—
Local country and other	**0.1**	**—**	0.3	0.1	0.6	0.1
Total bank	**$ 3.5**	**$ 2.5**	$ 1.3	$ 0.1	$ 2.5	$ 2.4
Total	**$ 23.5**	**$ 16.9**	$ 12.4	$ 15.7	$ 11.3	$ 30.6

The table below details Citi's aggregate long-term debt maturities (including repurchases and redemptions) during the first quarter of 2023, as well as its aggregate expected remaining long-term debt maturities by year as of June 30, 2023:

		Maturities							
In billions of dollars	**2Q23 YTD**	2023	2024	2025	2026	2027	2028	Thereafter	Total
Non-bank									
Benchmark debt:									
Senior debt	**$ 7.0**	$ 3.2	$ 5.4	$ 11.9	$ 23.6	$ 6.9	$ 14.8	$ 45.3	$ 111.1
Subordinated debt	**1.3**	—	0.9	4.8	2.3	3.6	2.0	10.9	24.5
Trust preferred	**—**	—	—	—	—	—	—	1.6	1.6
Customer-related debt	**21.5**	8.9	24.1	15.7	8.9	10.0	6.8	35.9	110.3
Local country and other	**1.3**	0.9	1.1	1.8	0.7	—	0.9	2.5	7.9
Total non-bank	**$ 31.1**	$ 13.0	$ 31.5	$ 34.2	$ 35.5	$ 20.5	$ 24.5	$ 96.2	$ 255.4
Bank									
FHLB borrowings	**$ 2.3**	$ 2.0	$ 3.0	$ 2.5	$ —	$ —	$ —	$ —	$ 7.5
Securitizations	**2.1**	0.1	1.3	1.6	—	0.8	1.0	0.7	5.5
Citibank benchmark senior debt	**—**	—	2.6	—	—	—	—	—	2.6
Local country and other	**0.4**	0.5	1.0	0.2	0.3	—	0.3	1.2	3.5
Total bank	**$ 4.8**	$ 2.6	$ 7.9	$ 4.3	$ 0.3	$ 0.8	$ 1.3	$ 1.9	$ 19.1
Total long-term debt	**$ 35.9**	$ 15.6	$ 39.4	$ 38.5	$ 35.8	$ 21.3	$ 25.8	$ 98.1	$ 274.5

Secured Funding Transactions and Short-Term Borrowings

Citi supplements its primary sources of funding with short-term financings that generally include (i) secured funding transactions consisting of securities loaned or sold under agreements to repurchase, i.e., repos, and (ii) to a lesser extent, short-term borrowings consisting of commercial paper and borrowings from the FHLB and other market participants.

Secured Funding Transactions

Secured funding is primarily accessed through Citi's broker-dealer subsidiaries, with a smaller portion executed through Citi's bank entities to efficiently fund both (i) secured lending activity and (ii) a portion of the securities inventory held in the context of market making and customer activities. Secured funding transactions are predominantly collateralized by government debt securities. Generally, changes in the level of Citi's secured funding are primarily due to fluctuations in secured lending activity in the matched book (as described below) and changes in securities inventory. In order to maintain reliable funding under a wide range of market conditions, Citi manages risks related to its secured funding by establishing secured funding limits and conducting daily stress tests that account for risks related to capacity, tenor, haircut, collateral type, counterparty and client actions.

Secured funding of $260 billion as of June 30, 2023 increased 31% year-over-year and 1% sequentially, largely driven by additional financing to support increases in trading-related assets within Citi's broker-dealer subsidiaries. As of the quarter ended June 30, 2023, on an average basis, secured funding was $262 billion. The portion of secured funding in the broker-dealer subsidiaries that funds secured lending is commonly referred to as "matched book" activity and is primarily secured by high-quality liquid securities such as U.S. Treasury securities, U.S. agency securities and foreign government debt securities. Other "matched book" activity is secured by less liquid securities, including equity securities, corporate bonds and asset-backed securities, the tenor of which is generally equal to or longer than the tenor of the corresponding assets. As indicated above, the remaining portion of secured funding is used to fund securities inventory held in the context of market making and customer activities.

Short-Term Borrowings

Citi's short-term borrowings of $40 billion as of the second quarter of 2023 was largely unchanged both year-over-year and sequentially (see Note 17 for further information on Citigroup's and its affiliates' outstanding short-term borrowings).

Credit Ratings

The table below presents the ratings for Citigroup and Citibank as of June 30, 2023. While not included in the table below, the long-term and short-term ratings of Citigroup Global Markets Holdings Inc. (CGMHI) were A+/F1 at Fitch, A2/P-1 at Moody's Investors Service and A/A-1 at S&P Global Ratings as of June 30, 2023.

Ratings as of June 30, 2023

	Citigroup Inc.			Citibank, N.A.		
	Long-term	Short-term	Outlook	Long-term	Short-term	Outlook
Fitch Ratings (Fitch)	**A**	**F1**	**Stable**	**A+**	**F1**	**Stable**
Moody's Investors Service (Moody's)	**A3**	**P-2**	**Stable**	**Aa3**	**P-1**	**Stable**
S&P Global Ratings (S&P)	**BBB+**	**A-2**	**Stable**	**A+**	**A-1**	**Stable**

Potential Impacts of Ratings Downgrades

Ratings downgrades by Fitch, Moody's or S&P could negatively impact Citigroup's and/or Citibank's funding and liquidity due to reduced funding capacity, including derivative triggers, which could take the form of cash obligations and collateral requirements.

For additional information on the impact of credit rating changes on Citi and its applicable subsidiaries, see "Risk Factors—Liquidity Risks" and "Credit Ratings" in Citi's 2022 Form 10-K.

Citigroup Inc. and Citibank—Potential Derivative Triggers

As of June 30, 2023, Citi estimates that a hypothetical one-notch downgrade of the senior debt/long-term rating of Citigroup Inc. across all three major rating agencies could impact Citigroup's funding and liquidity due to derivative triggers by approximately $0.4 billion, compared to $0.3 billion as of March 31, 2023. Other funding sources, such as secured funding transactions and other margin requirements, for which there are no explicit triggers, could also be adversely affected.

As of June 30, 2023, Citi estimates that a hypothetical one-notch downgrade of the senior debt/long-term rating of Citibank across all three major rating agencies could impact Citibank's funding and liquidity due to derivative triggers by approximately $0.4 billion, compared to $0.3 billion as of March 31, 2023. Other funding sources, such as secured funding transactions and other margin requirements, for which there are no explicit triggers, could also be adversely impacted.

In total, as of June 30, 2023, Citi estimates that a one-notch downgrade of Citigroup Inc. and Citibank across all three major rating agencies could result in increased aggregate cash obligations and collateral requirements of approximately $0.8 billion, compared to $0.6 billion as of March 31, 2023 (see also Note 21). As detailed under "High-Quality Liquid Assets (HQLA)" above, Citigroup has various liquidity resources available to its bank and non-bank entities in part as a contingency for the potential events described above.

Citibank—Additional Potential Impacts

In addition to the above derivative triggers, Citi believes that a potential downgrade of Citibank's senior debt/long-term rating across any of the three major rating agencies could also have an adverse impact on the commercial paper/short-term rating of Citibank. Citibank has provided liquidity commitments to consolidated asset-backed commercial paper conduits, primarily in the form of asset purchase agreements. As of June 30, 2023, Citibank had liquidity commitments of approximately $10.9 billion to consolidated asset-backed commercial paper conduits, which was largely unchanged from March 31, 2023 (see Note 20 for additional information).

In addition to the above-referenced liquidity resources of certain Citibank entities, Citibank could reduce the funding and liquidity risk, if any, of the potential downgrades described above through mitigating actions, including repricing or reducing certain commitments to commercial paper conduits. In the event of the potential downgrades described above, Citi believes that certain corporate customers could reevaluate their deposit relationships with Citibank. This reevaluation could result in clients adjusting their discretionary deposit levels or changing their depository institution, which could potentially reduce certain deposit levels at Citibank. However, Citi could choose to adjust pricing, offer alternative deposit products to its existing customers or seek to attract deposits from new customers, in addition to the mitigating actions referenced above.

MARKET RISK

Market risk arises from both Citi's trading and non-trading portfolios. For additional information on market risk and market risk management at Citi, see "Market Risk—Overview" and "Risk Factors" in Citi's 2022 Form 10-K.

Market Risk of Non-Trading Portfolios

Market risk from non-trading portfolios stems predominantly from the potential impact of changes in interest rates and foreign exchange rates on Citi's net interest income and on Citi's *Accumulated other comprehensive income (loss) (AOCI)* from its investment securities portfolios. Market risk from non-trading portfolios also includes the potential impact of changes in foreign exchange rates on Citi's capital invested in foreign currencies.

Banking Book Interest Rate Risk

For interest rate risk purposes, Citi's non-trading portfolios are referred to as the Banking Book. Management of interest rate risk in the Banking Book is governed by Citi's Non-Trading Market Risk Policy. Management's Asset & Liability Committee (ALCO) establishes Citi's risk appetite and related limits for interest rate risk in the Banking Book, which are subject to approval by Citigroup's Board of Directors. Corporate Treasury is responsible for the day-to-day management of Citi's Banking Book interest rate risk as well as periodically reviewing it with the ALCO. Citi's Banking Book interest rate risk management is also subject to independent oversight from the second line of defense team reporting to the Chief Risk Officer.

Changes in interest rates impact Citi's net income, *AOCI* and CET1. These changes primarily affect Citi's Banking Book through net interest income, due to a variety of risk factors, including:

- Differences in timing and amounts of the maturity or repricing of assets, liabilities and off-balance sheet instruments;
- Changes in the level and/or shape of interest rate curves;
- Client behavior in response to changes in interest rates (e.g., mortgage prepayments, deposit betas); and
- Changes in the maturity of instruments resulting from changes in the interest rate environment.

As part of their ongoing activities, Citi's businesses generate interest rate-sensitive positions from their client-facing products, such as loans and deposits. The component of this interest rate risk that can be hedged is transferred via Citi's funds transfer pricing process to Corporate Treasury. Corporate Treasury uses various tools to manage the total interest rate risk position within the established risk appetite and target Citi's desired risk profile, including its investment securities portfolio, company-issued debt and interest rate derivatives.

In addition, Citi uses multiple metrics to measure its Banking Book interest rate risk. Interest Rate Exposure (IRE) is a key metric that analyzes the impact of a range of scenarios on Citi's Banking Book net interest income and certain other interest rate-sensitive income versus a base case. IRE does not represent a forecast of Citi's net interest income.

The scenarios, methodologies and assumptions used in this analysis are periodically evaluated and enhanced in response to changes in the market environment, changes in Citi's balance sheet composition, enhancements in Citi's modeling and other factors.

Since the third quarter of 2022, Citi has employed enhanced IRE methodologies and changes to certain assumptions. The changes included, among other things, assumptions around the projected balance sheet and revisions to the treatment of certain business contributions (notably accrual positions in *ICG*'s Markets businesses). These changes resulted in a higher impact to Citi's net interest income over a 12-month period.

Under the enhanced methodology, Citi utilizes the most recent quarter-end balance sheet, assuming no changes to its composition and size over the forecasted horizon (holding the balance sheet static). The forecasts incorporate expectations and assumptions of deposit pricing, loan spreads and mortgage prepayment behavior implied by the interest rate curves in each scenario. The base case scenario reflects the market implied forward interest rates, and sensitivity scenarios assume instantaneous shocks to the base case. The forecasts do not assume Citi takes any risk-mitigating actions in response to changes in the interest rate environment. Certain interest rates are subject to flooring assumptions in downward rate scenarios. Deposit pricing sensitivities (i.e., deposit betas), are informed by historical and expected behavior. Actual deposit pricing could differ from the assumptions used in these forecasts.

Citi's IRE analysis primarily reflects the impacts from the following Banking Book assets and liabilities: loans, client deposits, Citi's deposits with other banks, investment securities, long-term debt, any related interest rate hedges and the funds transfer pricing of positions in total trading and credit portfolio value at risk (VAR). It excludes impacts from any positions that are included in total trading and credit portfolio VAR.

In addition to IRE, Citi analyzes economic value sensitivity (EVS) as a longer-term interest rate risk metric. EVS is a net present value (NPV)–based measure of the lifetime cash flows of Citi's Banking Book. It estimates the interest rate sensitivity of the Banking Book's economic value from longer-term assets being potentially funded with shorter-term liabilities, or vice versa. Citi manages EVS within risk limits approved by Citigroup's Board of Directors that are aligned with Citi's interest rate risk appetite.

Interest Rate Risk of Investment Portfolios—Impact on *AOCI*

Citi also measures the potential impacts of changes in interest rates on the value of its *AOCI*, which can in turn impact Citi's common equity and tangible common equity. This will impact Citi's CET1 and other regulatory capital ratios. Citi seeks to manage its exposure to changes in the market level of interest rates, while limiting the potential impact on its *AOCI* and regulatory capital position.

AOCI at risk is managed as part of the Company-wide interest rate risk position. *AOCI* at risk considers potential changes in *AOCI* (and the corresponding impact on the CET1 Capital ratio) relative to Citi's capital generation capacity.

Citi uses 100 basis point (bps) shocks in each scenario to reflect its net interest income sensitivity to unanticipated changes in market interest rates, as potential monetary policy decisions and changes in economic conditions may be reflected in current market implied forward rates. The following table presents the 12-month estimated impact to Citi's net interest income, *AOCI* and the CET1 Capital ratio, each assuming an unanticipated parallel instantaneous 100 bps increase in interest rates:

In millions of dollars, except as otherwise noted	**Jun. 30, 2023**	Mar. 31, 2023	Jun. 30, 2022
Parallel interest rate shock +100 bps			
Interest rate exposure[1][2]			
U.S. dollar	**$ (55)**	$ 304	$ 605
All other currencies	**1,468**	1,361	2,185
Total	**$ 1,413**	$ 1,665	$ 2,790
As a percentage of average interest-earning assets	**0.06 %**	0.07 %	0.11 %
Estimated initial negative impact to *AOCI* (after-tax)[3]	**$ (1,416)**	$ (1,557)	$ (2,522)
Estimated initial impact on CET1 Capital ratio (bps) from *AOCI* scenario	**(12)**	(11)	(10)

(1) Excludes trading book and fair value option banking book portfolios and replaces them with the associated transfer pricing.
(2) IRE as of June 30, 2022 does not reflect certain IRE methodology enhancements that were subsequently implemented in September 2022, most notably the Banking Book revisions to the treatment of certain business activities.
(3) Includes the effect of changes in interest rates on *AOCI* related to investment securities, cash flow hedges and pension liability adjustments.

The "All other currencies" of $1,468 million as of June 30, 2023 in the table above includes the impact from the following top six non-U.S. dollar currencies, which represents nearly 50% of the total non-U.S. dollar currency impact: approximately $0.2 billion from British pound sterling, and approximately $0.1 billion each from Japanese yen, Singapore dollar, Taiwan dollar, Indian rupee and Swiss franc. These impacts per currency are generally in the same direction (estimated positive impact in the +100 bps shock scenario) and not offsetting.

Citi's balance sheet is asset sensitive (assets reprice faster than liabilities), resulting in higher net interest income in increasing interest rate scenarios. The estimated impact to Citi's net interest income in a 100 bps upward rate shock scenario as of the second quarter of 2023 decreased quarter-over-quarter and year-over-year, primarily due to changes in deposit composition and levels, partially offset by hedging actions. At progressively higher interest rate levels, the marginal net interest income benefit is lower, as Citi assumes it will pass on a larger share of rate changes to depositors (i.e., higher betas), further reducing Citi's IRE sensitivity. Currency-specific interest rate changes and balance sheet factors may drive quarter-to-quarter volatility in Citi's estimated IRE.

In a 100 bps upward rate shock scenario, Citi expects that the approximate $1.4 billion initial negative impact to *AOCI* could potentially be offset in shareholders' equity through the expected recovery of the impact on *AOCI* through accretion of Citi's investment portfolio and expected net interest income benefit over a period of approximately six months.

Scenario Analysis

The following table presents the estimated impact to Citi's net interest income, *AOCI* and CET1 Capital ratio (on a fully implemented basis) under six different scenarios of changes in interest rates for the U.S. dollar and all other currencies in which Citi has invested capital as of June 30, 2023. The interest rate scenarios are also impacted by convexity related to mortgage products.

In millions of dollars, except as otherwise noted	**Scenario 1**	**Scenario 2**	**Scenario 3**	**Scenario 4**	**Scenario 5**	**Scenario 6**
Overnight rate change (bps)	100	100	—	—	(100)	(100)
10-year rate change (bps)	100	—	100	(100)	—	(100)
Interest rate exposure						
U.S. dollar	$ (55)	$ (95)	$ 38	$ (67)	$ (10)	$ (93)
All other currencies[(1)]	1,468	1,262	210	(190)	(1,152)	(1,348)
Total	$ 1,413	$ 1,167	$ 248	$ (257)	$ (1,162)	$ (1,441)
Estimated initial impact to *AOCI* (after-tax)[(2)]	$ (1,416)	$ (1,242)	$ (191)	$ 90	$ 1,237	$ 1,353
Estimated initial impact to CET1 Capital ratio (bps) from *AOCI* scenario	(12)	(8)	(4)	3	8	12

Note: Each scenario assumes that the rate change will occur instantaneously. Changes in interest rates for maturities between the overnight rate and the 10-year rate are interpolated. The interest rate exposure in the table above assumes no change in deposit size or mix from the baseline forecast included in the different interest scenarios presented. As a result, in higher interest rate scenarios, customer activity resulting in a shift from non-interest-bearing and low interest rate deposit products to higher-yielding deposits would reduce the expected benefit to net interest income. Conversely, in lower interest rate scenarios, customer activity resulting in a shift from higher-yielding deposits to non-interest-bearing and low interest rate deposit products would reduce the expected decrease to net interest income.

(1) Scenario 1 includes the impact from the following top six non-U.S. dollar currencies, which represents nearly 50% of the total non-U.S. dollar currency impact: approximately $0.2 billion from British pound sterling, and approximately $0.1 million each from Japanese yen, Singapore dollar, Taiwan dollar, Indian rupee and Swiss franc. These impacts per currency are generally in the same direction (estimated positive impact in the +100 bps shock scenario) and not offsetting.

(2) Includes the effect of changes in interest rates on *AOCI* related to investment securities, cash flow hedges and pension liability adjustments.

As shown in the table above, the estimated impact to Citi's net interest income is larger under Scenario 2 than Scenario 3, as Citi's Banking Book has relatively higher interest rate exposure to the short end of the yield curve. For non-U.S. dollar currencies, exposure to downward rate shocks is smaller in magnitude as a result of Citi's flooring assumption, given low rate levels for certain non-U.S. dollar currencies.

The magnitude of the impact to *AOCI* is greater under Scenario 2 compared to Scenario 3. This is because the combination of changes to Citi's investment portfolio, partially offset by changes related to Citi's pension liabilities, results in a net position that is more sensitive to rates at shorter- and intermediate-term maturities.

Changes in Foreign Exchange Rates—Impacts on *AOCI* and Capital

As of June 30, 2023, Citi estimates that an unanticipated parallel instantaneous 5% appreciation of the U.S. dollar against all of the other currencies in which Citi has invested capital could reduce Citi's tangible common equity (TCE) by approximately $1.7 billion, or 0.96%, as a result of changes to Citi's CTA in *AOCI*, net of hedges. This impact would be primarily due to changes in the value of the Mexican peso, Euro and Indian rupee.

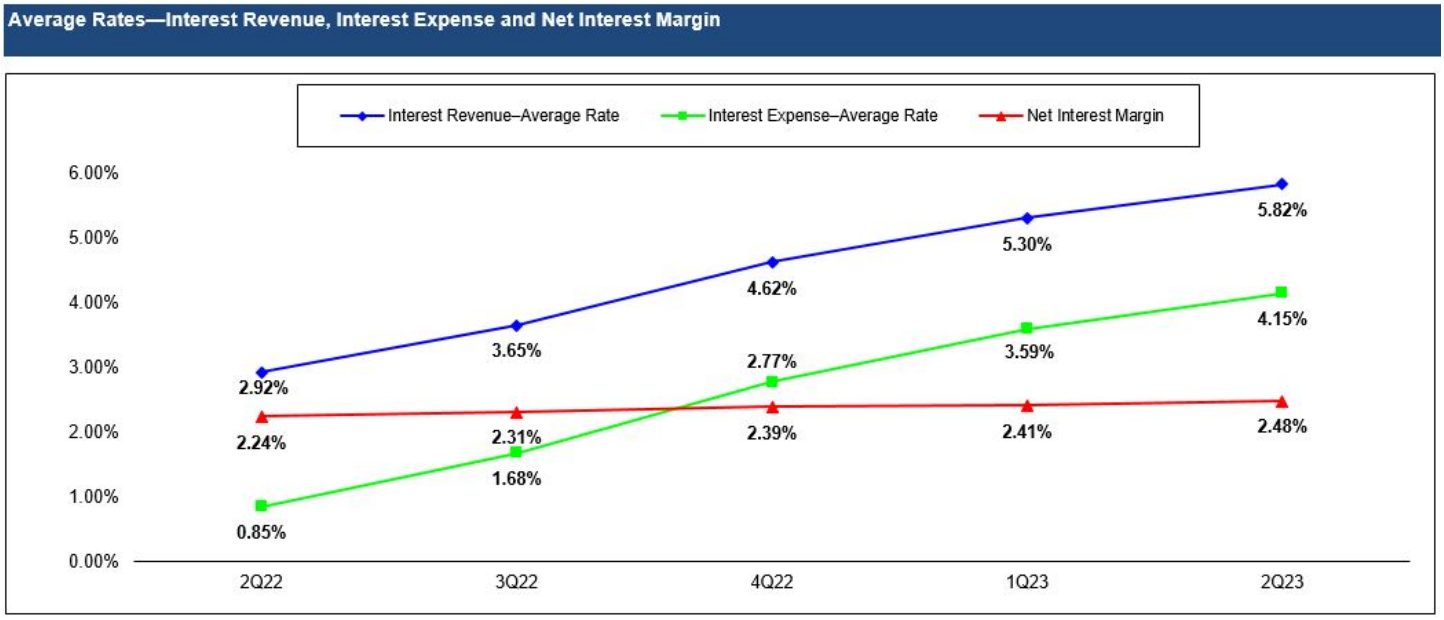
This impact is also before any mitigating actions Citi may take, including ongoing management of its foreign currency translation exposure. Specifically, as currency movements change the value of Citi's net investments in foreign currency-denominated capital, these movements also change the value of Citi's risk-weighted assets denominated in those currencies. This, coupled with Citi's foreign currency hedging strategies, such as foreign currency borrowings, foreign currency forwards and other currency hedging instruments, lessens the impact of foreign currency movements on Citi's CET1 Capital ratio. Changes in these hedging strategies, as well as hedging costs, divestitures and tax impacts, can further affect the actual impact of changes in foreign exchange rates on Citi's capital compared to an unanticipated parallel shock, as described above.

The effect of Citi's ongoing management strategies with respect to quarterly changes in foreign exchange rates, and the quarterly impact of these changes on Citi's TCE and CET1 Capital ratio, are shown in the table below. See Note 18 for additional information on the changes in *AOCI*.

	For the quarter ended		
In millions of dollars, except as otherwise noted	**Jun. 30, 2023**	Mar. 31, 2023	Jun. 30, 2022
Change in FX spot rate[(1)]	**(0.2)%**	1.5 %	(4.9)%
Change in TCE due to FX translation, net of hedges	**$ (98)**	$ 636	$ (1,335)
As a percentage of TCE	**(0.1)%**	0.4 %	(0.9)%
Estimated impact to CET1 Capital ratio (on a fully implemented basis) due to changes in FX translation, net of hedges (bps)	—	1	5

(1) FX spot rate change is a weighted average based on Citi's quarterly average GAAP capital exposure to foreign countries.

Interest Revenue/Expense and Net Interest Margin (NIM)



In millions of dollars, except as otherwise noted	**2nd Qtr. 2023**	1st Qtr. 2023	2nd Qtr. 2022	**Change 2Q23 vs. 2Q22**
Interest revenue[1]	**$ 32,660**	$ 29,439	$ 15,674	**108 %**
Interest expense[2]	**18,747**	16,047	3,666	**411**
Net interest income, taxable equivalent basis[1]	**$ 13,913**	$ 13,392	$ 12,008	**16 %**
Interest revenue—average rate[3]	**5.82 %**	5.30 %	2.92 %	**290 bps**
Interest expense—average rate	**4.15**	3.59	0.85	**330 bps**
Net interest margin[3][4]	**2.48**	2.41	2.24	**24 bps**
Interest rate benchmarks				
Two-year U.S. Treasury note—average rate	**4.26 %**	4.34 %	2.72 %	**154 bps**
10-year U.S. Treasury note—average rate	**3.60**	3.65	2.93	**67 bps**
10-year vs. two-year spread	**(66) bps**	(69) bps	21 bps	

(1) *Interest revenue* and *Net interest income* include the taxable equivalent adjustments primarily related to the tax-exempt bond portfolio and certain tax-advantaged loan programs (based on the U.S. federal statutory tax rate of 21%) of $13 million, $44 million and $44 million for the three months ended June 30, 2023, March 31, 2023 and June 30, 2022, respectively.

(2) Interest expense associated with certain hybrid financial instruments, which are classified as *Long-term debt* and accounted for at fair value, is reported together with any changes in fair value as part of *Principal transactions* in the Consolidated Statement of Income and is therefore not reflected in *Interest expense* in the table above.

(3) The average rate on interest revenue and net interest margin reflects the taxable equivalent gross-up adjustment. See footnote 1 above.

(4) Citi's NIM is calculated by dividing net interest income by average interest-earning assets.

Non-*ICG* Markets Net Interest Income

In millions of dollars	**2nd Qtr. 2023**	1st Qtr. 2023	2nd Qtr. 2022	**Change 2Q23 vs. 2Q22**
Net interest income—taxable equivalent basis[(1)] per above	**$ 13,913**	$ 13,392	$ 12,008	**16 %**
ICG Markets net interest income—taxable equivalent basis[(1)]	**1,983**	1,471	1,358	**46**
Non-*ICG* Markets net interest income—taxable equivalent basis[(1)]	**$ 11,930**	$ 11,921	$ 10,650	**12 %**

(1) *Interest revenue* and *Net interest income* include the taxable equivalent adjustments discussed in the table above.

Citi's net interest income in the second quarter of 2023 increased 16% to $13.9 billion versus the prior-year period. As presented in the table above, Citi's net interest income on a taxable equivalent basis also increased 16% year-over-year, or $1.9 billion. The increase was driven by higher net interest income in non-*ICG* Markets, which increased 12%, and *ICG* Markets, which increased 46%. The increase in net interest income in non-*ICG* Markets primarily reflected higher interest rates, growth in U.S. cards interest-earning balances and higher income from Citi's investment portfolio, partially offset by the reduction from the exited markets and continued wind-downs in *Legacy Franchises*. The increase in *ICG* Markets net interest income was primarily driven by higher interest rates as well as a change in the mix of trading positions in support of client activity.

Citi's net interest margin was 2.48% on a taxable equivalent basis in the second quarter of 2023, an increase of 7 basis points from the prior quarter, primarily driven by the benefits of dividend seasonality in *ICG* Markets and higher interest rates, partially offset by a mix shift to higher cost deposits.

Additional Interest Rate Details

***Average Balances and Interest Rates—Assets*[(1)(2)(3)]**

Taxable Equivalent Basis

Quarterly—Assets	**Average balance**			**Interest revenue**			**% Average rate**		
In millions of dollars, except rates	**2nd Qtr. 2023**	1st Qtr. 2023	2nd Qtr. 2022	**2nd Qtr. 2023**	1st Qtr. 2023	2nd Qtr. 2022	**2nd Qtr. 2023**	1st Qtr. 2023	2nd Qtr. 2022
Deposits with banks[4]	**$ 310,047**	$ 328,141	$ 227,377	**$ 3,049**	$ 3,031	$ 658	**3.94 %**	3.75 %	1.16 %
Securities borrowed and purchased under agreements to resell[5]									
In U.S. offices	**$ 182,676**	$ 186,573	$ 190,065	**$ 3,227**	$ 2,840	$ 458	**7.09 %**	6.17 %	0.97 %
In offices outside the U.S.[4]	**183,028**	181,476	159,455	**3,027**	2,334	347	**6.63**	5.22	0.87
Total	**$ 365,704**	$ 368,049	$ 349,520	**$ 6,254**	$ 5,174	$ 805	**6.86 %**	5.70 %	0.92 %
Trading account assets[6][7]									
In U.S. offices	**$ 180,214**	$ 164,217	$ 139,087	**$ 2,071**	$ 1,773	$ 632	**4.61 %**	4.38 %	1.82 %
In offices outside the U.S.[4]	**149,015**	134,607	136,850	**1,681**	975	1,030	**4.52**	2.94	3.02
Total	**$ 329,229**	$ 298,824	$ 275,937	**$ 3,752**	$ 2,748	$ 1,662	**4.57 %**	3.73 %	2.42 %
Investments									
In U.S. offices									
Taxable	**$ 337,957**	$ 344,776	$ 357,249	**$ 2,238**	$ 2,149	$ 1,132	**2.66 %**	2.53 %	1.27 %
Exempt from U.S. income tax	**11,577**	11,608	11,898	**108**	116	108	**3.74**	4.05	3.64
In offices outside the U.S.[4]	**158,415**	160,140	150,435	**2,110**	1,894	1,147	**5.34**	4.80	3.06
Total	**$ 507,949**	$ 516,524	$ 519,582	**$ 4,456**	$ 4,159	$ 2,387	**3.52 %**	3.27 %	1.84 %
Consumer loans[8]									
In U.S. offices	**$ 289,122**	$ 283,493	$ 264,240	**$ 7,294**	$ 7,051	$ 5,348	**10.12 %**	10.09 %	8.12 %
In offices outside the U.S.[4]	**78,730**	80,176	88,291	**1,668**	1,573	1,253	**8.50**	7.96	5.69
Total	**$ 367,852**	$ 363,669	$ 352,531	**$ 8,962**	$ 8,624	$ 6,601	**9.77 %**	9.62 %	7.51 %
Corporate loans[8]									
In U.S. offices	**$ 135,716**	$ 137,733	$ 142,180	**$ 1,791**	$ 1,736	$ 1,285	**5.29 %**	5.11 %	3.63 %
In offices outside the U.S.[4]	**150,023**	152,335	162,776	**3,311**	2,951	1,632	**8.85**	7.86	4.02
Total	**$ 285,739**	$ 290,068	$ 304,956	**$ 5,102**	$ 4,687	$ 2,917	**7.16 %**	6.55 %	3.84 %
Total loans[8]									
In U.S. offices	**$ 424,838**	$ 421,226	$ 406,420	**$ 9,085**	$ 8,787	$ 6,633	**8.58 %**	8.46 %	6.55 %
In offices outside the U.S.[4]	**228,753**	232,511	251,067	**4,979**	4,524	2,885	**8.73**	7.89	4.61
Total	**$ 653,591**	$ 653,737	$ 657,487	**$ 14,064**	$ 13,311	$ 9,518	**8.63 %**	8.26 %	5.81 %
Other interest-earning assets[9]	**$ 85,083**	$ 87,758	$ 121,629	**$ 1,085**	$ 1,016	$ 644	**5.11 %**	4.70 %	2.12 %
Total interest-earning assets	**$ 2,251,603**	$ 2,253,033	$2,151,532	**$ 32,660**	$ 29,439	$ 15,674	**5.82 %**	5.30 %	2.92 %
Non-interest-earning assets[6]	**$ 214,011**	$ 209,211	$ 228,521						
Total assets	**$ 2,465,614**	$ 2,462,244	$2,380,053						

Six Months—Assets	Average balance		Interest revenue		% Average rate	
In millions of dollars, except rates	**Six Months 2023**	Six Months 2022	**Six Months 2023**	Six Months 2022	**Six Months 2023**	Six Months 2022
Deposits with banks[4]	**$ 319,094**	$ 243,957	**$ 6,080**	$ 954	**3.84 %**	0.79 %
Securities borrowed and purchased under agreements to resell[5]						
In U.S. offices	**$ 184,624**	$ 184,030	**$ 6,067**	$ 567	**6.63 %**	0.62 %
In offices outside the U.S.[4]	**182,252**	162,548	**5,361**	632	**5.93**	0.78
Total	**$ 366,876**	$ 346,578	**$ 11,428**	$ 1,199	**6.28 %**	0.70 %
Trading account assets[6][7]						
In U.S. offices	**$ 172,215**	$ 137,972	**$ 3,844**	$ 1,224	**4.50 %**	1.79 %
In offices outside the U.S.[4]	**141,811**	135,227	**2,656**	1,586	**3.78**	2.37
Total	**$ 314,026**	$ 273,199	**$ 6,500**	$ 2,810	**4.17 %**	2.07 %
Investments						
In U.S. offices						
Taxable	**$ 341,366**	$ 355,577	**$ 4,387**	$ 2,153	**2.59 %**	1.22 %
Exempt from U.S. income tax	**11,593**	11,755	**224**	203	**3.90**	3.48
In offices outside the U.S.[4]	**159,278**	151,869	**4,004**	2,098	**5.07**	2.79
Total	**$ 512,237**	$ 519,201	**$ 8,615**	$ 4,454	**3.39 %**	1.73 %
Consumer loans[8]						
In U.S. offices	**$ 286,307**	$ 260,748	**$ 14,345**	$ 10,393	**10.10 %**	8.04 %
In offices outside the U.S.[4]	**79,453**	91,632	**3,241**	2,470	**8.23**	5.44
Total	**$ 365,760**	$ 352,380	**$ 17,586**	$ 12,863	**9.70 %**	7.36 %
Corporate loans[8]						
In U.S. offices	**$ 136,725**	$ 139,528	**$ 3,527**	$ 2,397	**5.20 %**	3.46 %
In offices outside the U.S.[4]	**151,179**	161,123	**6,262**	2,997	**8.35**	3.75
Total	**$ 287,904**	$ 300,651	**$ 9,789**	$ 5,394	**6.86 %**	3.62 %
Total loans[8]						
In U.S. offices	**$ 423,032**	$ 400,276	**$ 17,872**	$ 12,790	**8.52 %**	6.44 %
In offices outside the U.S.[4]	**230,632**	252,755	**9,503**	5,467	**8.31**	4.36
Total	**$ 653,664**	$ 653,031	**$ 27,375**	$ 18,257	**8.45 %**	5.64 %
Other interest-earning assets[9]	**$ 86,421**	$ 120,722	**$ 2,101**	$ 1,193	**4.90 %**	1.99 %
Total interest-earning assets	**$ 2,252,318**	$2,156,688	**$ 62,099**	$ 28,867	**5.56 %**	2.70 %
Non-interest-earning assets[6]	**$ 211,611**	$ 220,359				
Total assets	**$ 2,463,929**	$2,377,047				

(1) *Interest revenue* and *Net interest income* include the taxable equivalent adjustments primarily related to the tax-exempt bond portfolio and certain tax-advantaged loan programs (based on the U.S. federal statutory tax rate of 21%) of $13 million, $44 million and $44 million for the three months ended June 30, 2023, March 31, 2023 and June 30, 2022, respectively, and $57 million and $86 million for the six months ended June 30, 2023 and 2022, respectively.

(2) Interest rates and amounts include the effects of risk management activities associated with the respective asset categories.

(3) Monthly or quarterly averages have been used by certain subsidiaries where daily averages are unavailable.

(4) Average rates reflect prevailing local interest rates, including inflationary effects and monetary corrections in certain countries.

(5) Average volumes of securities borrowed or purchased under agreements to resell are reported net pursuant to ASC 210-20-45. However, *Interest revenue* excludes the impact of ASC 210-20-45.

(6) The fair value carrying amounts of derivative contracts are reported net, pursuant to ASC 815-10-45, in *Non-interest-earning assets* and *Other non-interest-bearing liabilities*.

(7) *Interest expense* on *Trading account liabilities* of *ICG* is reported as a reduction of *Interest revenue*. *Interest revenue* and *Interest expense* on cash collateral positions are reported in interest on *Trading account assets* and *Trading account liabilities*, respectively.

(8) Net of unearned income. Includes cash-basis loans.

(9) Includes assets from businesses held-for-sale (see Note 2) and *Brokerage receivables*.

Average Balances and Interest Rates—Liabilities and Equity, and Net Interest Income[1][2][3]

Taxable Equivalent Basis

Quarterly—Liabilities	Average balance			Interest expense			% Average rate		
In millions of dollars, except rates	**2nd Qtr. 2023**	1st Qtr. 2023	2nd Qtr. 2022	**2nd Qtr. 2023**	1st Qtr. 2023	2nd Qtr. 2022	**2nd Qtr. 2023**	1st Qtr. 2023	2nd Qtr. 2022
Deposits									
In U.S. offices[4]	**$ 595,476**	$ 603,997	$ 554,182	**$ 4,983**	$ 4,432	$ 545	**3.36 %**	2.98 %	0.39 %
In offices outside the U.S.[5]	**536,735**	543,179	513,820	**3,744**	3,276	875	**2.80**	2.45	0.68
Total	**$ 1,132,211**	$ 1,147,176	$1,068,002	**$ 8,727**	$ 7,708	$ 1,420	**3.09 %**	2.72 %	0.53 %
Securities loaned and sold under agreements to repurchase[6]									
In U.S. offices	**$ 170,226**	$ 131,235	$ 112,011	**$ 3,084**	$ 2,232	$ 391	**7.27 %**	6.90 %	1.40 %
In offices outside the U.S.[5]	**91,921**	92,473	96,388	**1,869**	1,334	264	**8.16**	5.85	1.10
Total	**$ 262,147**	$ 223,708	$ 208,399	**$ 4,953**	$ 3,566	$ 655	**7.58 %**	6.46 %	1.26 %
Trading account liabilities[7][8]									
In U.S. offices	**$ 50,429**	$ 52,236	$ 52,714	**$ 479**	$ 412	$ 24	**3.81 %**	3.20 %	0.18 %
In offices outside the U.S.[5]	**77,925**	77,125	72,096	**391**	375	113	**2.01**	1.97	0.63
Total	**$ 128,354**	$ 129,361	$ 124,810	**$ 870**	$ 787	$ 137	**2.72 %**	2.47 %	0.44 %
Short-term borrowings and other interest-bearing liabilities[9]									
In U.S. offices	**$ 86,990**	$ 96,092	$ 94,028	**$ 1,608**	$ 1,482	$ 217	**7.41 %**	6.25 %	0.93 %
In offices outside the U.S.[5]	**39,744**	47,930	60,211	**169**	167	51	**1.71**	1.41	0.34
Total	**$ 126,734**	$ 144,022	$ 154,239	**$ 1,777**	$ 1,649	$ 268	**5.62 %**	4.64 %	0.70 %
Long-term debt[10]									
In U.S. offices	**$ 159,803**	$ 167,852	$ 164,832	**$ 2,367**	$ 2,285	$ 1,143	**5.94 %**	5.52 %	2.78 %
In offices outside the U.S.[5]	**2,524**	2,681	3,892	**53**	52	43	**8.42**	7.87	4.43
Total	**$ 162,327**	$ 170,533	$ 168,724	**$ 2,420**	$ 2,337	$ 1,186	**5.98 %**	5.56 %	2.82 %
Total interest-bearing liabilities	**$ 1,811,773**	$ 1,814,800	$1,724,174	**$ 18,747**	$ 16,047	$ 3,666	**4.15 %**	3.59 %	0.85 %
Demand deposits in U.S. offices	**$ 113,639**	$ 120,670	$ 143,426						
Other non-interest-bearing liabilities[7]	**331,119**	322,464	313,926						
Total liabilities	**$ 2,256,531**	$ 2,257,934	$2,181,526						
Citigroup stockholders' equity	**$ 208,459**	$ 203,727	$ 197,976						
Noncontrolling interests	624	583	551						
Total equity	**$ 209,083**	$ 204,310	$ 198,527						
Total liabilities and stockholders' equity	**$ 2,465,614**	$ 2,462,244	$2,380,053						
Net interest income as a percentage of average interest-earning assets[11]									
In U.S. offices	**$ 1,336,146**	$ 1,340,929	$1,247,713	**$ 6,961**	$ 7,455	$ 7,070	**2.09 %**	2.25 %	2.27 %
In offices outside the U.S.[6]	**915,457**	912,104	903,819	**6,952**	5,937	4,938	**3.05**	2.64	2.19
Total	**$ 2,251,603**	$ 2,253,033	$2,151,532	**$ 13,913**	$ 13,392	$ 12,008	**2.48 %**	2.41 %	2.24 %

Six Months—Liabilities	Average balance		Interest expense		% Average rate	
In millions of dollars, except rates	**Six Months 2023**	Six Months 2022	**Six Months 2023**	Six Months 2022	**Six Months 2023**	Six Months 2022
Deposits						
In U.S. offices[4]	**$ 599,736**	$ 557,100	**$ 9,415**	$ 782	**3.17 %**	0.28 %
In offices outside the U.S.[5]	**539,957**	516,954	**7,020**	1,509	**2.62**	0.59
Total	**$ 1,139,693**	$1,074,054	**$ 16,435**	$ 2,291	**2.91 %**	0.43 %
Securities loaned and sold under agreements to repurchase[6]						
In U.S. offices	**$ 150,731**	$ 114,902	**$ 5,316**	$ 552	**7.11 %**	0.97 %
In offices outside the U.S.[5]	**92,197**	94,348	**3,203**	385	**7.01**	0.82
Total	**$ 242,928**	$ 209,250	**$ 8,519**	$ 937	**7.07 %**	0.90 %
Trading account liabilities[7][8]						
In U.S. offices	**$ 51,333**	$ 50,653	**$ 891**	$ 60	**3.50 %**	0.24 %
In offices outside the U.S.[5]	**77,525**	68,908	**766**	224	**1.99**	0.66
Total	**$ 128,858**	$ 119,561	**$ 1,657**	$ 284	**2.59 %**	0.48 %
Short-term borrowings and other interest bearing liabilities[9]						
In U.S. offices	**$ 91,541**	$ 86,345	**$ 3,090**	$ 230	**6.81 %**	0.54 %
In offices outside the U.S.[5]	**43,837**	60,205	**336**	93	**1.55**	0.31
Total	**$ 135,378**	$ 146,550	**$ 3,426**	$ 323	**5.10 %**	0.44 %
Long-term debt[10]						
In U.S. offices	**$ 163,827**	$ 165,903	**$ 4,652**	$ 2,032	**5.73 %**	2.47 %
In offices outside the U.S.[5]	**2,603**	3,923	**105**	79	**8.13**	4.06
Total	**$ 166,430**	$ 169,826	**$ 4,757**	$ 2,111	**5.76 %**	2.51 %
Total interest-bearing liabilities	**$ 1,813,287**	$1,719,241	**$ 34,794**	$ 5,946	**3.87 %**	0.70 %
Demand deposits in U.S. offices	**$ 117,155**	$ 136,388				
Other non-interest-bearing liabilities[7]	**326,946**	321,748				
Total liabilities	**$ 2,257,388**	$2,177,377				
Citigroup stockholders' equity	**$ 205,937**	$ 199,070				
Noncontrolling interests	**604**	600				
Total equity	**$ 206,541**	$ 199,670				
Total liabilities and stockholders' equity	**$ 2,463,929**	$2,377,047				
Net interest income as a percentage of average interest-earning assets[11]						
In U.S. offices	**$ 1,338,537**	$1,247,385	**$ 14,416**	$ 13,928	**2.17 %**	2.25 %
In offices outside the U.S.[6]	**913,781**	909,303	**12,889**	8,993	**2.84**	1.99
Total	**$ 2,252,318**	$2,156,688	**$ 27,305**	$ 22,921	**2.44 %**	2.14 %

(1) *Interest revenue* and *Net interest income* include the taxable equivalent adjustments discussed in the table above.
(2) Interest rates and amounts include the effects of risk management activities associated with the respective liability categories.
(3) Monthly or quarterly averages have been used by certain subsidiaries where daily averages are unavailable.
(4) Consists of other time deposits and savings deposits. Savings deposits are made up of insured money market accounts, NOW accounts and other savings deposits.
(5) Average rates reflect prevailing local interest rates, including inflationary effects and monetary corrections in certain countries.
(6) Average volumes of securities sold under agreements to repurchase are reported net pursuant to ASC 210-20-45. However, *Interest expense* excludes the impact of ASC 210-20-45.
(7) The fair value carrying amounts of derivative contracts are reported net, pursuant to ASC 815-10-45, in *Non-interest-earning assets* and *Other non-interest-bearing liabilities*.
(8) *Interest expense* on *Trading account liabilities* of *ICG* is reported as a reduction of *Interest revenue*. *Interest revenue* and *Interest expense* on cash collateral positions are reported in interest on *Trading account assets* and *Trading account liabilities*, respectively.
(9) Includes *Brokerage payables*.
(10) Excludes hybrid financial instruments and beneficial interests in consolidated VIEs that are classified as *Long-term debt*, as the changes in fair value for these obligations are recorded in *Principal transactions*.
(11) Includes allocations for capital and funding costs based on the location of the asset.

Market Risk of Trading Portfolios

Value at Risk (VAR)

Citi believes its VAR model is conservatively calibrated to incorporate fat-tail scaling and the greater of short-term (approximately the most recent month) and long-term (18 months for commodities and three years for others) market volatility. As of June 30, 2023, Citi estimates that the conservative features of the VAR calibration contribute an approximate 48% add-on to what would be a VAR estimated under the assumption of stable and perfectly, normally distributed markets. As of March 31, 2023, the add-on was 65%.

As presented in the table below, Citi's average trading VAR for the second quarter of 2023 decreased 3% quarter-over-quarter, primarily from inventory changes in *ICG* Markets businesses.

Quarter-end and Average Trading VAR and Trading and Credit Portfolio VAR

In millions of dollars	**June 30, 2023**	**Second Quarter 2023 Average**	March 31, 2023	First Quarter 2023 Average	June 30, 2022	Second Quarter 2022 Average
Interest rate	**$ 109**	**$ 129**	$ 172	$ 131	$ 122	$ 94
Credit spread	**63**	**69**	80	76	69	70
Covariance adjustment[1]	**(48)**	**(49)**	(55)	(52)	(45)	(45)
Fully diversified interest rate and credit spread[2]	**$ 124**	**$ 149**	$ 197	$ 155	$ 146	$ 119
Foreign exchange	**20**	**18**	15	19	35	36
Equity	**30**	**22**	22	24	25	24
Commodity	**29**	**37**	43	36	38	45
Covariance adjustment[1]	**(91)**	**(89)**	(94)	(93)	(96)	(106)
Total trading VAR—all market risk factors, including general and specific risk (excluding credit portfolios)[2]	**$ 112**	**$ 137**	$ 183	$ 141	$ 148	$ 118
Specific risk-only component[3]	**$ (15)**	**$ (9)**	$ (4)	$ (6)	$ 4	$ (2)
Total trading VAR—general market risk factors only (excluding credit portfolios)	**$ 127**	**$ 146**	$ 187	$ 147	$ 144	$ 120
Incremental impact of the credit portfolio[4]	**$ 33**	**$ 11**	$ 8	$ 20	$ 7	$ 17
Total trading and credit portfolio VAR	**$ 145**	**$ 148**	$ 191	$ 161	$ 155	$ 135

(1) Covariance adjustment (also known as diversification benefit) equals the difference between the total VAR and the sum of the VARs tied to each risk type. The benefit reflects the fact that the risks within individual and across risk types are not perfectly correlated and, consequently, the total VAR on a given day will be lower than the sum of the VARs relating to each risk type. The determination of the primary drivers of changes to the covariance adjustment is made by an examination of the impact of both model parameter and position changes.

(2) The total trading VAR includes mark-to-market and certain fair value option trading positions in *ICG*, with the exception of hedges to the loan portfolio, fair value option loans and all CVA exposures. Available-for-sale and accrual exposures are not included.

(3) The specific risk-only component represents the level of equity and fixed income issuer-specific risk embedded in VAR.

(4) The credit portfolio is composed of mark-to-market positions associated with non-trading business units, with the CVA relating to derivative counterparties and all associated CVA hedges. FVA and DVA are not included. The credit portfolio also includes hedges to the loan portfolio, fair value option loans and hedges to the leveraged finance pipeline within capital markets origination in *ICG*.

The table below provides the range of market factor VARs associated with Citi's total trading VAR, inclusive of specific risk:

In millions of dollars	**Second Quarter 2023**		First Quarter 2023		Second Quarter 2022	
	Low	**High**	Low	High	Low	High
Interest rate	**$ 102**	**$ 186**	$ 100	$ 172	$ 79	$ 123
Credit spread	**57**	**83**	67	88	65	78
Fully diversified interest rate and credit spread	**$ 116**	**$ 211**	$ 123	$ 197	$ 105	$ 147
Foreign exchange	**12**	**24**	12	23	32	40
Equity	**15**	**32**	3	39	17	40
Commodity	**25**	**47**	30	45	33	65
Total trading	**$ 107**	**$ 192**	$ 112	$ 183	$ 102	$ 148
Total trading and credit portfolio	**118**	**200**	125	198	119	155

Note: No covariance adjustment can be inferred from the above table as the high and low for each market factor will be from different close-of-business dates.

The following table provides the VAR for *ICG*, excluding the CVA relating to derivative counterparties, hedges of CVA, fair value option loans and hedges to the loan portfolio:

In millions of dollars	June 30, 2023
Total—all market risk factors, including general and specific risk	
Average—during quarter	**$ 134**
High—during quarter	**184**
Low—during quarter	**104**

Regulatory VAR Back-testing

In accordance with Basel III, Citi is required to perform back-testing to evaluate the effectiveness of its Regulatory VAR model. Regulatory VAR back-testing is the process in which the daily one-day VAR, at a 99% confidence interval, is compared to the buy-and-hold profit and loss (i.e., the profit and loss impact if the portfolio is held constant at the end of the day and re-priced the following day). Buy-and-hold profit and loss represents the daily mark-to-market profit and loss attributable to price movements in covered positions from the close of the previous business day. Buy-and-hold profit and loss excludes realized trading revenue, net interest, fees and commissions, intra-day trading profit and loss and changes in reserves.

Based on a 99% confidence level, Citi would expect two to three days in any one year where buy-and-hold losses exceed the Regulatory VAR. Given the conservative calibration of Citi's VAR model (as a result of taking the greater of short- and long-term volatilities and fat-tail scaling of volatilities), Citi would expect fewer exceptions under normal and stable market conditions. Periods of unstable market conditions could increase the number of back-testing exceptions.

As of June 30, 2023, there was one back-testing exception observed for Citi's Regulatory VAR in the last 12 months.

OTHER RISKS

For additional information regarding other risks, including Citi's management of other risks, see "Managing Global Risk—Other Risks" in Citi's 2022 Form 10-K.

LIBOR Transition Risk

The USD LIBOR bank panel ended on June 30, 2023. The overnight and 12-month USD LIBOR settings have now permanently ceased, and the Financial Conduct Authority is requiring ICE Benchmark Administration to continue publishing one-, three- and six-month USD LIBOR settings using a synthetic methodology, which is based on the relevant CME Term SOFR Reference Rate plus the respective ISDA fixed spread adjustment. These synthetic settings are permanently unrepresentative of the underlying markets they previously sought to measure and are expected to cease on September 30, 2024.

As of June 30, 2023, Citi has transitioned nearly all of its USD LIBOR-referencing contracts to SOFR plus a credit spread adjustment. Remediation was accomplished through a range of methods. With respect to derivatives, most bilateral contracts were remediated through adherence to the ISDA IBOR Fallbacks Protocols or bilateral amendments, and cleared contracts were remediated through conversions completed by central counterparty clearing houses. Most loan contracts were remediated through amendments that provided for either an immediate transition to SOFR or a transition on the first interest payment date immediately following June 30, 2023. With respect to securities, contracts governed by U.S. law transitioned to SOFR by operation of law pursuant to the Adjustable Interest Rate (LIBOR) Act or pursuant to Citi's exercise of discretion as the determining person with the authority to select a replacement rate. Securities contracts not governed by U.S. law were primarily remediated through consent solicitations or Citi's exercise of discretion as the determining person with the authority to select a replacement rate.

As of June 30, 2023, there were a de minimis number of unremediated USD LIBOR-referencing contracts. Most of these contracts relate to non-U.S.-law-governed securities and loans that will temporarily utilize synthetic LIBOR. Citi will continue to focus on remediating its remaining unremediated contracts.

For additional information about Citi's actions to address a transition away from and discontinuance of LIBOR, see "Managing Global Risk—Other Risks—LIBOR Transition Risk" in Citi's First Quarter of 2023 Form 10-Q and 2022 Form 10-K. For information about Citi's LIBOR transition risks, see "Risk Factors—Other Risks" in the 2022 Form 10-K.

Country Risk

Top 25 Country Exposures

The following table presents Citi's top 25 exposures by country (excluding the U.S.) as of June 30, 2023. (Including the U.S., Citi's top 25 exposures by country would represent approximately 98% of Citi's exposure to all countries as of June 30, 2023.)

For purposes of the table, loan amounts are reflected in the country where the loan is booked, which is generally based on the domicile of the borrower. For example, a loan to a Chinese subsidiary of a Switzerland-based corporation will generally be categorized as a loan in China. In addition, Citi has developed regional booking centers in certain countries, most significantly in the United Kingdom (U.K.) and Ireland, in order to more efficiently serve its corporate customers. As an example, with respect to the U.K., only 41% of corporate loans presented in the table below are to U.K. domiciled entities (42% for unfunded commitments), with the balance of the loans predominately to European domiciled counterparties. Approximately 90% of the total U.K. funded loans and 90% of the total U.K. unfunded commitments were investment grade as of June 30, 2023.

Trading account assets and investment securities are generally categorized based on the domicile of the issuer of the security of the underlying reference entity. For additional information on the assets included in the table, see the footnotes to the table below.

In billions of dollars	ICG loans	PBWM loans[1]	Legacy Franchises loans	Loans transferred to HFS[7]	Other funded[2]	Unfunded[3]	Net MTM on derivatives/ repos[4]	Total hedges (on loans and CVA)	Investment securities[5]	Trading account assets[6]	Total as of 2Q23	Total as of 1Q23	Total as of 2Q22	Total as a % of Citi as of 2Q23
United Kingdom	$33.7	$ 5.1	$ —	$ —	$ 1.6	$ 41.5	$ 13.2	$ (4.6)	$ 2.9	$ 4.2	**$97.6**	$93.9	$ 95.3	**5.6 %**
Mexico	9.3	0.1	25.9	—	0.3	8.6	3.3	(2.2)	21.3	2.3	**68.9**	63.5	57.3	**4.0**
Ireland	15.5	—	—	—	0.1	33.5	0.2	(0.2)	—	0.8	**49.9**	48.5	50.4	**2.9**
Hong Kong	8.0	20.5	—	—	0.3	5.7	2.1	(0.7)	10.0	0.1	**46.0**	44.8	49.1	**2.6**
Singapore	9.1	18.4	—	—	0.5	5.8	1.2	(0.4)	7.5	1.8	**43.9**	45.1	47.6	**2.5**
Brazil	12.8	—	—	—	—	2.9	7.4	(1.1)	8.0	1.0	**31.0**	32.6	28.5	**1.8**
India	7.4	—	—	—	0.8	3.7	1.8	(0.5)	8.9	1.5	**23.6**	24.2	27.7	**1.4**
South Korea	3.8	—	6.6	—	0.1	2.0	1.2	(0.6)	8.7	0.6	**22.4**	22.3	25.5	**1.3**
Germany	0.4	—	—	—	0.1	6.6	6.1	(4.6)	6.3	3.9	**18.8**	10.3	21.9	**1.1**
China	5.5	—	0.8	—	0.6	1.4	1.1	(1.2)	8.9	1.1	**18.2**	18.7	18.8	**1.0**
Canada	1.7	1.5	—	—	0.1	7.2	1.6	(1.5)	3.2	2.6	**16.4**	15.1	16.1	**0.9**
United Arab Emirates	6.3	1.5	—	—	0.3	5.0	0.2	(0.3)	3.1	0.1	**16.2**	16.3	15.9	**0.9**
Australia	8.8	0.4	—	—	—	5.5	0.8	(1.4)	0.3	1.3	**15.7**	16.5	15.2	**0.9**
Poland	3.0	—	1.5	—	—	2.8	1.3	(0.2)	5.5	0.2	**14.1**	15.3	13.3	**0.8**
Taiwan	3.8	—	—	7.7	0.1	1.4	0.4	(0.1)	0.3	0.4	**14.0**	14.1	14.9	**0.8**
Japan	1.5	—	—	—	—	3.7	5.3	(2.5)	4.3	0.9	**13.2**	15.9	12.1	**0.8**
Jersey	2.2	2.8	—	—	—	6.5	0.1	(0.1)	—	—	**11.5**	15.4	16.8	**0.7**
Indonesia	2.2	—	—	0.6	—	1.1	1.4	(0.1)	1.0	0.2	**6.4**	6.3	5.5	**0.4**
Italy	0.5	—	—	—	—	2.1	1.0	(1.8)	—	3.4	**5.2**	4.3	2.7	**0.3**
Philippines	0.6	—	—	—	0.1	0.2	2.3	(0.1)	2.0	0.1	**5.2**	4.9	5.3	**0.3**
Luxembourg	0.1	1.1	—	—	—	—	0.5	(0.2)	3.7	—	**5.2**	4.4	4.2	**0.3**
Czech Republic	0.8	—	—	—	—	0.8	2.9	—	0.6	0.1	**5.2**	3.8	3.6	**0.3**
Malaysia	1.2	—	—	—	0.1	0.7	0.2	(0.1)	2.7	0.1	**4.9**	4.9	8.1	**0.3**
Spain	0.4	—	—	—	—	2.8	0.2	(1.3)	—	2.5	**4.6**	3.3	3.0	**0.3**
South Africa	1.5	—	—	—	—	0.7	—	(0.2)	2.3	0.2	**4.5**	4.6	3.4	**0.3**
Total as a % of Citi's total exposure														**32.5 %**
Total as a % of Citi's non-U.S. total exposure														**90.5 %**

(1) *PBWM* loans reflect funded loans, including those related to the Private bank, net of unearned income. As of June 30, 2023, Private bank loans in the table above totaled $20.2 billion, concentrated in Singapore ($5.3 billion), the U.K. ($5.1 billion) and Hong Kong ($4.5 billion).

(2) Other funded includes other direct exposures such as accounts receivable and investments accounted for under the equity method.

(3) Unfunded exposure includes unfunded corporate lending commitments, letters of credit and other contingencies.

(4) Net mark-to-market (MTM) counterparty risk on OTC derivatives and securities lending/borrowing transactions (repos). Exposures are shown net of collateral and inclusive of CVA. Also includes margin loans.

(5) Investment securities include debt securities AFS, recorded at fair market value, and debt securities HTM, recorded at amortized cost.
(6) Trading account assets are shown on a net basis and include issuer risk on cash products and derivative exposure where the underlying reference entity/issuer is located in that country.
(7) June 30, 2023, March 31, 2023 and June 30, 2022 include *Legacy Franchises* loans reclassified to HFS as a result of Citi's agreement to sell its consumer banking business in each applicable country. For additional information, see "*Legacy Franchises*" above and Note 2.

Russia

Introduction

In Russia, Citi's remaining wind-down operations are conducted through both its *ICG* and *Legacy Franchises* segments.

As previously disclosed, as of March 31, 2023, Citi ended nearly all of the institutional banking services it offered in Russia, with the remaining services only those necessary to fulfill its remaining legal and regulatory obligations. In addition, *Legacy Franchises* reduced its loan portfolios in Russia by approximately 75%, primarily driven by loan portfolio sales and the signing of a credit card referral agreement. Citi has ceased soliciting any new business or new clients in Russia. Citi will continue to manage its existing legal and regulatory commitments and obligations, as well as support its employees, during this period. For additional information, see "Citi's Wind-Down of Its Russia Operations" below.

Citi continues to monitor the war in Ukraine, related sanctions and economic conditions and continues to mitigate its Russia exposures and risks as appropriate.

For additional information about Citi's risks related to its Russia exposures, see "Forward-Looking Statements" below and "Risk Factors—Market-Related Risk," "—Operational Risks" and "—Other Risks" in Citi's 2022 Form 10-K.

Impact of Russia's Invasion of Ukraine on Citi's Businesses

Russia-related Balance Sheet Exposures

Citi's remaining domestic operations in Russia are conducted through a subsidiary of Citibank, AO Citibank, which uses the Russian ruble as its functional currency.

The following table summarizes Citi's exposures related to its Russia operations:

In billions of U.S. dollars	**June 30, 2023**	March 31, 2023	June 30, 2022	Change 2Q23 vs. 1Q23
Loans	**$ 0.3**	$ 0.4	$ 2.5	$ (0.1)
Investment securities[1]	**0.6**	1.0	1.5	(0.4)
Net MTM on derivatives/repos[2]	**2.0**	1.0	1.3	1.0
Total hedges (on loans and CVA)	**(0.1)**	(0.1)	(0.2)	—
Unfunded[3]	**—**	0.1	0.3	(0.1)
Trading accounts assets	**—**	—	0.1	—
Country risk exposure	**$ 2.8**	**$ 2.4**	**$ 5.5**	**$ 0.4**
Cash on deposit and placements[4]	**0.9**	0.9	2.5	—
Deposit Insurance Agency[5]	**2.8**	—	—	2.8
National Settlements Depository[5]	**—**	2.7	—	(2.7)
Total third-party exposure[6]	**$ 6.5**	**$ 6.0**	**$ 8.0**	**$ 0.5**
Additional exposures to Russian counterparties that are not held by the Russian subsidiary	**0.1**	0.1	0.4	—
Total Russia exposure[7]	**$ 6.6**	**$ 6.1**	**$ 8.4**	**$ 0.5**

(1) Investment securities include debt securities AFS, recorded at fair market value, primarily local government debt securities.
(2) Reverse repurchase agreements are shown gross of collateral and are included in net MTM on derivatives/repos in the table above, as netting of collateral for Russia-related reverse repurchase agreements was removed in the second quarter of 2022. This removal was due to the inability to conclude, with a well-founded basis, the enforceability of contractual rights in the Russian legal system in the event of a counterparty default, given the geopolitical uncertainty caused by the war in Ukraine.
(3) Unfunded exposure consists of unfunded corporate lending commitments, letters of credit and other contingencies.
(4) Cash on deposit and placements are primarily with the Central Bank of Russia.
(5) Represents dividends received by Citi in its role as custodian for investor clients in Russia, which Citi is required by local regulation to hold at the Deposit Insurance Agency (DIA). In accordance with a Central Bank of Russia regulatory requirement, all balances in the National Settlements Depository were transferred to the DIA. Citi is unable to remit these funds to clients due to restrictions imposed by the Russian government.
(6) The majority of AO Citibank's third-party exposures was funded with the dividends under footnote 5 and domestic deposit liabilities from both corporate and personal banking clients.
(7) Citigroup's CTA loss included in its *AOCI* related to its indirect subsidiary, AO Citibank, is excluded from the above table, because the CTA loss is not held in AO Citibank and would be recognized in Citigroup's earnings only upon either the substantial liquidation or a loss of control of AO Citibank. Citi has separately described these risks in "Deconsolidation Risk" below.

During the second quarter of 2023, Citi's Russia-related exposures increased by $0.5 billion, as shown in the table above. The increase in exposure was driven by $1.7 billion of dividends that Citi received as custodian for investor clients in Russia and is unable to remit due to Russian regulatory restrictions (trapped dividends), partially offset by deposit outflows as well as a $0.6 billion depreciation of the ruble against the U.S. dollar. A portion ($1 billion, net of ruble depreciation) of these dividends were placed in reverse repurchase agreements. Roughly 65% of Citi's remaining Russia exposures are the trapped dividends discussed above.

Citi's continued risk mitigation efforts have included *ICG* borrower paydowns and limiting extensions of new credit.

Citi's net investment in Russia was approximately $1.1 billion as of June 30, 2023 (compared to $1.2 billion at March 31, 2023). Citi hedges its ruble/USD spot FX exposure in *AOCI* through the purchase of FX derivatives. The ongoing mark-to-market of the hedging derivatives is also reported in *AOCI*. When the ruble depreciates against the USD, the USD equivalent value of Citigroup's investment in AO Citibank also declines. This change in value is offset by the change in value of the hedging instrument (FX derivative). Going forward, Citi may record devaluations on its net ruble-denominated assets in earnings, without the benefit from a change in the fair value of derivative positions used to economically hedge the exposures.

Earnings and Other Impacts on Citi's Businesses

Citi's *ICG*, *PBWM* and *Legacy Franchises* segments and *Corporate/Other* have been impacted by various macroeconomic factors and volatilities, including Russia's invasion of Ukraine and its direct and indirect impact on the European and global economies. For a broader discussion of these factors and volatilities on Citi's businesses, see "Executive Summary" and each business's results of operations above.

As of June 30, 2023, Citigroup's ACL included a $0.2 billion remaining credit reserve for Citi's direct and indirect Russian counterparties (unchanged from March 31, 2023).

Citi's Wind-Down of Its Russia Operations

During 2022, Citi disclosed its decision to wind down its Russia consumer, local commercial and institutional banking businesses, including actively pursuing portfolio sales. In connection with this wind-down, Citi currently expects to incur approximately $180 million (compared to $210 million at March 31, 2023) in total estimated charges ($40 million in *ICG* and $140 million in *Legacy Franchises*, excluding the impact from any portfolio sales), largely driven by restructuring, vendor termination fees and other related charges. Citi's previously disclosed referral agreement with a Russian bank to settle a portfolio of ruble-denominated credit card loans, subject to customer consent, was signed in May 2023 and is in the execution phase. The outstanding amount with Citi is to be settled upon referral and refinancing. As a result, the credit card loans will remain held-for-investment and are not transferred to held-for-sale. For additional information about Citi's continued efforts to reduce its operations and exposure in Russia, see Note 2 and "Risk Factors" and "Managing Global Risk—Other Risks—Country Risk—Russia" in Citi's 2022 Form 10-K.

Deconsolidation Risk

Citi's remaining operations in Russia subject it to various risks, including, among others, foreign currency volatility, including appreciation or devaluation; restrictions arising from retaliatory Russian laws and regulations on the conduct of its business; sanctions or asset freezes; or other deconsolidation events (for additional information, see "Risk Factors—Other Risks" in Citi's 2022 Form 10-K). Examples of triggers that may result in deconsolidation of AO Citibank include voluntary or forced sale of ownership or loss of control due to actions of relevant governmental authorities, including expropriation (i.e., the entity becomes subject to the complete control of a government, court, administrator, trustee or regulator); revocation of banking license; and loss of ability to elect a board of directors or appoint members of senior management. As of June 30, 2023, Citi continued to consolidate AO Citibank because none of the deconsolidation factors were triggered.

In the event Citi deems there is a loss of control, for example, through expropriation of AO Citibank Russia, Citi's foreign entity in Russia, Citi would be required to (i) write off the net investment of approximately $1.1 billion (compared to $1.2 billion as of March 31, 2023), (ii) recognize a CTA loss of approximately $1.6 billion (compared to $1.4 billion as of March 31, 2023) through earnings and (iii) recognize a loss of $0.4 billion (unchanged from March 31, 2023) on intercompany liabilities owed by AO Citibank to other Citi entities outside Russia. In the sole event of a substantial liquidation, as opposed to a loss of control, Citi would be required to recognize the CTA loss of approximately $1.6 billion through earnings and would evaluate its remaining net investment as circumstances evolve.

Citi as Paying Agent for Russian-related Clients

Citi serves or served as paying agent on bonds issued by various entities in Russia, including Russian corporate clients. Citi's role as paying agent is administrative. In this role, Citi acts as an agent of its client, the bond issuer, receiving interest and principal payments from the bond issuer and then making payments to international central securities depositories (e.g., Depository Trust Company, Euroclear, Clearstream). The international central securities depositories (ICSDs) make payments to those participants or account holders (e.g., broker/dealers) that have clients who are investors in the applicable bonds (i.e., bondholders). As a paying agent, Citi generally does not have information about the identity of the bondholders. As a result of sanctions or other governmental requirements and prohibitions, Citi may be exposed to risks due to its responsibilities for receiving and processing payments on behalf of its clients. To mitigate operational and sanctions risks, Citi has established policies, procedures and controls for client relationships and payment processing to help ensure compliance with U.S., U.K., EU and other jurisdictions' sanctions laws.

These processes may require Citi to delay or withhold the processing of payments as a result of sanctions on the bond issuer. Citi is also prevented from making payments to

accounts on behalf of bondholders should the ICSDs disclose to Citi the presence of sanctioned bondholders. In both instances, Citi is generally required to segregate, restrict or block the funds until applicable sanctions are lifted or the payment is otherwise authorized under applicable law.

Reputational Risks

Citi has continued its efforts to enhance and protect its reputation with its colleagues, clients, customers, investors, regulators and the public. Citi's response to the war in Ukraine, including any action or inaction, may have a negative impact on Citi's reputation with some or all of these parties.

For example, Citi is exposed to reputational risk as a result of its current presence in Russia and association with Russian individuals or entities, whether subject to sanctions or not, including Citi's inability to support its global clients in Russia, which could adversely affect its broader client relationships and businesses; current involvement in transactions or supporting activities involving Russian assets or interests; failure to correctly interpret and apply laws and regulations, including those related to sanctions; perceived misalignment of Citi's actions to its stated strategy in Russia; and the reputational impact from Citi's activity and engagement with Ukraine or with non-Russian clients exiting their Russia businesses. Citi has considered the potential for reputation risk and taken actions to mitigate such risks. Citi established a Russia Special Review Process with management's Reputation Risk Committee with oversight for significant Russia-related reputation risks and completed a number of reputation risk reviews of matters with a Russian nexus.

While Citi announced its intention to wind down its businesses in Russia, Citi will continue to manage those operations during the wind-down process and will be required to maintain certain limited operations to fulfill its remaining legal and regulatory obligations. Also, sanctions and sanctions compliance are highly complex and may change over time and result in increased operational risk. Failure to fully comply with relevant sanctions or the application of sanctions where they should not be applied may negatively impact Citi's reputation. In addition, Citi currently performs services for, conducts business with or deals in non-sanctioned Russian-owned businesses and Russian assets. This has attracted, and will likely continue to attract, negative attention, despite the previously disclosed plan to wind down nearly all its activities in the country, cessation of new business and client originations, and reduction of other exposures.

Citi's continued presence or divestiture of businesses in Russia could also increase its susceptibility to cyberattacks that could negatively impact its relationships with clients and customers, harm its reputation, increase its compliance costs and adversely affect its business operations and results of operations. For additional information on operational and cyber risks, see "Risk Factors—Operational Risk" in Citi's 2022 Form 10-K.

Board's Role in Overseeing Related Risks

The Citi Board of Directors (Board) and the Board's Risk Management Committee (RMC) and its other Committees have received and continue to receive regular reports from senior management regarding the war in Ukraine and its impact on Citi's operations in Russia, Ukraine and elsewhere, as well as the war's broader geopolitical, macroeconomic and reputational impacts. In addition to receiving regular briefings from management, the full Board has routinely been invited to attend portions of the RMC meetings for discussions related to the war in Ukraine, including with respect to Citi's risk exposures and stress testing. The reports to the Board and its Committees from senior management who represent the impacted businesses and the EMEA region, Independent Risk Management, Finance, Independent Compliance Risk Management, including those individuals responsible for sanctions compliance, and Human Resources, have included detailed information regarding financial impacts, impacts on capital, cybersecurity, strategic considerations, sanctions compliance, employee assistance and reputational risks, enabling the Board and its Committees to properly exercise their oversight responsibilities. In addition, senior management has also provided updates to Citi's Executive Management Team and the Board, outside of formal meetings, regarding Citi's Russia-related risks, including with respect to cybersecurity matters.

Ukraine

Citi has continued to operate in Ukraine throughout the war through its *ICG* businesses, serving the local subsidiaries of multinationals, along with local financial institutions and the public sector. Citi employs approximately 230 people in Ukraine and their safety continues to be Citi's top priority. All of Citi's domestic operations in Ukraine are conducted through a subsidiary of Citibank, which uses the Ukrainian hryvnia as its functional currency. Citi's exposures in Ukraine are not significant enough to be included in the "Top 25 Country Exposures" table above. As of June 30, 2023, Citi had $1.3 billion of direct exposures related to Ukraine, compared to $1.2 billion as of March 31, 2023. The increase in exposures reflected a $0.1 billion increase in deposits.

Argentina

Citi operates in Argentina through its *ICG* businesses. As of June 30, 2023, Citi's net investment in its Argentine operations was approximately $1.9 billion (compared to $1.8 billion at March 31, 2023). Under U.S. GAAP, Citi uses the U.S. dollar as the functional currency for its operations in countries such as Argentina that are deemed highly inflationary. Citi therefore records the impact of exchange rate fluctuations on its net Argentine peso (ARS)–denominated assets directly in earnings. Accordingly, Citi seeks to reduce its overall ARS exposure in Argentina while complying with local capital and currency exposure limitations. As of June 30, 2023, Citi's net ARS exposure was approximately $1.6 billion, which decreased from the prior quarter as a result of Citi purchasing approximately $300 million of certain local government bonds during the second quarter that are indexed to the higher of the U.S. dollar exchange rate or the local inflation index. Such bonds may reduce the impact to Citi of a potential currency devaluation in the future, although it remains unclear how effective Citi's strategies to reduce its ARS exposure may be.

As previously disclosed, the Central Bank of Argentina has continued to maintain certain capital and currency controls that generally restrict Citi's ability to access U.S. dollars in Argentina and remit earnings from its Argentine operations. As a result, Citi's net investment in its Argentine operations is likely to continue to increase as Citi generates net income in its Argentine franchise and its earnings cannot be remitted. Due to the currency controls implemented by the Central Bank of Argentina, certain indirect foreign exchange mechanisms have developed that some Argentine entities may use to obtain U.S. dollars, generally at rates that are significantly higher than Argentina's official exchange rate. Citibank Argentina is precluded from accessing these alternative mechanisms, and these exchange mechanisms cannot be used to remeasure Citi's net monetary assets into the U.S. dollar under U.S. GAAP. Citibank Argentina therefore uses Argentina's official market exchange rate to remeasure its net ARS assets into the U.S. dollar, which was 256.7 ARS to 1 U.S. dollar as of June 30, 2023. However, if Argentina's official exchange rate converges with the approximate rate implied by the indirect foreign exchange mechanisms, Citi could incur a significant loss on its capital in Argentina. Current macroeconomic conditions in the country, along with sustained high inflation and low international reserves held by the Central Bank of Argentina, may result in an accelerated or steep depreciation of the official exchange rate in the near term. Citi cannot predict future fluctuations in Argentina's official market exchange rate or to what extent Citi may be able to access U.S. dollars at the official exchange rate in the future.

Citi may economically hedge the foreign currency risk in its net ARS-denominated assets to the extent possible and prudent using non-deliverable forward (NDF) derivative instruments that are primarily executed outside of Argentina. As of June 30, 2023, the international NDF market had very limited liquidity, resulting in Citi's inability to economically hedge substantially all of its ARS exposure. Accordingly, and to the extent that Citi does not execute NDF contracts for this unhedged exposure in the future, Citi would record devaluations on its net ARS-denominated assets in earnings, without any benefit from a change in the fair value of derivative positions used to economically hedge the exposure.

Citi continually evaluates its economic exposure to its Argentine counterparties and reserves for changes in credit risk and records mark-to-market adjustments for relevant market risks associated with its Argentine assets. Citi believes it has established an appropriate ACL on its Argentine loans, and appropriate fair value adjustments on Argentine assets and liabilities measured at fair value, for credit and sovereign risks under U.S. GAAP as of June 30, 2023. However, Citi may need to record additional reserves in the future, resulting in higher *ICG* cost of credit, should there be an increase in transfer risk associated with its Argentine exposures. For additional information on Citi's emerging markets risks, including those related to its Argentine exposures, see "Risk Factors—Strategic Risks" in Citi's 2022 Form 10-K.

SIGNIFICANT ACCOUNTING POLICIES AND SIGNIFICANT ESTIMATES

This section contains a summary of Citi's most significant accounting policies. Note 1 to the Consolidated Financial Statements in Citi's 2022 Form 10-K contains a summary of all of Citigroup's significant accounting policies. These policies, as well as estimates made by management, are integral to the presentation of Citi's results of operations and financial condition. While all of these policies require a certain level of management judgment and estimates, this section highlights and discusses the significant accounting policies that require management to make highly difficult, complex or subjective judgments and estimates at times regarding matters that are inherently uncertain and susceptible to change (see also "Risk Factors—Operational Risks" in Citi's 2022 Form 10-K). Management has discussed each of these significant accounting policies, the related estimates and its judgments with the Audit Committee of the Citigroup Board of Directors.

Valuations of Financial Instruments

Citigroup holds debt and equity securities, derivatives, retained interests in securitizations, investments in private equity and other financial instruments. A substantial portion of these assets and liabilities is reflected at fair value on Citi's Consolidated Balance Sheet as *Trading account assets*, *Available-for-sale securities* and *Trading account liabilities*.

Citi purchases securities under agreements to resell (reverse repos or resale agreements) and sells securities under agreements to repurchase (repos), a substantial portion of which is carried at fair value. In addition, certain loans, short-term borrowings, long-term debt and deposits, as well as certain securities borrowed and loaned positions that are collateralized with cash, are carried at fair value. Citigroup holds its investments, trading assets and liabilities, and resale and repurchase agreements on Citi's Consolidated Balance Sheet to meet customer needs and to manage liquidity needs, interest rate risks and private equity investing.

When available, Citi generally uses quoted market prices to determine fair value and classifies such items within Level 1 of the fair value hierarchy established under ASC 820-10, *Fair Value Measurement*. If quoted market prices are not available, fair value is based on internally developed valuation models that use, where possible, current market-based or independently sourced market parameters, such as interest rates, currency rates and option volatilities. Such models are often based on a discounted cash flow analysis. In addition, items valued using such internally generated valuation techniques are classified according to the lowest level input or value driver that is significant to the valuation. Thus, an item may be classified under the fair value hierarchy as Level 3 even though there may be some significant inputs that are readily observable.

Citi is required to exercise subjective judgments relating to the applicability and functionality of internal valuation models, the significance of inputs or value drivers to the valuation of an instrument and the degree of illiquidity and subsequent lack of observability in certain markets. The fair value of these instruments is reported on Citi's Consolidated Balance Sheet with the changes in fair value recognized in either the Consolidated Statement of Income or in *AOCI*.

Losses on available-for-sale securities whose fair values are less than the amortized cost, where Citi intends to sell the security or could more-likely-than-not be required to sell the security prior to recovery, are recognized in earnings. Where Citi does not intend to sell the security nor could more-likely-than-not be required to sell the security, any portion of the loss that is attributable to credit is recognized as an allowance for credit losses with a corresponding provision for credit losses and the remainder of the loss is recognized in *AOCI*. Such losses are capped at the difference between the fair value and amortized cost of the security.

For equity securities carried at cost or under the measurement alternative, decreases in fair value below the carrying value are recognized as impairment in the Consolidated Statement of Income. Moreover, for certain equity method investments, decreases in fair value are only recognized in earnings in the Consolidated Statement of Income if such decreases are judged to be an other-than-temporary impairment (OTTI). Assessing if the fair value impairment is temporary is also inherently judgmental.

The fair value of financial instruments incorporates the effects of Citi's own credit risk and the market view of counterparty credit risk, the quantification of which is also complex and judgmental. For additional information on Citi's fair value analysis, see Notes 6, 22 and 23 in this Form 10-Q and Note 1 to the Consolidated Financial Statements in Citi's 2022 Form 10-K.

Citi's Allowance for Credit Losses (ACL)

The table below presents Citi's allowance for credit losses on loans (ACLL) and total ACL as of the second quarter of 2023. For information on the drivers of Citi's ACL build in the second quarter of 2023, see "2Q23 Changes in the ACL" below. For additional information on Citi's accounting policy on accounting for credit losses under ASC Topic 326, *Financial Instruments—Credit losses; Current Expected Credit Losses (CECL)*, see Note 1 to the Consolidated Financial Statements in Citi's 2022 Form 10-K.

		ACL						
In millions of dollars	Balance Dec. 31, 2022	1Q23 build (release)	1Q23 FX/ Other[1][4]	Balance Mar. 31, 2023	**2Q23 build (release)**	**2Q23 FX/ Other**	**Balance Jun. 30, 2023**	**ACLL/EOP loans Jun. 30, 2023[2]**
ICG	$ 2,715	$ (75)	$ 3	$ 2,643	$ (150)	$ (3)	$ 2,490	
Legacy Franchises corporate (Mexico SBMM)	140	(10)	7	137	(2)	5	140	
Total corporate ACLL	**$ 2,855**	**$ (85)**	**$ 10**	**$ 2,780**	**$ (152)**	**$ 2**	**$ 2,630**	**0.94 %**
U.S. Cards[2]	$ 11,393	$ 536	$ (173)	$ 11,756	$ 276	$ (1)	$ 12,031	**7.86 %**
Retail banking and Global Wealth	1,330	(29)	(60)	1,241	57	1	1,299	
Total *PBWM*	$ 12,723	$ 507	$ (233)	$ 12,997	$ 333	$ —	$ 13,330	
Legacy Franchises consumer	1,396	13	(17)	1,392	76	68	1,536	
Total consumer ACLL	**$ 14,119**	**$ 520**	**$ (250)**	**$ 14,389**	**$ 409**	**$ 68**	**$ 14,866**	**3.97 %**
Total ACLL	**$ 16,974**	**$ 435**	**$ (240)**	**$ 17,169**	**$ 257**	**$ 70**	**$ 17,496**	**2.67 %**
Allowance for credit losses on unfunded lending commitments (ACLUC)	$ 2,151	$ (194)	$ 2	$ 1,959	$ (96)	$ (1)	$ 1,862	
Other[3]	243	408	(19)	632	145	(19)	758	
Total ACL	**$ 19,368**	**$ 649**	**$ (257)**	**$ 19,760**	**$ 306**	**$ 50**	**$ 20,116**	

(1) Includes reclassifications to *Other assets* related to Citi's agreements to sell certain of its consumer banking businesses. See Notes 2 and 14.
(2) As of June 30, 2023, in U.S. Personal Banking, Branded cards ACLL/EOP loans was 6.3% and Retail services ACLL/EOP loans was 11.2%.
(3) Includes ACL on *Other assets* and *Held-to-maturity debt securities*.
(4) Includes a decrease of $352 million from the adoption of ASU 2022-02 related to the recognition and measurement of TDRs under the modified retrospective approach related to *PBWM* and *Legacy Franchises* consumer loans as of January 1, 2023. See Notes 1 and 14.

Citi's reserves for expected credit losses on funded loans and for unfunded lending commitments, standby letters of credit and financial guarantees are reflected on the Consolidated Balance Sheet in the *Allowance for credit losses on loans* (ACLL) and *Other liabilities* (for Allowance for credit losses on unfunded lending commitments (ACLUC)), respectively. In addition, Citi's reserves for expected credit losses on other financial assets carried at amortized cost, including held-to-maturity securities, reverse repurchase agreements, securities borrowed, deposits with banks and other financial receivables are reflected in *Other assets*. These reserves, together with the ACLL and ACLUC, are referred to as the ACL. Changes in the ACL are reflected as *Provision for credit losses* in the Consolidated Statement of Income for each reporting period. Citi's ability to estimate expected credit losses over the reasonable and supportable (R&S) period is based on the ability to forecast economic activity over an R&S timeframe. The R&S forecast period for consumer and corporate credit exposures is eight quarters.

The ACL is composed of quantitative and qualitative management adjustment components. The quantitative component uses three forward-looking macroeconomic forecast scenarios—base, upside and downside. The qualitative management adjustment component reflects risks and current economic conditions not fully captured in the quantitative component. Both the quantitative and qualitative components are further discussed below.

Quantitative Component

Citi estimates expected credit losses for its quantitative component using (i) its comprehensive internal data on loss and default history, (ii) internal credit risk ratings, (iii) external credit bureau and rating agencies information and (iv) R&S forecasts of macroeconomic conditions.

For its consumer and corporate portfolios, Citi's expected credit losses are determined primarily by utilizing models that consider the borrowers' probability of default (PD), loss given default (LGD) and exposure at default (EAD). The loss likelihood and severity models used for estimating expected credit losses are sensitive to changes in macroeconomic variables, including housing prices, unemployment rate and real GDP, and cover a wide range of geographic, industry, product and business segments.

In addition, Citi's models determine expected credit losses based on leading credit indicators, including loan delinquencies, changes in portfolio size, default frequency,

risk ratings and loss recovery rates, as well as other credit trends.

Qualitative Component

The qualitative management adjustment component includes, among other things, risks that are not fully captured in the quantitative component. These may include but are not limited to portfolio characteristics, idiosyncratic events, factors not within historical loss data or the economic forecast, uncertainty in the environment and other factors as required by banking supervisory guidance for the ACL. The primary examples of these are:

- Expected normalization of portfolio performance and consumer behavior from recent low losses as a result of government stimulus and market liquidity during the COVID-19 pandemic
- Potential impacts on vulnerable industries and regions due to emerging macroeconomic risks and uncertainties, including those related to potential global recession, inflation, interest rates, commodity prices and geopolitical tensions
- Transfer risk associated with exposures outside the U.S. for certain safety and soundness considerations under U.S. banking law

Citi's qualitative component of the ACL continued to decline quarter-over-quarter. The decline was primarily driven by releases of COVID-19–related uncertainty reserves as the portfolio continues to normalize toward pre-pandemic levels and as these risks are captured in the quantitative component of the ACL. These releases were partially offset by a build for transfer risk associated with exposures outside the U.S. driven by safety and soundness considerations under U.S. banking law.

Macroeconomic Variables

Citi considers a multitude of global macroeconomic variables for the base, upside and downside probability-weighted macroeconomic scenario forecasts it uses to estimate the ACL. Citi's forecasts of the U.S. unemployment rate and U.S. real GDP growth rate represent the key macroeconomic variables that most significantly affect its estimate of the ACL.

The tables below present Citi's forecasted quarterly average U.S. unemployment rate and year-over-year U.S. real GDP growth rate used in determining the base macroeconomic forecast for Citi's ACL for each quarterly reporting period from 2Q22 to 2Q23:

	Quarterly average			
U.S. unemployment	**3Q23**	**1Q24**	**3Q24**	**8-quarter average[1]**
Citi forecast at 2Q22	3.8 %	3.9 %	3.9 %	3.7 %
Citi forecast at 3Q22	4.2	4.0	4.0	4.0
Citi forecast at 4Q22	4.5	4.6	4.5	4.4
Citi forecast at 1Q23	4.0	4.5	4.5	4.3
Citi forecast at 2Q23	3.8	4.3	4.5	4.3

(1) Represents the average unemployment rate for the rolling, forward-looking eight quarters in the forecast horizon.

	Year-over-year growth rate[1]		
	Full year		
U.S. real GDP	**2023**	**2024**	**2025**
Citi forecast at 2Q22	1.8 %	2.0 %	2.1 %
Citi forecast at 3Q22	0.6	1.9	2.7
Citi forecast at 4Q22	0.3	1.5	2.2
Citi forecast at 1Q23	1.0	1.0	2.0
Citi forecast at 2Q23	1.3	0.7	2.0

(1) The year-over-year growth rate is the percentage change in the real (inflation adjusted) GDP level.

Under the base macroeconomic forecast as of 2Q23, U.S. real GDP growth is expected to decline for the remainder of 2023, while the unemployment rate is expected to increase modestly over the eight-quarter forecast horizon, broadly returning to pre-pandemic levels.

Scenario Weighting

Citi's ACL is estimated using three probability-weighted macroeconomic scenarios—base, upside and downside. The macroeconomic scenario weights are estimated using a statistical model, which, among other factors, takes into consideration key macroeconomic drivers of the ACL, severity of the scenario and other macroeconomic uncertainties and risks. Citi evaluates scenario weights on a quarterly basis.

Citi's downside scenario incorporates more adverse macroeconomic assumptions than the base scenario. For example, compared to the base scenario, Citi's downside scenario reflects a more severe recession, including an elevated average U.S. unemployment rate of 6.8% over the eight-quarter R&S period, with a peak difference of 3.0% in the fourth quarter of 2024. The downside scenario also reflects a year-over-year U.S. real GDP contraction in 2024 of 1.9%, with a peak quarter-over-quarter difference to the base scenario of 1.0% in the fourth quarter of 2023.

Citi's ACL is sensitive to the various macroeconomic scenarios that drive the quantitative component of expected credit losses due to changes in the length and severity of forecasted economic variables or events in the respective scenarios. To demonstrate this sensitivity, Citi applied 100% weight to the downside scenario as of June 30, 2023, to reflect the most severe economic deterioration forecast in the multiple macroeconomic scenarios. Citi's downside scenario incorporates more adverse macroeconomic assumptions than the weighted scenario assumptions; therefore, applying a 100% downside scenario weight would result in a hypothetical increase in the ACL of approximately $4.5 billion related to lending exposures, except for loans individually evaluated for credit losses.

This analysis does not incorporate any impacts or changes to the qualitative component of the ACL. These factors could decrease the outcome of the sensitivity analysis based on historical experience and current conditions at the time of the assessment. Given the uncertainty inherent in macroeconomic forecasting, Citi continues to believe that its ACL estimate based on a three probability-weighted macroeconomic scenario approach combined with the qualitative component remains appropriate as of June 30, 2023.

2Q23 Changes in the ACL

As further discussed below, Citi's ending ACL balance for the second quarter of 2023 was $20.1 billion, compared to $19.8 billion as of March 31, 2023. The net build of $0.3 billion was primarily driven by growth in card balances in *PBWM*, partially offset by a release in the corporate portfolios due to an improved macroeconomic outlook. Based on its latest macroeconomic forecast, Citi believes its analysis of the ACL reflects the forward view of the economic environment as of June 30, 2023. See Note 14 for additional information.

Consumer Allowance for Credit Losses on Loans

Citi's consumer ACLL is largely driven by U.S. cards (Branded cards and Retail services) in U.S. Personal Banking. Citi's total consumer ACLL build was $0.4 billion in the second quarter of 2023, primarily driven by growth in U.S. cards balances, resulting in a June 30, 2023 ACLL balance of $14.9 billion, or 3.97% of total funded consumer loans.

For U.S. cards, the level of reserves relative to total funded loans decreased to 7.86% at June 30, 2023, due to volume growth in lower-loss portfolios, compared to 8.08% at March 31, 2023. For the remaining consumer exposures, the level of reserves relative to total funded loans was 1.28% at June 30, 2023, compared to 1.21% at March 31, 2023.

Corporate Allowance for Credit Losses on Loans

Citi had a corporate ACLL release of $0.2 billion in the second quarter of 2023. The release was primarily driven by an improved macroeconomic outlook. The ACLL reserve balance decreased by $0.2 billion to $2.6 billion, or 0.94% of total funded corporate loans.

ACLUC

Citi had an ACLUC release of $0.1 billion in the second quarter of 2023, which reduced the ACLUC reserve balance, included in *Other liabilities*, to $1.9 billion. The release was primarily driven by an improved macroeconomic outlook.

ACL on Other Financial Assets

Citi's ending ACL balance on other financial assets carried at amortized cost for the second quarter of 2023 was $0.8 billion, compared to $0.6 billion as of March 31, 2023. The net build of $0.1 billion was primarily driven by a reserve build of $0.3 billion related to an increase in transfer risk associated with exposures outside the U.S. driven by safety and soundness considerations under U.S. banking law, partially offset by the reserve release related to the repayment of the First Republic Bank deposit. See Note 14 for additional information.

Regulatory Capital Impact

Citi elected the modified CECL transition provision for regulatory capital purposes provided by the U.S. banking agencies' final rule. Accordingly, the Day One regulatory capital effects resulting from the adoption of CECL, as well as the ongoing adjustments for 25% of the change in CECL-based allowances in each quarter between January 1, 2020 and December 31, 2021, started to be phased in on January 1, 2022 and will be fully reflected in Citi's regulatory capital as of January 1, 2025.

See Notes 1 and 14 for a further description of the ACL and related accounts.

Goodwill

Citi tests goodwill for impairment annually as of October 1 (the annual test) and conducts interim assessments between the annual test if an event occurs or circumstances change that would more-likely-than-not reduce the fair value of a reporting unit below its carrying amount. These events or circumstances include, among other things, a significant adverse change in the business climate, a decision to sell or dispose of all or a significant portion of a reporting unit or a sustained decrease in Citi's stock price.

At October 1, 2022, the fair value of two reporting units (Banking and Mexico Consumer/SBMM) ranged from 102% to 106% of their carrying values. The carrying values of the Banking and Mexico Consumer/SBMM reporting units included approximately $1.5 billion and $1 billion of goodwill, respectively. For each of the remaining reporting units, fair value exceeded carrying value by at least 10%.

While the inherent risk related to uncertainty is embedded in the key assumptions used in the valuations of the reporting units, the economic and business environments continue to evolve as Citi's management implements its strategic refresh. If management's future estimates of key economic and market assumptions were to differ from its current assumptions, Citi could potentially experience material goodwill impairment charges in the future. See Note 15 for a further discussion of goodwill.

Litigation Accruals

See the discussion in Note 26 for information regarding Citi's policies on establishing accruals for litigation and regulatory contingencies.

INCOME TAXES

Effective Tax Rate

In millions of dollars, except effective tax rate	Three Months Ended June 30, 2023	Three Months Ended June 30, 2022	Six Months Ended June 30, 2023	Six Months Ended June 30, 2022
Income from continuing operations before income tax expense	**$ 4,042**	$ 5,971	**$10,225**	$11,237
Provision for income taxes	**1,090**	1,182	**2,621**	2,123
Effective tax rate	**27 %**	20 %	**26 %**	19 %

Citi's effective tax rate was 27% in the second quarter of 2023, including the impact of divestitures, versus 20% in the second quarter of 2022, largely driven by the geographic mix of earnings. For the six months ended June 30, 2023, Citi's effective tax rate increased to 26%, including the impact of divestitures, compared to 19% in the prior-year period, largely driven by lower discrete benefits.

Deferred Tax Assets

For additional information on Citi's deferred tax assets (DTAs), see "Capital Resources," "Risk Factors—Strategic Risks," "Significant Accounting Policies and Significant Estimates—Income Taxes" and Notes 1 and 9 to the Consolidated Financial Statements in Citi's 2022 Form 10-K.

The table below summarizes Citi's net DTAs balance:

Jurisdiction/Component	**DTAs balance**	
In billions of dollars	**June 30, 2023**	December 31, 2022
Total U.S.	**$ 25.4**	$ 24.8
Total foreign	**3.1**	2.9
Total	**$ 28.5**	$ 27.7

At June 30, 2023, Citigroup had recorded net DTAs of approximately $28.5 billion, an increase of $0.9 billion from March 31, 2023 and $0.8 billion from December 31, 2022. The increase for the second quarter and year to date was primarily a result of Citi's geographic mix of earnings. Of Citi's $28.5 billion of net DTAs, $16.8 billion was not deducted in calculating regulatory capital and was appropriately risk weighted under the Basel III rules. The remaining $11.7 billion (compared to $11.1 billion at March 31, 2023) was deducted in calculating Citi's regulatory capital.

The $11.7 billion of DTA deducted from regulatory capital was composed of $11.5 billion related to tax carry-forwards and $1.8 billion of temporary differences in excess of the 10%/15% regulatory limitations, reduced by $1.6 billion of deferred tax liabilities, primarily associated with goodwill and certain other intangible assets that were separately deducted from capital. The largest component of the increase in the DTA deducted from Citi's regulatory capital during the quarter was related to temporary differences in excess of the 10%/15% limitations ($1.8 billion at June 30, 2023 compared to $1.1 billion at March 31, 2023), primarily attributable to higher temporary differences in DTAs subject to the limitation.

DTA Realizability

Citi believes that realization of the net DTAs of $28.5 billion at June 30, 2023 is more-likely-than-not, based on management's expectations of future taxable income generation in the jurisdictions in which the DTAs arise, as well as consideration of available tax planning strategies (as defined in ASC Topic 740, *Income Taxes*).

DISCLOSURE CONTROLS AND PROCEDURES

Citi's disclosure controls and procedures are designed to ensure that information required to be disclosed under the Securities Exchange Act of 1934, as amended, is recorded, processed, summarized and reported within the time periods specified in the SEC's rules and forms, including without limitation that information required to be disclosed by Citi in its SEC filings is accumulated and communicated to management, including the Chief Executive Officer (CEO) and Chief Financial Officer (CFO), as appropriate, to allow for timely decisions regarding required disclosure.

Citi's Disclosure Committee assists the CEO and CFO in their responsibilities to design, establish, maintain and evaluate the effectiveness of Citi's disclosure controls and procedures. The Disclosure Committee is responsible for, among other things, the oversight, maintenance and implementation of the disclosure controls and procedures, subject to the supervision and oversight of the CEO and CFO.

Citi's management, with the participation of its CEO and CFO, has evaluated the effectiveness of Citigroup's disclosure controls and procedures (as defined in Rule 13a-15(e) under the Securities Exchange Act of 1934) as of June 30, 2023. Based on that evaluation, the CEO and CFO have concluded that at that date Citigroup's disclosure controls and procedures were effective.

DISCLOSURE PURSUANT TO SECTION 219 OF THE IRAN THREAT REDUCTION AND SYRIA HUMAN RIGHTS ACT

Pursuant to Section 219 of the Iran Threat Reduction and Syria Human Rights Act of 2012 (Section 219), which added Section 13(r) to the Securities Exchange Act of 1934, as amended, Citi is required to disclose in its annual or quarterly reports, as applicable, whether it or any of its affiliates knowingly engaged in certain activities, transactions or dealings relating to Iran or with certain individuals or entities that are the subject of sanctions under U.S. law. Disclosure is generally required even where the activities, transactions or dealings were conducted in compliance with applicable law. To the extent that transactions or dealings for its clients are permitted by U.S. law, Citi may continue to engage in such activities.

Citi, in its First Quarter of 2023 Form 10-Q, identified and reported certain activities pursuant to Section 219 for the fourth quarter of 2022. During the second quarter of 2023, Citigroup identified eight transactions pursuant to Section 219:

- Between April 20, 2023 and April 24, 2023, Citibank (Hong Kong) Limited (CHKL) processed seven transactions involving the account of a Specially Designated National, who was designated on April 19, 2023, pursuant to the Weapons of Mass Destruction Proliferators Sanctions Regulations. The total value of the seven transactions was approximately USD 605,029.05, which includes a nominal fee that CHKL realized in relation to a transaction that was ultimately blocked; CHKL did not realize any additional fees. Once identified, the transactions were disclosed to the U.S. Department of the Treasury's Office of Foreign Assets Control (OFAC).
- On June 7, 2023, CHKL and Citibank, N.A., New York Branch, processed a transaction from a Specially Designated National, who was designated on June 6, 2023, pursuant to the Weapons of Mass Destruction Proliferators Sanctions Regulations, to a non-sanctioned entity in China. The total value of the transaction was USD 4,736.18 and CHKL did not realize any fees for the processing of the transaction. Once identified, the transaction was disclosed to OFAC.

FORWARD-LOOKING STATEMENTS

Certain statements in this Form 10-Q, including but not limited to statements included within the Management's Discussion and Analysis of Financial Condition and Results of Operations, are "forward-looking statements" within the meaning of the Private Securities Litigation Reform Act of 1995. In addition, Citigroup may make forward-looking statements in its other documents filed or furnished with the SEC, and its management may make forward-looking statements orally to analysts, investors, representatives of the media and others.

Generally, forward-looking statements are not based on historical facts but instead represent Citigroup's and its management's beliefs regarding future events. Such statements may be identified by words such as believe, expect, anticipate, intend, estimate, may increase, may fluctuate, target and illustrative, and similar expressions or future or conditional verbs such as will, should, would and could.

Such statements are based on management's current expectations and are subject to risks, uncertainties and changes in circumstances. Actual results of operations and financial conditions, including capital and liquidity, may differ materially from those included in these statements due to a variety of factors, including without limitation (i) the precautionary statements included within the "Executive Summary" and each business's discussion and analysis of its results of operations above, in Citi's First Quarter of 2023 Form 10-Q, in Citi's 2022 Form 10-K and in Citi's other SEC filings; (ii) the factors listed and described under "Risk Factors" in Citi's 2022 Form 10-K; and (iii) the risks and uncertainties summarized below:

- the potential impact to Citi from continued macroeconomic, geopolitical and other challenges, uncertainties and volatility, including, among others, governmental fiscal and monetary actions or expected actions, including further increases in interest rates, reductions in central bank balance sheets, or other changes in interest rate or other monetary policies; potential recessions in the U.S., Europe and other regions and countries; a potential U.S. federal government shutdown and the resulting impacts; elevated levels of inflation and their impacts; economic and geopolitical challenges related to China, including weak economic growth and tensions related to Taiwan; other geopolitical challenges, tensions and conflicts, including those related to Russia's war in Ukraine; impacts related to recent bank failures and related market volatility, including macroeconomic conditions; foreign currency volatility and devaluations; distress and volatility in emerging markets, including sovereign debt pricing; protracted or widespread trade tensions; and election outcomes;
- the potential impact on Citi's ability to return capital to common shareholders consistent with its capital planning efforts and targets, due to, among other things: changes in regulatory capital rules, requirements or interpretations, such as revisions to the U.S. Basel III rules, including the recently issued notice of proposed rulemaking, known as the Basel III Endgame, related to regulatory capital requirements; regulatory capital requirements, including annual recalibration of the Stress Capital Buffer (preliminarily increased effective as of October 1, 2023); recalibration of the GSIB surcharge; Citi's results of operations and financial condition; the capital impacts related to Citi's remaining consumer banking divestitures, and achievement of the expected benefits from the divestitures; Citi's effectiveness in planning, managing and calculating its level of risk-weighted assets under both the Advanced Approaches and the Standardized Approach and Supplementary Leverage ratio and GSIB surcharge; Citi's implementation and maintenance of an effective capital planning framework; forecasts of macroeconomic conditions; and Citi's DTA utilization;
- the ongoing regulatory and legislative uncertainties and changes faced by financial institutions, including Citi, in the U.S. and globally, such as potential fiscal, monetary, regulatory, tax, sanctions and other changes, including potential increased regulatory requirements and costs such as the imposition of additional or special assessments by the FDIC, including the recently issued notice of proposed rulemaking to recover the uninsured deposit losses from recent bank failures; potential changes to various aspects of the regulatory capital framework; future legislative and regulatory requirements in the U.S. and globally relating to sustainability and climate change, including any new disclosure requirements, such as those proposed and/or adopted by the SEC and the EU; increased legislative activity by U.S. states that restricts the flow of capital and investment by financial institutions to state governmental entities, including anti-ESG initiatives that are designed to push back against corporate ESG policies; and the potential impact these uncertainties and changes could have on Citi's businesses, results of operations, financial condition, business planning and compliance risks and costs;
- the potential impact to credit card fee revenues in Branded cards and Retail services in *PBWM* from the Consumer Financial Protection Bureau's proposed significant changes to the maximum amounts on credit card late fees;
- Citi's ability to improve its risk and controls environment, modernize its data and technology infrastructure and further enhance safety and soundness, meet regulatory expectations, be sufficiently competitive, serve clients effectively, avoid operational errors and realize productivity improvements, as part of its transformation and other strategic initiatives, including as a result of factors that Citi cannot control, which could make the initiatives more costly and more challenging to implement, and limit their effectiveness;
- Citi's ability to achieve its objectives from its strategic refresh, including, among others, those related to its exits of remaining consumer banking businesses in *Legacy Franchises*, including, among others, the consumer, small business and middle-market operations in Mexico, and Citi's wind-down of its activities in Russia, Korea and China, which involve significant execution complexity, may not be as productive, effective or timely as Citi expects, may impact the local businesses during the exit

process, and could result in losses, charges or other negative financial or strategic impacts, which could be material;

- the potential impact to Citi from climate change and the transition to a low-carbon economy, including both physical risks, such as increased frequency and/or severity of adverse weather events as consequences of chronic climate changes, and transition risks, such as those arising from changes in regulations or market preferences toward a low-carbon economy; higher regulatory, compliance, credit, reputational and other risks and costs and data-related challenges, including as a result of any new disclosure requirements; and an increased focus by banking regulators and others on the issue of climate change at financial institutions directly and with respect to their clients;
- Citi's ability to utilize its DTAs (including the foreign tax credit component of its DTAs) and thus reduce the negative impact of the DTAs on Citi's regulatory capital, including as a result of its ability to generate U.S. taxable income in the relevant tax carry-forward periods;
- the potential impact to Citi if its interpretation or application of the complex income-based and non-income-based (such as withholding, stamp, service and other non-income taxes) tax laws to which it is subject in the U.S. and in non-U.S. jurisdictions differs from those of the relevant governmental taxing authorities, including as a result of litigation or examinations regarding non-income-based tax matters, and the resulting payment of additional taxes, penalties or interest;
- the potential impact from a deterioration in or failure to maintain Citi's co-branding or private label credit card relationships, due to, among other things, the general economic environment; changes in consumer sentiment, spending patterns and credit card usage behaviors; a decline in sales and revenues, partner store closures or other operational difficulties of the retailer or merchant; early termination of a particular relationship; or other factors, including bankruptcies, liquidations, restructurings, consolidations or other similar events, whether due to the impact of a challenging economic environment or otherwise;
- Citi's ability in its resolution plan submissions to address any shortcomings or deficiencies or guidance provided by the Federal Reserve Board or FDIC;
- the potential impact on Citi's performance and the performance of its individual businesses, including its competitive position and ability to effectively manage its businesses, and its ability to effectively execute its transformation and other strategic initiatives, if Citi is unable to attract, retain and motivate highly qualified employees, particularly given the highly competitive environment for talent and other factors, such as low unemployment, changes in worker's expectations and regulation of employee compensation in the banking industry;
- Citi's ability to compete effectively in the U.S. and globally with both financial and non-financial services firms, including as a result of certain competitors being subject to less stringent legal and regulatory requirements; the introduction of new or emerging technologies and mobile platforms; possible disruptions from artificial intelligence-driven solutions; growth in digital asset markets; changes in the payments space; reliance on third parties for certain product and service offerings and impact if any third party is unable to provide adequate support for such product and service offerings; and the increased operational, compliance and other risks resulting from the need to develop new or change or adapt existing products and services to attract and retain customers or clients or to compete more effectively with competitors;
- the potential impact to Citi from a prior or future failure or disruption of its operational processes or systems, including as a result of, among other things, human error, such as manual transaction processing errors (e.g., erroneous payments to lenders or manual errors by Citi traders that cause system and market disruptions and losses for Citi or its clients), which can be exacerbated by staffing challenges and processing backlogs; fraud or malice on the part of employees or third parties; operational or execution failures or deficiencies by third parties; insufficient (or limited) straight-through processing between legacy systems and any failure to design and effectively operate controls that mitigate operational risks associated with those legacy systems, leading to potential risk of errors and operating losses; accidental system or technological failure; electrical or telecommunication outages; failure of or cyber incidents involving computer servers or infrastructure; other similar losses or damage to Citi's property or assets; failures by third parties; potential disruptions and/or malfunctions within Citi's businesses, as well as the operations of Citi's clients, customers or other third parties; and the increased financial, reputational, legal and compliance risks resulting from any such failure or disruption of operational processes or systems, including legal and regulatory actions or proceedings, fines and other costs;
- the increasing risk to Citi's and third parties' computer systems and networks from continually evolving, sophisticated cybersecurity incidents that could result in, among other things, theft, loss, misuse or disclosure of confidential Citi, client or customer information or assets and a disruption of computer, software or network systems; and the potential impact from such risks, including reputational damage, regulatory penalties, loss of revenues, additional costs (including repair, remediation and other costs), exposure to litigation and other financial losses;
- the potential impact of changes or errors in accounting assumptions, judgments or estimates, or the application of certain accounting principles, related to the preparation of Citi's financial statements, including the estimate of Citi's ACL, which depends on its CECL models and assumptions, forecasted macroeconomic conditions and characteristics of Citi's loan portfolios and other applicable financial assets; reserves related to litigation, regulatory and tax matters exposures; valuation of DTAs; the fair values of certain assets and liabilities; and the assessment of goodwill and other assets for impairment;

- the financial impact from reclassification of any CTA component of *AOCI*, including related hedges and taxes, into Citi's earnings, due to a sale, IPO, substantial liquidation or other deconsolidation event of any foreign operations, such as those related to Citi's remaining consumer banking divestitures or other legacy businesses, whether due to Citi's strategic refresh or otherwise;
- the impact of changes to financial accounting and reporting standards or interpretations of how Citi records and reports its financial condition and results of operations;
- the potential impact to Citi's results of operations and/or regulatory capital and capital ratios if Citi's risk management and mitigation processes, strategies or models, including those related to its comprehensive stress testing initiatives or ability to manage, assess and aggregate data, are deficient or ineffective, or Citi's Basel III regulatory capital models require refinement, modification or enhancement, or any related action is taken by Citi's U.S. banking regulators;
- the potential impact of credit risk and concentrations of risk on Citi's results of operations, whether due to a default of or deterioration involving consumer, corporate or public sector borrowers or other counterparties in the U.S. or in various countries and jurisdictions globally, including from indemnification obligations in connection with various transactions, such as hedging or reinsurance arrangements related to those obligations, or Citi's inability to liquidate or realize the fair value of its collateral, which risks can be heightened for vulnerable industries or sectors impacted by the continued macroeconomic, geopolitical, market and other challenges and uncertainties and volatilities;
- the potential impact on Citi's liquidity and/or costs of funding if it does not effectively manage its liquidity or due to various other factors, including, among others, general disruptions in the financial markets; deposit outflows or unfavorable changes in deposit mix, whether driven by migration to higher-yielding products or otherwise; governmental fiscal and monetary policies; regulatory changes; negative investor perceptions of Citi's creditworthiness; competition for funding, including a decrease in demand for corporate debt, unexpected increases in cash or collateral requirements, and the consequent inability to monetize available liquidity resources; changes in Citi's credit spreads; higher interest rates; and changes in currency exchange rates;
- the impact of a credit ratings downgrade of Citi or certain of its subsidiaries or issuing entities on Citi's funding and liquidity as well as on the operations of certain of its businesses;
- the potential impact to Citi of ongoing interpretation and implementation of regulatory and legislative requirements and changes in the U.S. and globally, as well as heightened regulatory scrutiny and expectations for large financial institutions and their employees and agents, with respect to governance, infrastructure, data, climate and risk management practices and controls, customer and client protection, market practices, anti-money laundering and increasingly complex sanctions and disclosure regimes, including the impact on Citi's compliance, regulatory and other risks and costs, such as increased regulatory oversight and restrictions, enforcement proceedings, penalties and fines;
- the potential outcomes of the extensive legal and regulatory proceedings, examinations, investigations, consent orders and related compliance efforts and other inquiries, to which Citi is or may be subject at any given time, such as the previously disclosed October 2020 FRB and OCC consent orders, particularly given the increased focus by regulators on risk and controls, such as enterprise-wide risk management, compliance, data quality management and governance and internal controls, and policies and procedures; Citi's ability to implement targeted actions plans and submit quarterly progress reports detailing the results and status of improvements to comply with the consent orders on a timely and sufficient basis, which will continue to require significant investments to meet regulatory expectations; the heightened scrutiny and expectations generally from regulators, and the severity of the remedies sought by regulators, such as significant monetary penalties, supervisory or enforcement orders, business restrictions, limitations on dividends, changes to directors and/or officers and collateral consequences to Citi arising from such outcomes; and
- the various risks faced by Citi as a result of its presence in the emerging markets, including, among others, limitations or unavailability of hedges on foreign investments; foreign currency volatility and devaluations; sustained elevated interest rates; sovereign debt volatility; election outcomes; regulatory changes and political events; foreign exchange controls, including the inability to access indirect foreign exchange mechanisms; macroeconomic and geopolitical challenges and uncertainties and volatility, including with respect to commodity prices as well as repricing of assets and resulting impacts; limitations on foreign investment; sociopolitical instability (including from hyperinflation); fraud; nationalization or loss of licenses; business restrictions; sanctions or asset freezes; potential criminal charges; closure of branches or subsidiaries; confiscation of assets, whether related to geopolitical conflicts or otherwise; the need to record additional reserves based on the transfer risk associated with exposures outside the U.S. driven by safety and soundness considerations under U.S. banking law; and increased compliance and regulatory risks and costs.

Any forward-looking statements made by or on behalf of Citigroup speak only as to the date they are made, and Citi does not undertake to update forward-looking statements to reflect the impact of circumstances or events that arise after the forward-looking statements were made.

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CONSOLIDATED FINANCIAL STATEMENTS

CONSOLIDATED STATEMENT OF INCOME (UNAUDITED)

Citigroup Inc. and Subsidiaries

	Three Months Ended June 30,		Six Months Ended June 30,	
In millions of dollars, except per share amounts	**2023**	2022	**2023**	2022
Revenues				
Interest revenue	**$ 32,647**	$ 15,630	**$ 62,042**	$ 28,781
Interest expense	**18,747**	3,666	**34,794**	5,946
Net interest income	**$ 13,900**	$ 11,964	**$ 27,248**	$ 22,835
Commissions and fees	**$ 2,132**	$ 2,452	**$ 4,498**	$ 5,020
Principal transactions	**2,528**	4,525	**6,467**	9,115
Administration and other fiduciary fees	**989**	1,023	**1,885**	1,989
Realized gains on sales of investments, net	**49**	(58)	**121**	22
Impairment losses on investments:				
Impairment losses on investments and other assets	**(71)**	(96)	**(157)**	(186)
Provision (releases) for credit losses on AFS debt securities[1]	**1**	2	**—**	2
Net impairment losses recognized in earnings	**$ (70)**	$ (94)	**$ (157)**	$ (184)
Other revenue	**$ (92)**	$ (174)	**$ 821**	$ 27
Total non-interest revenues	**$ 5,536**	$ 7,674	**$ 13,635**	$ 15,989
Total revenues, net of interest expense	**$ 19,436**	$ 19,638	**$ 40,883**	$ 38,824
Provisions for credit losses and for benefits and claims				
Provision for credit losses on loans	**$ 1,761**	$ 1,384	**$ 3,498**	$ 1,644
Provision (release) for credit losses on HTM debt securities	**(4)**	20	**(21)**	18
Provision for credit losses on other assets	**149**	7	**574**	3
Policyholder benefits and claims	**14**	22	**38**	49
Provision (release) for credit losses on unfunded lending commitments	**(96)**	(159)	**(290)**	315
Total provisions for credit losses and for benefits and claims[2]	**$ 1,824**	$ 1,274	**$ 3,799**	$ 2,029
Operating expenses				
Compensation and benefits	**$ 7,388**	$ 6,472	**$ 14,926**	$ 13,292
Premises and equipment	**595**	619	**1,193**	1,162
Technology/communication	**2,309**	2,068	**4,436**	4,084
Advertising and marketing	**361**	414	**692**	725
Other operating	**2,917**	2,820	**5,612**	6,295
Total operating expenses	**$ 13,570**	$ 12,393	**$ 26,859**	$ 25,558
Income from continuing operations before income taxes	**$ 4,042**	$ 5,971	**$ 10,225**	$ 11,237
Provision for income taxes	**1,090**	1,182	**2,621**	2,123
Income from continuing operations	**$ 2,952**	$ 4,789	**$ 7,604**	$ 9,114
Discontinued operations				
Income (loss) from discontinued operations	**$ (1)**	$ (262)	**$ (2)**	$ (264)
Benefit for income taxes	**—**	(41)	**—**	(41)
Income (loss) from discontinued operations, net of taxes	**$ (1)**	$ (221)	**$ (2)**	$ (223)
Net income before attribution to noncontrolling interests	**$ 2,951**	$ 4,568	**$ 7,602**	$ 8,891
Noncontrolling interests	**36**	21	**81**	38
Citigroup's net income	**$ 2,915**	$ 4,547	**$ 7,521**	$ 8,853
Basic earnings per share[3]				
Income from continuing operations	**$ 1.34**	$ 2.32	**$ 3.55**	$ 4.34
Income from discontinued operations, net of taxes	**—**	(0.11)	**—**	(0.11)
Net income	**$ 1.34**	$ 2.20	**$ 3.54**	$ 4.23
Weighted average common shares outstanding *(in millions)*	**1,942.8**	1,941.5	**1,943.2**	1,956.6
Diluted earnings per share[3]				
Income from continuing operations	**$ 1.33**	$ 2.30	**$ 3.52**	$ 4.32
Income (loss) from discontinued operations, net of taxes	**—**	(0.11)	**—**	(0.11)
Net income	**$ 1.33**	$ 2.19	**$ 3.52**	$ 4.20
Adjusted weighted average diluted common shares outstanding *(in millions)*	**1,968.6**	1,958.1	**1,966.3**	1,973.2

(1) In accordance with ASC 326, which requires the provision for credit losses on AFS securities to be included in revenue.
(2) This total excludes the provision for credit losses on AFS securities, which is disclosed separately above.
(3) Due to rounding, earnings per share on continuing operations and discontinued operations may not sum to earnings per share on net income.

The Notes to the Consolidated Financial Statements are an integral part of these Consolidated Financial Statements.

CONSOLIDATED STATEMENT OF COMPREHENSIVE INCOME (UNAUDITED)

Citigroup Inc. and Subsidiaries

	Three Months Ended June 30,		Six Months Ended June 30,	
In millions of dollars	**2023**	2022	**2023**	2022
Citigroup's net income	**$ 2,915**	$ 4,547	**$ 7,521**	$ 8,853
Add: Citigroup's other comprehensive income[1]				
Net change in unrealized gains and losses on debt securities, net of taxes[2]	**$ 126**	$ (1,501)	**$ 962**	$ (5,778)
Net change in debt valuation adjustment (DVA), net of taxes[3]	**(619)**	1,967	**(944)**	2,760
Net change in cash flow hedges, net of taxes	**171**	(666)	**532**	(2,207)
Benefit plans liability adjustment, net of taxes[4]	**(136)**	(89)	**(240)**	82
Net change in CTA, net of taxes and hedges	**23**	(1,630)	**864**	(1,644)
Net change in excluded component of fair value hedges, net of taxes	**17**	9	**(3)**	57
Net change in long-duration insurance contracts, net of taxes	**(6)**	—	**(1)**	—
Citigroup's total other comprehensive income (loss)	**$ (424)**	$ (1,910)	**$ 1,170**	$ (6,730)
Citigroup's total comprehensive income	**$ 2,491**	$ 2,637	**$ 8,691**	$ 2,123
Add: Other comprehensive income (loss) attributable to noncontrolling interests	**14**	(53)	**46**	(82)
Add: Net income (loss) attributable to noncontrolling interests	**36**	21	**81**	38
Total comprehensive income	**$ 2,541**	$ 2,605	**$ 8,818**	$ 2,079

(1) See Note 18.
(2) See Note 12.
(3) See Note 22.
(4) See Note 8.

The Notes to the Consolidated Financial Statements are an integral part of these Consolidated Financial Statements.

CONSOLIDATED BALANCE SHEET *Citigroup Inc. and Subsidiaries*

In millions of dollars		**June 30, 2023 (Unaudited)**		December 31, 2022
Assets				
Cash and due from banks (including segregated cash and other deposits)	**$**	**25,763**	$	30,577
Deposits with banks, net of allowance		**271,145**		311,448
Securities borrowed and purchased under agreements to resell (including $210,126 and $239,527 as of June 30, 2023 and December 31, 2022, respectively, at fair value), net of allowance		**337,103**		365,401
Brokerage receivables, net of allowance		**60,850**		54,192
Trading account assets (including $172,535 and $133,535 pledged to creditors as of June 30, 2023 and December 31, 2022, respectively)		**423,189**		334,114
Investments:				
Available-for-sale debt securities (including $11,754 and $10,933 pledged to creditors as of June 30, 2023 and December 31, 2022, respectively)		**237,334**		249,679
Held-to-maturity debt securities, net of allowance (fair value of which is $238,021 and $243,648 as of June 30, 2023 and December 31, 2022, respectively) (includes $21 and $0 pledged to creditors as of June 30, 2023 and December 31, 2022, respectively)		**262,066**		268,863
Equity securities (including $729 and $895 as of June 30, 2023 and December 31, 2022, respectively, at fair value)		**7,745**		8,040
Total investments	**$**	**507,145**	$	526,582
Loans:				
Consumer (including $237 and $237 as of June 30, 2023 and December 31, 2022, respectively, at fair value)		**374,591**		368,067
Corporate (including $5,529 and $5,123 as of June 30, 2023 and December 31, 2022, respectively, at fair value)		**286,021**		289,154
Loans, net of unearned income	**$**	**660,612**	$	657,221
Allowance for credit losses on loans (ACLL)		**(17,496)**		(16,974)
Total loans, net	**$**	**643,116**	$	640,247
Goodwill		**19,998**		19,691
Intangible assets (including MSRs at fair value of $681 and $665 as of June 30, 2023 and December 31, 2022, respectively)		**4,576**		4,428
Premises and equipment, net of depreciation and amortization		**27,818**		26,253
Other assets (including $13,637 and $10,658 as of June 30, 2023 and December 31, 2022, respectively, at fair value), net of allowance		**102,972**		103,743
Total assets	**$**	**2,423,675**	$	2,416,676

Statement continues on the next page.

CONSOLIDATED BALANCE SHEET *Citigroup Inc. and Subsidiaries*
(Continued)

In millions of dollars, except shares and per share amounts		**June 30, 2023 (Unaudited)**		December 31, 2022
Liabilities				
Deposits (including $2,598 and $1,875 as of June 30, 2023 and December 31, 2022, respectively, at fair value)	**$**	**1,319,867**	$	1,365,954
Securities loaned and sold under agreements to repurchase (including $62,800 and $70,886 as of June 30, 2023 and December 31, 2022, respectively, at fair value)		**260,035**		202,444
Brokerage payables (including $5,989 and $4,439 as of June 30, 2023 and December 31, 2022, respectively, at fair value)		**69,433**		69,218
Trading account liabilities		**170,664**		170,647
Short-term borrowings (including $5,622 and $6,222 as of June 30, 2023 and December 31, 2022, respectively, at fair value)		**40,430**		47,096
Long-term debt (including $115,937 and $105,995 as of June 30, 2023 and December 31, 2022, respectively, at fair value)		**274,510**		271,606
Other liabilities, plus allowances		**79,314**		87,873
Total liabilities	**$**	**2,214,253**	$	2,214,838
Stockholders' equity				
Preferred stock ($1.00 par value; authorized shares: 30 million), issued shares: **as of June 30, 2023—809,800** and as of December 31, 2022—759,800, at aggregate liquidation value	**$**	**20,245**	$	18,995
Common stock ($0.01 par value; authorized shares: 6 billion), issued shares: **as of June 30, 2023—3,099,691,671** and as of December 31, 2022—3,099,669,424		**31**		31
Additional paid-in capital		**108,579**		108,458
Retained earnings		**199,976**		194,734
Treasury stock, at cost: **June 30, 2023—1,173,989,187 shares** and December 31, 2022—1,162,682,999 shares		**(74,247)**		(73,967)
Accumulated other comprehensive income (loss) (*AOCI*)		**(45,865)**		(47,062)
Total Citigroup stockholders' equity	**$**	**208,719**	$	201,189
Noncontrolling interests		**703**		649
Total equity	**$**	**209,422**	$	201,838
Total liabilities and equity	**$**	**2,423,675**	$	2,416,676

The Notes to the Consolidated Financial Statements are an integral part of these Consolidated Financial Statements.

CONSOLIDATED STATEMENT OF CHANGES IN STOCKHOLDERS' EQUITY (UNAUDITED)

Citigroup Inc. and Subsidiaries

In millions of dollars	Three Months Ended June 30, 2023	Three Months Ended June 30, 2022	Six Months Ended June 30, 2023	Six Months Ended June 30, 2022
Preferred stock at aggregate liquidation value				
Balance, beginning of period	**$ 20,245**	$ 18,995	**$ 18,995**	$ 18,995
Issuance of new preferred stock	**—**	—	**1,250**	—
Balance, end of period	**$ 20,245**	$ 18,995	**$ 20,245**	$ 18,995
Common stock and additional paid-in capital (APIC)				
Balance, beginning of period	**$ 108,400**	$ 108,081	**$ 108,489**	$ 108,034
Employee benefit plans	**210**	160	**126**	206
Other	**—**	—	**(5)**	1
Balance, end of period	**$ 108,610**	$ 108,241	**$ 108,610**	$ 108,241
Retained earnings				
Balance, beginning of period	**$ 198,353**	$ 187,962	**$ 194,734**	$ 184,948
Adjustment to opening balance, net of taxes[1]				
Financial instruments—TDRs and vintage disclosures	**—**	—	**290**	—
Adjusted balance, beginning of period	**$ 198,353**	$ 187,962	**$ 195,024**	$ 184,948
Citigroup's net income	**2,915**	4,547	**7,521**	8,853
Common dividends[2]	**(1,004)**	(1,010)	**(2,004)**	(2,024)
Preferred dividends	**(288)**	(238)	**(565)**	(517)
Other (primarily reclassifications from APIC for preferred issuance costs on redemptions)	**—**	—	**—**	1
Balance, end of period	**$ 199,976**	$ 191,261	**$ 199,976**	$ 191,261
Treasury stock, at cost				
Balance, beginning of period	**$ (73,262)**	$ (73,744)	**$ (73,967)**	$ (71,240)
Employee benefit plans[3]	**15**	6	**720**	502
Treasury stock acquired[4]	**(1,000)**	(250)	**(1,000)**	(3,250)
Balance, end of period	**$ (74,247)**	$ (73,988)	**$ (74,247)**	$ (73,988)
Citigroup's accumulated other comprehensive income (loss)				
Balance, beginning of period	**$ (45,441)**	$ (43,585)	**$ (47,062)**	$ (38,765)
Adjustment to opening balance, net of taxes[1]	**—**	—	**27**	—
Adjusted balance, beginning of period	**$ (45,441)**	$ (43,585)	**$ (47,035)**	$ (38,765)
Citigroup's total other comprehensive income	**(424)**	(1,910)	**1,170**	(6,730)
Balance, end of period	**$ (45,865)**	$ (45,495)	**$ (45,865)**	$ (45,495)
Total Citigroup common stockholders' equity	**$ 188,474**	$ 180,019	**$ 188,474**	$ 180,019
Total Citigroup stockholders' equity	**$ 208,719**	$ 199,014	**$ 208,719**	$ 199,014
Noncontrolling interests				
Balance, beginning of period	**$ 724**	$ 644	**$ 649**	$ 700
Transactions between Citigroup and noncontrolling-interest shareholders	**1**	(1)	**1**	(34)
Net income attributable to noncontrolling-interest shareholders	**36**	21	**81**	38
Distributions paid to noncontrolling-interest shareholders	**(71)**	(1)	**(82)**	(11)
Other comprehensive income (loss) attributable to noncontrolling-interest shareholders	**14**	(53)	**46**	(82)
Other	**(1)**	2	**8**	1
Net change in noncontrolling interests	**$ (21)**	$ (32)	**$ 54**	$ (88)
Balance, end of period	**$ 703**	$ 612	**$ 703**	$ 612
Total equity	**$ 209,422**	$ 199,626	**$ 209,422**	$ 199,626

(1) See Note 1 for additional details.
(2) Common dividends declared were $0.51 per share for each of the first and second quarters of 2023 and 2022.
(3) Includes treasury stock related to (i) certain activity on employee stock option program exercises where the employee delivers existing shares to cover the option exercise, or (ii) under Citi's employee restricted or deferred stock programs where shares are withheld to satisfy tax requirements.
(4) Primarily consists of open market purchases under Citi's Board of Directors-approved common stock repurchase program.

The Notes to the Consolidated Financial Statements are an integral part of these Consolidated Financial Statements.

CONSOLIDATED STATEMENT OF CASH FLOWS
(UNAUDITED)

Citigroup Inc. and Subsidiaries

In millions of dollars	Six Months Ended June 30, 2023	2022
Cash flows from operating activities of continuing operations		
Net income before attribution of noncontrolling interests	**$ 7,602**	$ 8,891
Net income attributable to noncontrolling interests	**81**	38
Citigroup's net income	**$ 7,521**	$ 8,853
Income (loss) from discontinued operations, net of taxes	**(2)**	(223)
Income from continuing operations—excluding noncontrolling interests	**$ 7,523**	$ 9,076
Adjustments to reconcile net income to net cash provided by (used in) operating activities of continuing operations		
Net loss (gain) on sale of significant disposals[1]	**(1,059)**	—
Depreciation and amortization	**2,247**	2,089
Deferred income taxes[2]	**(852)**	(228)
Provisions for credit losses and for benefits and claims[2]	**3,799**	2,029
Realized gains from sales of investments	**(121)**	(22)
Impairment losses on investments and other assets	**157**	186
Goodwill impairment	**—**	535
Change in trading account assets	**(89,164)**	(8,974)
Change in trading account liabilities	**17**	18,924
Change in brokerage receivables net of brokerage payables	**(6,443)**	8,898
Change in loans held-for-sale (HFS)	**1,405**	4,504
Change in other assets	**(4,884)**	(3,222)
Change in other liabilities	**(3,101)**	(2,117)
Other, net[2][3]	**5,932**	(17,434)
Total adjustments	**$ (92,067)**	$ 5,168
Net cash provided by (used in) operating activities of continuing operations	**$ (84,544)**	$ 14,244
Cash flows from investing activities of continuing operations		
Change in securities borrowed and purchased under agreements to resell	**$ 28,298**	$ (34,046)
Change in loans	**(8,750)**	(14,790)
Proceeds from divestitures[1]	**—**	1,940
Proceeds from sales and securitizations of loans	**2,154**	1,562
Net payment due to transfer of net liabilities associated with divestitures[1]	**(29)**	—
Available-for-sale (AFS) debt securities		
Purchases of investments[2][3]	**(114,278)**	(123,569)
Proceeds from sales of investments	**29,897**	79,952
Proceeds from maturities of investments[2][3]	**105,204**	60,777
Held-to-maturity (HTM) debt securities		
Purchases of investments	**(664)**	(34,317)
Proceeds from maturities of investments	**4,369**	5,821
Capital expenditures on premises and equipment and capitalized software	**(3,125)**	(2,465)
Proceeds from sales of premises and equipment, subsidiaries and affiliates and repossessed assets	**11**	31
Other, net[2][3][4]	**(370)**	(1,710)
Net cash provided by (used in) investing activities of continuing operations	**$ 42,717**	$ (60,814)
Cash flows from financing activities of continuing operations		
Dividends paid	**$ (2,547)**	$ (2,514)
Issuance of preferred stock	**1,245**	—
Redemption of preferred stock	**—**	—

CONSOLIDATED STATEMENT OF CASH FLOWS
(UNAUDITED) (Continued)

	Six Months Ended June 30,	
In millions of dollars	**2023**	2022
Treasury stock acquired	**$ (1,000)**	$ (3,200)
Stock tendered for payment of withholding taxes	**(322)**	(334)
Change in securities loaned and sold under agreements to repurchase	**57,591**	7,187
Issuance of long-term debt	**32,689**	60,304
Payments and redemptions of long-term debt	**(35,984)**	(28,439)
Change in deposits	**(46,087)**	25,360
Change in short-term borrowings	**(6,666)**	12,081
Net cash provided by (used in) financing activities of continuing operations	**$ (1,081)**	$ 70,445
Effect of exchange rate changes on cash and due from banks	**$ (2,209)**	$ (1,878)
Change in cash, due from banks and deposits with banks	**(45,117)**	21,997
Cash, due from banks and deposits with banks at beginning of period	**342,025**	262,033
Cash, due from banks and deposits with banks at end of period	**$ 296,908**	$ 284,030
Cash and due from banks (including segregated cash and other deposits)	**$ 25,763**	$ 24,902
Deposits with banks, net of allowance	**271,145**	259,128
Cash, due from banks and deposits with banks at end of period	**$ 296,908**	$ 284,030
Supplemental disclosure of cash flow information for continuing operations		
Cash paid during the period for income taxes	**$ 3,031**	$ 1,661
Cash paid during the period for interest	**31,803**	6,284
Non-cash investing activities[1][4][5]		
Transfer of investment securities from HTM to AFS	**$ 3,324**	$ —
Transfer of investment securities from AFS to HTM	**—**	21,522
Decrease in net loans associated with divestitures reclassified to HFS	**—**	17,758
Decrease in goodwill associated with divestitures reclassified to HFS	**—**	873
Transfers to loans HFS (*Other assets*) from loans HFI	**4,730**	1,874
Transfers from loans HFS (*Other assets*) to loans HFI	**322**	—
Non-cash financing activities[1]		
Decrease in deposits associated with divestitures reclassified to HFS	**$ —**	$ 20,741
Decrease in long-term debt associated with divestitures reclassified to HFS	**—**	—

(1) See Note 2 for further information on significant disposals.
(2) 2022 amounts have been revised to conform to the current-period presentation.
(3) Consistent with the revisions disclosed in "Statement of Cash Flows" in Note 1 to the Consolidated Financial Statements in Citi's 2022 Form 10-K, during the six months ended June 30, 2022, $16.1 billion of cash flows related to maturities of short-term negotiable certificates of deposit (NCDs) and $41 million of cash flows related to purchases of short-term NCDs were reclassified from purchases and maturities of AFS securities within investing activities to *Other, net* within operating activities.
(4) In January 2023, Citi adopted ASU 2022-01. Upon adoption, Citi transferred $3.3 billion of mortgage-backed securities from HTM classification to AFS classification as allowed under the ASU. At the time of transfer, the securities were in an unrealized gain position of $0.1 billion, which was recorded in *AOCI* upon transfer. See Note 1.
(5) Operating and finance lease right-of-use assets and lease liabilities represent non-cash investing and financing activities, respectively, and are not included in the non-cash investing activities presented here. See Note 25 for more information and balances as of June 30, 2023.

The Notes to the Consolidated Financial Statements are an integral part of these Consolidated Financial Statements.

1. BASIS OF PRESENTATION, UPDATED ACCOUNTING POLICIES AND ACCOUNTING CHANGES

Basis of Presentation

The accompanying unaudited Consolidated Financial Statements as of June 30, 2023 and for the three- and six-month periods ended June 30, 2023 and 2022 include the accounts of Citigroup Inc. and its consolidated subsidiaries.

In the opinion of management, all adjustments, consisting of normal recurring adjustments, necessary for a fair presentation have been reflected. The accompanying unaudited Consolidated Financial Statements should be read in conjunction with the Consolidated Financial Statements and related notes included within Citigroup's Annual Report on Form 10-K for the year ended December 31, 2022 (2022 Form 10-K) and Citigroup's Quarterly Report on Form 10-Q for the quarter ended March 31, 2023 (First Quarter of 2023 Form 10-Q).

Certain financial information that is normally included in annual financial statements prepared in accordance with U.S. generally accepted accounting principles (GAAP), but is not required for interim reporting purposes, has been condensed or omitted.

Management must make estimates and assumptions that affect the Consolidated Financial Statements and the related footnote disclosures. While management uses its best judgment, actual results could differ from those estimates.

As noted above, the Notes to these Consolidated Financial Statements are unaudited.

Throughout these Notes, "Citigroup," "Citi" and "the Company" refer to Citigroup Inc. and its consolidated subsidiaries.

Certain reclassifications and updates have been made to the prior periods' financial statements and notes to conform to the current period's presentation.

Cash equivalents are defined as those amounts included in *Cash and due from banks* and predominately all of *Deposits with banks*. Cash flows from risk management activities are classified in the same category as the related assets and liabilities. Amounts included in *Cash and due from banks* and *Deposits with banks* approximate fair value.

UPDATED SIGNIFICANT ACCOUNTING POLICIES

The accounting policies below have been updated from those disclosed in Citi's 2022 Annual Report on Form 10-K (2022 Form 10-K) as a result of accounting standards adopted during the first quarter of 2023.

See Note 1 to the Consolidated Financial Statements in Citi's 2022 Form 10-K for a summary of all of Citigroup's significant accounting policies.

Allowances for Credit Losses (ACL)

Beginning January 1, 2023, Citi adopted Accounting Standards Update (ASU) No. 2022-02, *Financial Instruments—Credit Losses (Topic 326): Troubled Debt Restructurings and Vintage Disclosures* under the methodology described below. For information about Citi's accounting for troubled debt restructurings (TDRs) prior to January 1, 2023, see Note 1 to the Consolidated Financial Statements in Citi's 2022 Form 10-K.

ACCOUNTING CHANGES

TDRs and Vintage Disclosures

In March 2022, the FASB issued ASU No. 2022-02, *Financial Instruments—Credit Losses (Topic 326): Troubled Debt Restructurings and Vintage Disclosures*. Citi adopted the ASU on January 1, 2023. Citi adopted the guidance on the recognition and measurement of TDRs under the modified retrospective approach.

Adopting these amendments resulted in a decrease to the ACLL of $352 million and an increase in other assets related to held-for-sale businesses of $44 million, with a corresponding increase to retained earnings of $290 million and a decrease in deferred tax assets of $106 million on January 1, 2023. The ACL for corporate loans was unaffected because the measurement approach used for corporate loans is not in the scope of this ASU.

ASU 2022-02 eliminates the accounting and disclosure requirements for TDRs, including the requirement to measure the ACLL for TDRs using a discounted cash flow (DCF) approach. With the elimination of TDR accounting requirements, reasonably expected TDRs are no longer considered when determining the term over which to estimate expected credit losses. The ACLL for modified loans that are collateral dependent continues to be based on the fair value of the collateral.

Consumer Loans

Upon adoption of the ASU on January 1, 2023, Citi discontinued the use of a DCF approach for consumer loans formerly considered TDRs. Beginning January 1, 2023, Citi measures the ACLL for all consumer loans under approaches that do not incorporate discounting, primarily utilizing models that consider the borrowers' probability of default, loss given default and exposure at default. In addition, upon adoption of the ASU, Citi collectively evaluates smaller-balance homogenous loans formerly considered TDRs for expected

credit losses, whereas previously those loans had been individually evaluated.

The ASU also requires disclosure of modifications of loans to borrowers experiencing financial difficulty if the modification involves principal forgiveness, an interest rate reduction, an other-than-insignificant payment delay, a term extension or a combination of those types of modifications. In addition, the ASU requires the disclosure of current-period gross write-offs by year of loan origination (vintage). The amendments related to disclosures are required to be applied prospectively beginning as of the date of adoption. See Note 13 for these new disclosures for periods beginning on and after January 1, 2023.

Long-Duration Insurance Contracts

In August 2018, the FASB issued ASU No. 2018-12, *Financial Services—Insurance: Targeted Improvements to the Accounting for Long-Duration Contracts*, which changes the existing recognition, measurement, presentation and disclosures for long-duration contracts issued by an insurance entity. Specifically, the guidance (i) improves the timeliness of recognizing changes in the liability for future policy benefits and prescribes the rate used to discount future cash flows for long-duration insurance contracts, (ii) simplifies and improves the accounting for certain market-based options or guarantees associated with deposit (or account balance) contracts, (iii) simplifies the amortization of deferred acquisition costs and (iv) introduces additional quantitative and qualitative disclosures. Citi has certain insurance subsidiaries, primarily in Mexico, that issue long-duration insurance contracts such as traditional life insurance policies and life-contingent annuity contracts that are impacted by the requirements of ASU 2018-12.

Citi adopted the targeted improvements in ASU 2018-12 on January 1, 2023, resulting in a $39 million decrease in *Other liabilities* and a $27 million increase in *AOCI*, after-tax.

FUTURE ACCOUNTING CHANGES

Accounting for Investments in Tax Credit Structures

In March 2023, the FASB issued ASU No. 2023-02, *Investments—Equity Method and Joint Ventures (Topic 323): Accounting for Investments in Tax Credit Structures Using the Proportional Amortization Method*. The ASU expands the scope of tax equity investments eligible to apply the proportional amortization method of accounting. Under the proportional amortization method, the cost of an eligible investment is amortized in proportion to the income tax credits and other income tax benefits that are received by the investor, with the amortization of the investment and the income tax credits being presented net in the income statement as components of income tax expense (benefit). Prior to the issuance of this ASU, use of the proportional amortization method was limited to tax equity investments in Low-Income Housing Tax Credit (LIHTC) structures, and all other tax equity investments were typically accounted for using the equity method of accounting, which resulted in investment income, gains and losses, and tax credits being presented gross on the income statement in their respective line items. The ASU will permit the Company to elect to use the proportional amortization method to account for all eligible tax equity investments, regardless of the tax credit program from which the income tax credits are received, if certain conditions are met. For public entities, the ASU is effective for fiscal years beginning after December 15, 2023, although early adoption is permitted in any interim period. However, if an entity adopts the amendments in an interim period, it shall adopt them as of the beginning of the fiscal year that includes that interim period. Adoption of the ASU must be applied on either a retrospective or a modified retrospective basis. Citi plans to adopt the ASU on January 1, 2024 and is currently evaluating the impact of the standard on tax equity investments. Citi does not expect a material impact to its results of operations as a result of adopting the standard.

Fair Value Measurement of Equity Securities Subject to Contractual Sale Restrictions

In June 2022, the FASB issued ASU No. 2022-03, *Fair Value Measurement (Topic 820): Fair Value Measurement of Equity Securities Subject to Contractual Sale Restrictions*. The ASU was issued to address diversity in practice whereby certain entities included the impact of contractual restrictions when valuing equity securities, and it clarifies that a contractual restriction on the sale of an equity security should not be considered part of the unit of account of the equity security and, therefore, should not be considered in measuring fair value. The ASU also includes requirements for entities to disclose the fair value of equity securities subject to contractual sale restrictions, the nature and remaining duration of the restrictions and the circumstances that could cause a lapse in the restrictions.

The ASU is to be adopted on a prospective basis and will be effective for Citi on January 1, 2024, although early adoption is permitted. Adoption of the accounting standard is not expected to have an impact on Citi's operating results or financial position, as the Company does not include such restrictions when valuing equity securities.

2. DISCONTINUED OPERATIONS, SIGNIFICANT DISPOSALS AND OTHER BUSINESS EXITS

Summary of Discontinued Operations

The Company's results from *Discontinued operations* consisted of residual activities related to the sales of the Egg Banking plc credit card business in 2011 and the German retail banking business in 2008. All *Discontinued operations* results are recorded within *Corporate/Other*.

The following table summarizes financial information for all *Discontinued operations*:

	Three Months Ended June 30,		Six Months Ended June 30,	
In millions of dollars	**2023**	2022	**2023**	2022
Total revenues, net of interest expense	**$ —**	$ (262)	**$ —**	$ (262)
Income (loss) from discontinued operations	**$ (1)**	$ (262)	**$ (2)**	$ (264)
Benefit for income taxes	**—**	(41)	**—**	(41)
Income (loss) from discontinued operations, net of taxes	**$ (1)**	$ (221)	**$ (2)**	$ (223)

During the second quarter of 2022, the Company finalized the settlement of certain liabilities related to its legacy consumer operation in the U.K. (the legacy operation), including an indemnification liability related to its sale of the Egg Banking business in 2011, which led to the substantial liquidation of the legacy operation. As a result, a CTA loss (net of hedges) in *AOCI* of approximately $400 million pretax ($345 million after-tax) related to the legacy operation was released to earnings in the second quarter of 2022. Out of the total CTA release, a $260 million pretax loss ($221 million after-tax loss) was attributable to the Egg Banking business noted above, reported in *Discontinued operations*, and therefore the corresponding CTA release was also reported in *Discontinued operations* during the second quarter of 2022. The remaining CTA release of a $140 million pretax loss ($124 million after-tax loss) related to Legacy Holdings Assets was reported as part of *Continuing operations* within *Legacy Franchises*.

While the legacy operation was divested in multiple sales over the years, each transaction did not result in substantial liquidation given that Citi retained certain liabilities noted above, which were gradually settled over time until reaching the point of substantial liquidation during the second quarter of 2022, triggering the release of the CTA loss to earnings.

Cash flows from *Discontinued operations* were not material for the periods presented.

Significant Disposals

As of June 30, 2023, Citi had entered into sale agreements for nine consumer banking businesses within *Legacy Franchises*. Australia closed in the second quarter of 2022, the Philippines closed in the third quarter of 2022, Bahrain, Malaysia and Thailand closed in the fourth quarter of 2022, and India and Vietnam closed in the first quarter of 2023. Entry of sale agreements for the Taiwan and Indonesia consumer banking businesses has resulted in the reclassification to HFS on the Consolidated Balance Sheet of approximately $14 billion in assets within *Other assets*, including approximately $8 billion of loans (net of allowance of $68 million), and approximately $11 billion in liabilities within *Other liabilities*, including approximately $11 billion in deposits. Of the nine sale agreements, the five below were identified as significant disposals as of June 30, 2023. The Taiwan sale has yet to close and is subject to regulatory approvals and other closing conditions.

			June 30, 2023									
In millions of dollars			Assets						Liabilities			
Consumer banking business in	**Sale agreement date**	**Closing date**	**Cash and deposits with banks**	**Loans[1]**	**Goodwill**	**Other assets, advances to/from subsidiaries**	**Other assets**	**Total assets**	**Deposits**	**Long-term debt**	**Other liabilities**	**Total liabilities**
Australia[2]	8/9/2021	6/1/2022	$ —	$ —	$ —	$ —	$ —	$ —	$ —	$ —	$ —	$ —
Philippines[3]	12/23/2021	8/1/2022	—	—	—	—	—	—	—	—	—	—
Thailand[4]	1/14/2022	11/1/2022	$ —	$ —	$ —	$ —	$ —	$ —	$ —	$ —	$ —	$ —
India[5]	3/30/2022	3/1/2023	—	—	—	—	—	—	—	—	—	—
Taiwan[6]	1/28/2022	second half 2023	**$ 96**	**$ 7,652**	**$ 196**	**$ 4,441**	**$ 185**	**$12,570**	**$ 9,657**	**$ —**	**$ 236**	**$ 9,893**

	Income (loss) before taxes[7]			
	Three Months Ended June 30,		Six Months Ended June 30,	
In millions of dollars	**2023**	2022	**2023**	2022
Australia[2]	**$ —**	$ 28	**$ —**	$ 193
Philippines[3]	**—**	14	**—**	65
Thailand[4]	**—**	90	**—**	78
India[5]	**—**	52	**2**	125
Taiwan[6]	**35**	50	**91**	96

(1) Loans, net of allowance as of June 30, 2023 includes $31 million for Taiwan.

(2) On June 1, 2022, Citi completed the sale of its Australia consumer banking business, which was part of *Legacy Franchises*. The business had approximately $9.4 billion in assets, including $9.3 billion of loans (net of allowance of $140 million) and excluding goodwill. The total amount of liabilities was $7.3 billion including $6.8 billion in deposits. The transaction generated a pretax loss on sale of approximately $760 million ($640 million after-tax), subject to closing adjustments, recorded in *Other revenue*. The loss on sale primarily reflected the impact of an approximate pretax $620 million CTA loss (net of hedges) ($470 million after-tax) already reflected in the *AOCI* component of equity. The sale closed on June 1, 2022, and the CTA-related balance was removed from *AOCI*, resulting in a neutral CTA impact to Citi's CET1 Capital. The income before taxes shown in the above table for Australia reflects Citi's ownership through June 1, 2022.

(3) On August 1, 2022, Citi completed the sale of its Philippines consumer banking business, which was part of *Legacy Franchises*. The business had approximately $1.8 billion in assets, including $1.2 billion of loans (net of allowance of $80 million) and excluding goodwill. The total amount of liabilities was $1.3 billion, including $1.2 billion in deposits. The sale resulted in a pretax gain on sale of approximately $618 million ($290 million after-tax), subject to closing adjustments, recorded in *Other revenue*. The income before taxes shown in the above table for the Philippines reflects Citi's ownership through August 1, 2022.

(4) On November 1, 2022, Citi completed the sale of its Thailand consumer banking business, which was part of *Legacy Franchises*. The business had approximately $2.7 billion in assets, including $2.4 billion of loans (net of allowance of $67 million) and excluding goodwill. The total amount of liabilities was $1.0 billion, including $0.8 billion in deposits. The sale resulted in a pretax gain on sale of approximately $209 million ($115 million after-tax), subject to closing adjustments, recorded in *Other revenue*. The income before taxes shown in the above table for Thailand reflects Citi's ownership through November 1, 2022.

(5) On March 1, 2023, Citi completed the sale of its India consumer banking business, which was part of *Legacy Franchises*. The business had approximately $5.2 billion in assets, including $3.4 billion of loans (net of allowance of $32 million) and excluding goodwill. The total amount of liabilities was $5.2 billion, including $5.1 billion in deposits. The sale resulted in a pretax gain on sale of approximately $1.1 billion ($727 million after-tax), subject to closing adjustments, recorded in *Other revenue*. The income before taxes shown in the above table for India reflects Citi's ownership through March 1, 2023.

(6) This sale is expected to result in an after-tax gain upon closing.

(7) Income before taxes for the period in which the individually significant component was classified as HFS for all prior periods presented. For Australia, excludes the pretax loss on sale. For the Philippines, Thailand and India, excludes the pretax gain on sale.

Citi did not have any other significant disposals as of June 30, 2023. As of August 4, 2023, Citi had not entered into sale agreements for the remaining *Legacy Franchises* businesses to be sold, specifically the Poland consumer banking business and the Mexico Consumer/SBMM businesses.

For a description of the Company's significant disposal transactions in prior periods and financial impact, see Note 2 to the Consolidated Financial Statements in Citi's 2022 Form 10-K.

Other Business Exits

Wind-Down of Korea Consumer Banking Business

On October 25, 2021, Citi disclosed its decision to wind down and close its Korea consumer banking business, which is reported in the *Legacy Franchises* operating segment. In connection with the announcement, Citibank Korea Inc. (CKI) commenced a voluntary early termination program (Korea VERP). Due to the voluntary nature of this termination program, no liabilities for termination benefits are recorded until CKI makes formal offers to employees that are then irrevocably accepted by those employees. Related charges are recorded as *Compensation and benefits*.

The following table summarizes the reserve charges related to the Korea VERP and other initiatives reported in the *Legacy Franchises* operating segment and *Corporate/Other*:

In millions of dollars		**Employee termination costs**
Total Citigroup (pretax)		
Original charges in fourth quarter 2021	$	1,052
Utilization		(1)
Foreign exchange		3
Balance at December 31, 2021	$	1,054
Additional charges in first quarter 2022	$	31
Utilization		(347)
Foreign exchange		(24)
Balance at March 31, 2022	$	714
Additional charges (releases)	$	(3)
Utilization		(670)
Foreign exchange		(41)
Balance at June 30, 2022	$	—

Note: There were no additional charges after June 30, 2022.

The total cash charges for the wind-down were $1.1 billion through 2022, most of which were recognized in 2021. Citi does not expect to record any additional charges in connection with the Korea VERP.

See Note 8 to the Consolidated Financial Statements in Citi's 2022 Form 10-K for details on the pension impact of the Korea wind-down.

Wind-Down of Russia Consumer and Institutional Banking Businesses

On August 25, 2022, Citi announced its decision to wind down its consumer banking and local commercial banking operations in Russia. As part of the wind-down, Citi is also actively pursuing sales of certain Russian consumer banking portfolios.

On October 14, 2022, Citi disclosed that it will be ending nearly all of the institutional banking services it offers in Russia by the end of the first quarter of 2023. Going forward, Citi's only operations in Russia will be those necessary to fulfill its remaining legal and regulatory obligations.

On December 12, 2022, Citi completed the sale of a portfolio of ruble-denominated personal installment loans, totaling approximately $240 million in outstanding loan balances, to Uralsib, a Russian commercial bank, resulting in a pretax net loss of approximately $12 million. The net loss on sale of the loan portfolio included a $32 million adjustment to record the loans at lower of cost or fair value recognized in *Other revenue.* In addition, the sale of the loans resulted in a release in the allowance for credit losses on loans of approximately $20 million recognized in the *Provision for credit losses on loans*.

During the second quarter of 2023, Citi recorded an incremental gain of $5 million related to post-closing contingency payments for the previously disclosed personal installment loan sale in *Other revenue.* The previously disclosed sale of a portfolio of ruble-denominated personal installment loans resulted in a pretax net loss on sale of approximately $7 million.

Citi's previously disclosed referral agreement with a Russian bank to settle a portfolio of ruble-denominated credit card loans, subject to customer consents, was signed in May 2023 and is in the execution phase. The outstanding amount with Citi is to be settled upon referral and refinancing. As a result, the portfolio will remain held-for-investment and will not be transferred to held-for-sale.

During the second quarter of 2023, Citi recorded a pretax release of approximately $1 million and a pretax charge of approximately $2 million (approximately $29 million and $12 million program-to-date) as *Compensation and benefits* composed of severance costs, reported in *Legacy Franchises* and *Institutional Clients Group*, respectively. Citi also recorded a pretax charge of approximately $4 million (approximately $17 million program-to-date) as *Other operating expenses* composed of vendor termination and other costs, reported in *Legacy Franchises*.

In connection with this wind-down, Citi expects to incur approximately $180 million in total estimated charges ($40 million in *ICG* and $140 million in *Legacy Franchises*, excluding the impact from any portfolio sales), of which approximately $58 million has been incurred program-to-date, largely driven by restructuring, vendor termination fees and other related charges.

3. OPERATING SEGMENTS

The operating segments and reporting units reflect how the CEO, who is the chief operating decision maker, manages the Company, including allocating resources and measuring performance.

Citigroup's activities are conducted through three operating segments: *Institutional Clients Group (ICG)*, *Personal Banking and Wealth Management (PBWM)* and *Legacy Franchises*, with *Corporate/Other* including activities not assigned to a specific operating segment, as well as discontinued operations.

ICG consists of Services, Markets and Banking, providing corporate, institutional and public sector clients around the world with a full range of wholesale banking products and services.

PBWM consists of U.S. Personal Banking and Global Wealth Management (Global Wealth), providing traditional banking services and credit cards to retail and small business customers primarily in the U.S., and financial services to clients from affluent to ultra-high-net-worth through banking, lending, mortgages, investment, custody and trust product offerings in 20 countries, including the U.S., Mexico and the four wealth management centers: Singapore, Hong Kong, the UAE and London.

Legacy Franchises consists of Asia Consumer and Mexico Consumer/SBMM businesses that Citi intends to exit, and its remaining Legacy Holdings Assets.

Corporate/Other includes activities not assigned to the operating segments, including certain unallocated costs of global functions, other corporate expenses and corporate treasury results, offsets to certain line-item reclassifications and eliminations, and unallocated taxes, as well as discontinued operations.

Revenues and expenses directly associated with each respective business segment or component are included in determining respective operating results. Other revenues and expenses that are not directly attributable to a particular business segment or component are generally allocated from *Corporate/Other* based on respective net revenues, non-interest expenses or other relevant measures.

As a result of revenues and expenses from transactions with other operating segments or components being treated as transactions with external parties for purposes of segment disclosures, the Company includes intersegment eliminations within *Corporate/Other* to reconcile the business segment results to Citi's consolidated results.

The accounting policies of these operating segments are the same as those disclosed in Note 1 to the Consolidated Financial Statements in Citi's 2022 Form 10-K.

The following tables present certain information regarding the Company's continuing operations by operating segment and *Corporate/Other*:

In millions of dollars, except identifiable assets, average loans and average deposits in billions	Three Months Ended June 30,									
	ICG		PBWM		Legacy Franchises		Corporate/Other		Total Citi	
	2023	2022	**2023**	2022	**2023**	2022	**2023**	2022	**2023**	2022
Net interest income	**$ 5,623**	$ 4,520	**$ 5,963**	$ 5,569	**$ 1,345**	$ 1,474	**$ 969**	$ 401	**$ 13,900**	$ 11,964
Non-interest revenue	**4,818**	6,899	**432**	460	**578**	461	**(292)**	(146)	**5,536**	7,674
Total revenues, net of interest expense	**$ 10,441**	$ 11,419	**$ 6,395**	$ 6,029	**$ 1,923**	$ 1,935	**$ 677**	$ 255	**$ 19,436**	$ 19,638
Operating expense	**7,286**	6,434	**4,204**	3,985	**1,778**	1,814	**302**	160	**13,570**	12,393
Provisions (releases) for credit losses	**58**	(202)	**1,579**	1,355	**300**	121	**(113)**	—	**1,824**	1,274
Income (loss) from continuing operations before taxes	**$ 3,097**	$ 5,187	**$ 612**	$ 689	**$ (155)**	$ —	**$ 488**	$ 95	**$ 4,042**	$ 5,971
Provision (benefits) for income taxes	**878**	1,209	**118**	136	**(33)**	15	**127**	(178)	**1,090**	1,182
Income (loss) from continuing operations	**$ 2,219**	$ 3,978	**$ 494**	$ 553	**$ (122)**	$ (15)	**$ 361**	$ 273	**$ 2,952**	$ 4,789
Identifiable assets (June 30, 2023 and December 31, 2022)	**$ 1,765**	$ 1,730	**$ 473**	$ 494	**$ 92**	$ 97	**$ 94**	$ 96	**$ 2,424**	$ 2,417
Average loans	**278**	297	**339**	317	**37**	43	**—**	—	**654**	657
Average deposits	**837**	830	**431**	435	**51**	51	**19**	7	**1,338**	1,323

In millions of dollars, except average loans and average deposits in billions	Six Months Ended June 30,									
	ICG		PBWM		Legacy Franchises		Corporate/Other		Total Citi	
	2023	2022	**2023**	2022	**2023**	2022	**2023**	2022	**2023**	2022
Net interest income	**$ 10,651**	$ 8,304	**$ 11,897**	$ 10,954	**$ 2,635**	$ 2,982	**$ 2,065**	$ 595	**$ 27,248**	$ 22,835
Non-interest revenue	**11,023**	14,275	**946**	980	**2,140**	884	**(474)**	(150)	**13,635**	15,989
Total revenues, net of interest expense	**$ 21,674**	$ 22,579	**$ 12,843**	$ 11,934	**$ 4,775**	$ 3,866	**$ 1,591**	$ 445	**$ 40,883**	$ 38,824
Operating expense	**14,259**	13,157	**8,458**	7,874	**3,530**	4,107	**612**	420	**26,859**	25,558
Provisions for credit losses	**(14)**	769	**3,170**	979	**645**	281	**(2)**	—	**3,799**	2,029
Income (loss) from continuing operations before taxes	**$ 7,429**	$ 8,653	**$ 1,215**	$ 3,081	**$ 600**	$ (522)	**$ 981**	$ 25	**$ 10,225**	$ 11,237
Provision (benefits) for income taxes	**1,912**	2,017	**232**	668	**116**	(122)	**361**	(440)	**2,621**	2,123
Income (loss) from continuing operations	**$ 5,517**	$ 6,636	**$ 983**	$ 2,413	**$ 484**	$ (400)	**$ 620**	$ 465	**$ 7,604**	$ 9,114
Average loans	**$ 281**	$ 293	**$ 336**	$ 315	**$ 37**	$ 45	**$ —**	$ —	**$ 654**	$ 653
Average deposits	**845**	828	**433**	441	**51**	53	**22**	6	**1,351**	1,328

4. INTEREST REVENUE AND EXPENSE

Interest revenue and *Interest expense* consisted of the following:

	Three Months Ended June 30,		Six Months Ended June 30,	
In millions of dollars	**2023**	2022	**2023**	2022
Interest revenue				
Consumer loans	**$ 8,962**	$ 6,601	**$ 17,586**	$ 12,863
Corporate loans	**5,094**	2,894	**9,753**	5,348
Loan interest, including fees	**$ 14,056**	$ 9,495	**$ 27,339**	$ 18,211
Deposits with banks	**3,049**	658	**6,080**	954
Securities borrowed and purchased under agreements to resell	**6,254**	805	**11,428**	1,199
Investments, including dividends	**4,451**	2,370	**8,595**	4,420
Trading account assets[1]	**3,752**	1,659	**6,499**	2,805
Other interest-earning assets[2]	**1,085**	643	2,101	1,192
Total interest revenue	**$ 32,647**	$ 15,630	**$ 62,042**	$ 28,781
Interest expense				
Deposits	**$ 8,727**	$ 1,420	**$ 16,435**	$ 2,291
Securities loaned and sold under agreements to repurchase	**4,953**	655	**8,519**	937
Trading account liabilities[1]	**870**	137	**1,657**	284
Short-term borrowings and other interest-bearing liabilities[3]	**1,777**	268	**3,426**	323
Long-term debt	**2,420**	1,186	**4,757**	2,111
Total interest expense	**$ 18,747**	$ 3,666	**$ 34,794**	$ 5,946
Net interest income	**$ 13,900**	$ 11,964	**$ 27,248**	$ 22,835
Provision for credit losses on loans	**1,761**	1,384	**3,498**	1,644
Net interest income after provision for credit losses on loans	**$ 12,139**	$ 10,580	**$ 23,750**	$ 21,191

(1) Interest expense on *Trading account liabilities* of *ICG* is reported as a reduction of *Interest revenue*. *Interest revenue* and *Interest expense* on cash collateral positions are reported in interest on *Trading account assets* and *Trading account liabilities*, respectively.
(2) Includes assets from businesses held-for-sale (see Note 2) and *Brokerage receivables*.
(3) Includes liabilities from businesses held-for-sale (see Note 2) and *Brokerage payables*.

5. COMMISSIONS AND FEES; ADMINISTRATION AND OTHER FIDUCIARY FEES

For additional information on Citi's commissions and fees, and administration and other fiduciary fees, see Note 5 to the Consolidated Financial Statements in Citi's 2022 Form 10-K.

The following tables present *Commissions and fees* revenue:

	Three Months Ended June 30, 2023				Six Months Ended June 30, 2023			
In millions of dollars	ICG	PBWM	Legacy Franchises	Total	ICG	PBWM	Legacy Franchises	Total
Investment banking	$ 598	$ —	$ —	$ 598	$ 1,324	$ —	$ —	$ 1,324
Brokerage commissions	360	182	34	576	774	359	78	1,211
Credit and bank card income								
Interchange fees	361	2,555	164	3,080	694	4,902	334	5,930
Card-related loan fees	17	37	66	120	30	80	128	238
Card rewards and partner payments[1]	(202)	(2,904)	(91)	(3,197)	(376)	(5,567)	(183)	(6,126)
Deposit-related fees[2]	272	18	9	299	524	58	17	599
Transactional service fees	303	6	25	334	592	10	50	652
Corporate finance[3]	86	—	—	86	185	3	—	188
Insurance distribution revenue	—	61	27	88	—	119	61	180
Insurance premiums	—	1	25	26	—	2	46	48
Loan servicing	8	11	4	23	17	26	7	50
Other	1	51	48	99	7	107	89	204
Total commissions and fees[4]	**$ 1,804**	**$ 18**	**$ 311**	**$ 2,132**	**$ 3,771**	**$ 99**	**$ 627**	**$ 4,498**

	Three Months Ended June 30, 2022				Six Months Ended June 30, 2022			
In millions of dollars	ICG	PBWM	Legacy Franchises	Total	ICG	PBWM	Legacy Franchises	Total
Investment banking	$ 845	$ —	$ —	$ 845	$ 1,753	$ —	$ —	$ 1,753
Brokerage commissions	393	213	53	659	853	454	121	1,428
Credit and bank card income								
Interchange fees	321	2,435	227	2,983	561	4,534	448	5,543
Card-related loan fees	11	73	79	163	20	137	160	317
Card rewards and partner payments[1]	(165)	(2,871)	(160)	(3,196)	(282)	(5,370)	(332)	(5,984)
Deposit-related fees[2]	279	44	19	342	546	103	36	685
Transactional service fees	267	5	26	298	521	9	52	582
Corporate finance[3]	136	—	—	136	252	3	—	255
Insurance distribution revenue	—	56	33	89	—	108	69	177
Insurance premiums	—	1	22	23	—	2	46	48
Loan servicing	7	12	4	23	19	22	7	48
Other	3	49	35	87	2	97	69	168
Total commissions and fees[4]	$ 2,097	$ 17	$ 338	$ 2,452	$ 4,245	$ 99	$ 676	$ 5,020

(1) Citi's consumer credit card programs have certain partner sharing agreements that vary by partner. These agreements are subject to contractually based performance thresholds that, if met, would require Citi to make ongoing payments to the partner. The threshold is based on the profitability of a program and is generally calculated based on predefined program revenues less predefined program expenses. In most of Citi's partner sharing agreements, program expenses include net credit losses and, to the extent that an increase in net credit losses reduces Citi's liability for the partners' share for a given program year, would generally result in lower payments to partners in total for that year and vice versa. Further, in some instances, other partner payments are based on program sales and new account acquisitions.

(2) Overdraft fees are accounted for under ASC 310. Citi eliminated overdraft fees, returned item fees and overdraft protection fees beginning in June 2022. Includes overdraft fees (prior to the elimination of overdraft fees in June 2022) of $0 and $28 million for the three months ended June 30, 2023 and 2022, respectively.

(3) Consists primarily of fees earned from structuring and underwriting loan syndications or related financing activity. This activity is accounted for under ASC 310.

(4) *Commissions and fees* include $(2,940) million and $(2,811) million not accounted for under ASC 606, *Revenue from Contracts with Customers*, for the three months ended June 30, 2023 and 2022, respectively, and $(5,599) million and $(5,240) million for the six months ended June 30, 2023 and 2022, respectively. Amounts reported in *Commissions and fees* accounted for under other guidance primarily include card-related loan fees, card reward programs and certain partner payments, corporate finance fees, insurance premiums and loan servicing fees.

The following tables present *Administration and other fiduciary fees* revenue:

In millions of dollars	Three Months Ended June 30, 2023 ICG	PBWM	Legacy Franchises	Total	Six Months Ended June 30, 2023 ICG	PBWM	Legacy Franchises	Total
Custody fees	**$ 485**	**$ 22**	**$ 3**	**$ 510**	**$ 902**	**$ 42**	**$ 11**	**$ 955**
Fiduciary fees	**69**	**185**	**90**	**344**	**144**	**338**	**172**	**654**
Guarantee fees	**126**	**7**	**1**	**135**	**258**	**15**	**3**	**276**
Total administration and other fiduciary fees[1]	**$ 680**	**$ 214**	**$ 94**	**$ 989**	**$ 1,304**	**$ 395**	**$ 186**	**$ 1,885**

In millions of dollars	Three Months Ended June 30, 2022 ICG	PBWM	Legacy Franchises	Total	Six Months Ended June 30, 2022 ICG	PBWM	Legacy Franchises	Total
Custody fees	$ 506	$ 22	$ 2	$ 530	$ 952	$ 45	$ 5	$ 1,002
Fiduciary fees	68	196	79	343	133	401	159	693
Guarantee fees	134	14	2	150	266	24	4	294
Total administration and other fiduciary fees[1]	$ 708	$ 232	$ 83	$ 1,023	$ 1,351	$ 470	$ 168	$ 1,989

(1) *Administration and other fiduciary fees* include $135 million and $150 million for the three months ended June 30, 2023 and 2022, respectively, and $276 million and $294 million for the six months ended June 30, 2023 and 2022, respectively, that are not accounted for under ASC 606, *Revenue from Contracts with Customers.* These generally include guarantee fees.

6. PRINCIPAL TRANSACTIONS

Principal transactions revenue consists of realized and unrealized gains and losses from trading activities. Trading activities include revenues from fixed income, equities, credit and commodities products and foreign exchange transactions that are managed on a portfolio basis and characterized below based on the primary risk managed by each trading desk (as such, the trading desks can be periodically reorganized and thus the risk categories). Not included in the table below is the impact of net interest income related to trading activities, which is an integral part of trading activities' profitability (see Note 4 for information about net interest income related to trading activities). Principal transactions include CVA (credit valuation adjustments) and FVA (funding valuation adjustments) on over-the-counter derivatives, and gains (losses) on certain economic hedges on loans in *ICG*. These adjustments are discussed further in Note 22.

In certain transactions, Citi incurs fees and presents these fees paid to third parties in operating expenses.

The following table presents *Principal transactions* revenue:

	Three Months Ended June 30,		Six Months Ended June 30,	
In millions of dollars	**2023**	2022	**2023**	2022
Interest rate risks[1]	**$ 594**	$ 1,418	**$ 1,974**	$ 2,688
Foreign exchange risks[2]	**1,334**	1,672	**2,827**	3,419
Equity risks[3]	**205**	345	**839**	1,276
Commodity and other risks[4]	**469**	612	**967**	1,063
Credit products and risks[5]	**(74)**	478	**(140)**	669
Total	**$ 2,528**	$ 4,525	**$ 6,467**	$ 9,115

(1) Includes revenues from government securities and corporate debt, municipal securities, mortgage securities and other debt instruments. Also includes spot and forward trading of currencies and exchange-traded and over-the-counter (OTC) currency options, options on fixed income securities, interest rate swaps, currency swaps, swap options, caps and floors, financial futures, OTC options and forward contracts on fixed income securities.

(2) Includes revenues from foreign exchange spot, forward, option and swap contracts, as well as foreign currency translation (FX translation) gains and losses.

(3) Includes revenues from common, preferred and convertible preferred stock, convertible corporate debt, equity-linked notes and exchange-traded and OTC equity options and warrants.

(4) Primarily includes revenues from crude oil, refined oil products, natural gas and other commodities trades.

(5) Includes revenues from structured credit products.

7. INCENTIVE PLANS

For additional information on Citi's incentive plans, see Note 7 to the Consolidated Financial Statements in Citi's 2022 Form 10-K.

8. RETIREMENT BENEFITS

For additional information on Citi's retirement benefits, see Note 8 to the Consolidated Financial Statements in Citi's 2022 Form 10-K.

Net (Benefit) Expense

The following table summarizes the components of net (benefit) expense recognized in the Consolidated Statement of Income for the Company's pension and postretirement plans for Significant Plans and All Other Plans. Benefits earned during the period are reported in *Compensation and benefits expenses* and all other components of the net period benefit cost are reported in *Other operating expenses* in the Consolidated Statement of Income:

	Three Months Ended June 30,							
	Pension plans				Postretirement benefit plans			
	U.S. plans		Non-U.S. plans		U.S. plans		Non-U.S. plans	
In millions of dollars	**2023**	2022	**2023**	2022	**2023**	2022	**2023**	2022
Service cost	**$ —**	$ —	**$ 30**	$ 30	**$ —**	$ —	**$ —**	$ —
Interest cost on benefit obligation	**123**	105	**102**	79	**4**	4	**27**	23
Expected return on assets	**(160)**	(154)	**(82)**	(66)	**(4)**	(3)	**(20)**	(18)
Amortization of unrecognized:								
Prior service (benefit)	**—**	—	**(1)**	(1)	**(3)**	(3)	**(2)**	(1)
Net actuarial loss (gain)	**41**	44	**15**	14	**(2)**	(2)	**(5)**	1
Curtailment (gain)[1]	**—**	—	**—**	(23)	**—**	—	**—**	—
Settlement loss (gain)[1]	**—**	—	**1**	(10)	**—**	—	**—**	—
Total net expense (benefit)	**$ 4**	$ (5)	**$ 65**	$ 23	**$ (5)**	$ (4)	**$ —**	$ 5

(1) Curtailment and settlement relate to divestiture and wind-down activities.

	Six Months Ended June 30,							
	Pension plans				Postretirement benefit plans			
	U.S. plans		Non-U.S. plans		U.S. plans		Non-U.S. plans	
In millions of dollars	**2023**	2022	**2023**	2022	**2023**	2022	**2023**	2022
Service cost	**$ —**	$ —	**$ 58**	$ 64	**$ —**	$ —	**$ 1**	$ 1
Interest cost on benefit obligation	**250**	191	**200**	152	**9**	7	**52**	46
Expected return on assets	**(321)**	(308)	**(163)**	(132)	**(7)**	(6)	**(39)**	(38)
Amortization of unrecognized:								
Prior service cost (benefit)	**1**	1	**(3)**	(3)	**(5)**	(5)	**(4)**	(4)
Net actuarial loss (gain)	**79**	100	**34**	27	**(5)**	(3)	**(10)**	2
Curtailment (gain)[1]	**—**	—	**(8)**	(23)	**—**	—	**—**	—
Settlement loss (gain)[1]	**—**	—	**4**	(10)	**—**	—	**—**	—
Total net expense (benefit)	**$ 9**	$ (16)	**$ 122**	$ 75	**$ (8)**	$ (7)	**$ —**	$ 7

(1) Curtailment and settlement relate to divestiture and wind-down activities.

Funded Status and *Accumulated Other Comprehensive Income (AOCI)*

The following table summarizes the funded status and amounts recognized on the Consolidated Balance Sheet for the Company's Significant Plans:

	Six Months Ended June 30, 2023			
	Pension plans		Postretirement benefit plans	
In millions of dollars	U.S. plans	Non-U.S. plans	U.S. plans	Non-U.S. plans
Change in projected benefit obligation				
Projected benefit obligation at beginning of year	$ 9,741	$ 6,375	$ 375	$ 1,013
Plans measured annually	(19)	(1,774)	—	(193)
Projected benefit obligation at beginning of year—Significant Plans	$ 9,722	$ 4,601	$ 375	$ 820
First-quarter activity	160	241	(1)	70
Projected benefit obligation at March 31, 2023—Significant Plans	$ 9,882	$ 4,842	$ 374	$ 890
Service cost	—	12	—	—
Interest cost on benefit obligation	122	84	4	23
Actuarial (gain) loss	(157)	3	(20)	23
Benefits paid, net of participants' contributions	(230)	(83)	(11)	(19)
Foreign exchange impact and other	—	163	—	48
Projected benefit obligation at period end—Significant Plans	$ 9,617	$ 5,021	$ 347	$ 965
Change in plan assets				
Plan assets at fair value at beginning of year	$ 10,145	$ 6,086	$ 253	$ 855
Plans measured annually	—	(1,226)	—	(7)
Plan assets at fair value at beginning of year—Significant Plans	$ 10,145	$ 4,860	$ 253	$ 848
First-quarter activity	143	225	5	73
Plan assets at fair value at March 31, 2023—Significant Plans	$ 10,288	$ 5,085	$ 258	$ 921
Actual return on plan assets	86	(75)	2	(4)
Company contributions, net of reimbursements	13	9	7	—
Benefits paid, net of participants' contributions	(230)	(83)	(11)	(19)
Foreign exchange impact and other	—	143	—	47
Plan assets at fair value at period end—Significant Plans	$ 10,157	$ 5,079	$ 256	$ 945
Qualified plans[1]	$ 1,063	$ 58	$ (91)	$ (20)
Nonqualified plans[2]	(523)	—	—	—
Funded status of the plans at period end—Significant Plans	$ 540	$ 58	$ (91)	$ (20)
Net amount recognized at period end				
Benefit asset	$ 1,063	$ 737	$ —	$ —
Benefit liability	(523)	(679)	(91)	(20)
Net amount recognized on the balance sheet—Significant Plans	$ 540	$ 58	$ (91)	$ (20)
Amounts recognized in *AOCI* at period end[3]				
Prior service (expense) benefit	$ —	$ (2)	$ 78	$ 36
Net actuarial (loss) gain	(6,343)	(1,561)	127	(335)
Net amount recognized in equity (pretax)—Significant Plans	$ (6,343)	$ (1,563)	$ 205	$ (299)
Accumulated benefit obligation at period end—Significant Plans	$ 9,617	$ 4,839	$ 347	$ 965

(1) The U.S. qualified pension plan is fully funded under specified Employee Retirement Income Security Act of 1974, as amended (ERISA), funding rules as of January 1, 2023 and no minimum required funding is expected for 2023.

(2) The nonqualified plans of the Company are unfunded.

(3) The framework for the Company's pension oversight process includes monitoring of potential settlement charges for all plans. Settlement accounting is triggered when either the sum of all settlements (including lump-sum payments) for the year is greater than service plus interest costs or if more than 10% of the plan's projected benefit obligation will be settled. Because some of Citi's significant plans are frozen and have no material service cost, settlement accounting may apply in the future.

The following table presents the change in *AOCI* related to the Company's pension, postretirement and post employment plans:

In millions of dollars	**Three Months Ended June 30, 2023**	**Six Months Ended June 30, 2023**	Three Months Ended June 30, 2022	Six Months Ended June 30, 2022
Beginning of period balance, net of tax[1][2]	**$ (5,859)**	**$ (5,755)**	$ (5,681)	$ (5,852)
Actuarial assumptions changes and plan experience	**154**	**(115)**	1,499	3,024
Net asset (loss) due to difference between actual and expected returns	**(245)**	**(62)**	(1,675)	(3,137)
Net amortization	**45**	**88**	52	116
Curtailment/settlement loss (gain)[3]	**1**	**(4)**	(32)	(32)
Foreign exchange impact and other	**(111)**	**(219)**	83	133
Change in deferred taxes, net	**20**	**72**	(16)	(22)
Change, net of tax	**$ (136)**	**$ (240)**	$ (89)	$ 82
End of period balance, net of tax[1][2]	**$ (5,995)**	**$ (5,995)**	$ (5,770)	$ (5,770)

(1) See Note 18 for further discussion of net *AOCI* balance.
(2) Includes net-of-tax amounts for certain profit-sharing plans outside the U.S.
(3) Curtailment and settlement relate to divestiture activities.

Plan Assumptions

Certain assumptions used in determining pension and postretirement benefit obligations and net benefit expense for the Significant Plans are as follows:

	Three Months Ended		
During the period	**Jun. 30, 2023**	Mar. 31, 2023	Jun. 30, 2022
Discount rate			
U.S. plans			
Qualified pension	**5.15%**	5.50%	3.80%
Nonqualified pension	**5.20**	5.55	3.85
Postretirement	**5.25**	5.60	3.85
Non-U.S. plans			
Pension	**2.05–10.65**	2.20–10.60	1.10–10.00
Weighted average	**7.64**	7.55	5.55
Postretirement	**10.70**	10.60	10.10
Expected return on assets			
U.S. plans			
Qualified pension	**5.70**	5.70	5.00
Postretirement	**5.70/3.00**	5.70/3.00	5.00/1.50
Non-U.S. plans			
Pension	**4.10–9.90**	4.50–9.90	1.90–8.00
Weighted average	**6.26**	6.40	4.15
Postretirement	**8.70**	8.70	8.00

At period ended	**Jun. 30, 2023**	Mar. 31, 2023	Jun. 30, 2022
Discount rate			
U.S. plans			
Qualified pension	**5.40%**	5.15%	4.80%
Nonqualified pension	**5.45**	5.20	4.80
Postretirement	**5.50**	5.25	4.75
Non-U.S. plans			
Pension	**1.80–10.40**	2.05–10.65	2.00–10.75
Weighted average	**7.72**	7.64	6.68
Postretirement	**10.40**	10.70	10.75
Expected return on assets			
U.S. plans			
Qualified pension	**5.70**	5.70	5.00
Postretirement	**5.70/3.00**	5.70/3.00	5.00/1.50
Non-U.S. plans			
Pension	**4.50–9.90**	4.10–9.90	2.00–8.00
Weighted average	**6.56**	6.26	4.72
Postretirement	**8.70**	8.70	8.00

Sensitivities of Certain Key Assumptions

The following table summarizes the estimated effect on the Company's Significant Plans quarterly expense of a one-percentage-point change in the discount rate:

	Three Months Ended June 30, 2023	
In millions of dollars	**One-percentage-point increase**	**One-percentage-point decrease**
Pension		
U.S. plans	**$ 6**	**$ (7)**
Non-U.S. plans	**(1)**	**3**
Postretirement		
Non-U.S. plans	**(1)**	**1**

Contributions

For the U.S. pension plans, there were no required minimum cash contributions during the first six months of 2023.

The following table summarizes the Company's actual contributions for the six months ended June 30, 2023 and 2022, as well as expected Company contributions for the remainder of 2023 and the actual contributions made in 2022:

	Pension plans				Postretirement plans			
	U.S. plans[1]		Non-U.S. plans		U.S. plans		Non-U.S. plans	
In millions of dollars	**2023**	2022	**2023**	2022	**2023**	2022	**2023**	2022
Company contributions (reimbursements)[2][3] for the six months ended June 30	**$ 28**	$ 28	**$ 60**	$ 389	**$ 20**	$ (1)	**$ 5**	$ 5
Company contributions made during the remainder of the year[3]	**—**	27	**—**	105	**—**	15	**—**	4
Company contributions expected to be made during the remainder of the year	**32**		**52**		**2**		**5**	

(1) The U.S. plans include benefits paid directly by the Company for the nonqualified pension plans.

(2) Company contributions are composed of cash contributions made to the plans and benefits paid directly by the Company.

(3) 2022 benefit payments have increased due to the wind-down of Citi's consumer banking business in Korea, as it is expected that employees who elected the VERP will be withdrawing their pension plan assets.

Defined Contribution Plans

The following table summarizes the Company's contributions for the defined contribution plans:

	Three Months Ended June 30,		Six Months Ended June 30,	
In millions of dollars	**2023**	2022	**2023**	2022
U.S. plans	**$ 137**	$ 119	**$ 275**	$ 238
Non-U.S. plans	**114**	99	**228**	205

Post Employment Plans

The following table summarizes the net expense recognized in the Consolidated Statement of Income for the Company's U.S. post employment plans:

	Three Months Ended June 30,		Six Months Ended June 30,	
In millions of dollars	**2023**	2022	**2023**	2022
Service-related expense				
Amortization of unrecognized:				
Net actuarial loss	**$ 1**	$ 1	**$ 1**	$ 1
Total service-related expense	**$ 1**	$ 1	**$ 1**	$ 1
Non-service-related expense	**—**	1	**5**	6
Total net expense	**$ 1**	$ 2	**$ 6**	$ 7

9. EARNINGS PER SHARE

The following table reconciles the income and share data used in the basic and diluted earnings per share (EPS) computations:

	Three Months Ended June 30,		Six Months Ended June 30,	
In millions of dollars, except per share amounts	**2023**	2022	**2023**	2022
Earnings per common share				
Income from continuing operations before attribution of noncontrolling interests	**$ 2,952**	$ 4,789	**$ 7,604**	$ 9,114
Less: Noncontrolling interests from continuing operations	**36**	21	**81**	38
Net income from continuing operations (for EPS purposes)	**$ 2,916**	$ 4,768	**$ 7,523**	$ 9,076
Income (loss) from discontinued operations, net of taxes	**(1)**	(221)	**(2)**	(223)
Citigroup's net income	**$ 2,915**	$ 4,547	**$ 7,521**	$ 8,853
Less: Preferred dividends	**288**	238	**565**	517
Net income available to common shareholders	**$ 2,627**	$ 4,309	**$ 6,956**	$ 8,336
Less: Dividends and undistributed earnings allocated to employee restricted and deferred shares with rights to dividends, applicable to basic EPS	**33**	35	**68**	60
Net income allocated to common shareholders for basic EPS	**$ 2,594**	$ 4,274	**$ 6,888**	$ 8,276
Weighted-average common shares outstanding applicable to basic EPS *(in millions)*	**1,942.8**	1,941.5	**1,943.2**	1,956.6
Basic earnings per share[1]				
Income from continuing operations	**$ 1.34**	$ 2.32	**$ 3.55**	$ 4.34
Discontinued operations	**—**	(0.11)	**—**	(0.11)
Net income per share—basic	**$ 1.34**	$ 2.20	**$ 3.54**	$ 4.23
Diluted earnings per share				
Net income allocated to common shareholders for basic EPS	**$ 2,594**	$ 4,274	**$ 6,888**	$ 8,276
Add back: Dividends allocated to employee restricted and deferred shares with rights to dividends that are forfeitable	**15**	11	**26**	19
Net income allocated to common shareholders for diluted EPS	**$ 2,609**	$ 4,285	**$ 6,914**	$ 8,295
Weighted-average common shares outstanding applicable to basic EPS *(in millions)*	**1,942.8**	1,941.5	**1,943.2**	1,956.6
Effect of dilutive securities				
Options[2]	**—**	—	**—**	—
Other employee plans	**25.8**	16.6	**23.1**	16.6
Adjusted weighted-average common shares outstanding applicable to diluted EPS *(in millions)*[3]	**1,968.6**	1,958.1	**1,966.3**	1,973.2
Diluted earnings per share[1]				
Income from continuing operations	**$ 1.33**	$ 2.30	**$ 3.52**	$ 4.32
Discontinued operations	**—**	(0.11)	**—**	(0.11)
Net income per share—diluted[4]	**$ 1.33**	$ 2.19	**$ 3.52**	$ 4.20

(1) Due to rounding, earnings per share on continuing operations and discontinued operations may not sum to earnings per share on net income.
(2) During the second quarters of 2023 and 2022, no significant options to purchase shares of common stock were outstanding.
(3) Due to rounding, weighted-average common shares outstanding applicable to basic EPS and the effect of dilutive securities may not sum to weighted-average common shares outstanding applicable to diluted EPS.
(4) Due to rounding, income from continuing operations and discontinued operations may not sum to net income per share—diluted.

10. SECURITIES BORROWED, LOANED AND SUBJECT TO REPURCHASE AGREEMENTS

For additional information on the Company's resale and repurchase agreements and securities borrowing and lending agreements, see Note 11 to the Consolidated Financial Statements in Citi's 2022 Form 10-K.

Securities borrowed and purchased under agreements to resell, at their respective carrying values, consisted of the following:

In millions of dollars	**June 30, 2023**	December 31, 2022
Securities purchased under agreements to resell	**$ 266,952**	$ 291,272
Deposits paid for securities borrowed	**70,177**	74,165
Total, net[(1)]	**$ 337,129**	$ 365,437
Allowance for credit losses on securities purchased and borrowed[(2)]	**(26)**	(36)
Total, net of allowance	**$ 337,103**	$ 365,401

Securities loaned and sold under agreements to repurchase, at their respective carrying values, consisted of the following:

In millions of dollars	**June 30, 2023**	December 31, 2022
Securities sold under agreements to repurchase	**$ 247,294**	$ 183,827
Deposits received for securities loaned	**12,741**	18,617
Total, net[(1)]	**$ 260,035**	$ 202,444

(1) The above tables do not include securities-for-securities lending transactions of $5.9 billion and $4.4 billion at June 30, 2023 and December 31, 2022, respectively, where the Company acts as lender and receives securities that can be sold or pledged as collateral. In these transactions, the Company recognizes the securities received at fair value within *Other assets* and the obligation to return those securities as a liability within *Brokerage payables*.

(2) See Note 14 for further information.

It is the Company's policy to take possession of the underlying collateral, monitor its market value relative to the amounts due under the agreements and, when necessary, require prompt transfer of additional collateral in order to maintain contractual margin protection. For resale and repurchase agreements, when necessary, the Company posts additional collateral in order to maintain contractual margin protection.

A substantial portion of the resale and repurchase agreements is recorded at fair value as the Company elected the fair value option, as described in Notes 22 and 23. The remaining portion is carried at the amount of cash initially advanced or received, plus accrued interest, as specified in the respective agreements.

A substantial portion of securities borrowing and lending agreements is recorded at the amount of cash advanced or received. The remaining portion is recorded at fair value as the Company elected the fair value option for certain securities borrowed and loaned portfolios, as described in Note 23. With respect to securities loaned, the Company receives cash collateral in an amount generally in excess of the market value of the securities loaned. The Company monitors the market value of securities borrowed and securities loaned on a daily basis and posts or obtains additional collateral in order to maintain contractual margin protection.

The following tables present the gross and net resale and repurchase agreements and securities borrowing and lending agreements and the related offsetting amounts permitted under ASC 210-20-45. The tables also include amounts related to financial instruments that are not permitted to be offset under ASC 210-20-45, but would be eligible for offsetting to the extent that an event of default has occurred and a legal opinion supporting enforceability of the offsetting rights has been obtained. Remaining exposures continue to be secured by financial collateral, but the Company may not have sought or been able to obtain a legal opinion evidencing enforceability of the offsetting right.

	As of June 30, 2023				
In millions of dollars	**Gross amounts of recognized assets**	**Gross amounts offset on the Consolidated Balance Sheet**[(1)]	**Net amounts of assets included on the Consolidated Balance Sheet**	**Amounts not offset on the Consolidated Balance Sheet but eligible for offsetting upon counterparty default**[(2)]	**Net amounts**[(3)]
Securities purchased under agreements to resell	**$ 485,998**	**$ 219,046**	**$ 266,952**	**$ 242,215**	**$ 24,737**
Deposits paid for securities borrowed	**86,876**	**16,699**	**70,177**	**12,418**	**57,759**
Total	**$ 572,874**	**$ 235,745**	**$ 337,129**	**$ 254,633**	**$ 82,496**

In millions of dollars	**Gross amounts of recognized liabilities**	**Gross amounts offset on the Consolidated Balance Sheet[(1)]**	**Net amounts of liabilities included on the Consolidated Balance Sheet**	**Amounts not offset on the Consolidated Balance Sheet but eligible for offsetting upon counterparty default[(2)]**	**Net amounts[(3)]**
Securities sold under agreements to repurchase	**$ 466,340**	**$ 219,046**	**$ 247,294**	**$ 151,953**	**$ 95,341**
Deposits received for securities loaned	**29,440**	**16,699**	**12,741**	**1,893**	**10,848**
Total	**$ 495,780**	**$ 235,745**	**$ 260,035**	**$ 153,846**	**$ 106,189**

	As of December 31, 2022				
In millions of dollars	Gross amounts of recognized assets	Gross amounts offset on the Consolidated Balance Sheet[(1)]	Net amounts of assets included on the Consolidated Balance Sheet	Amounts not offset on the Consolidated Balance Sheet but eligible for offsetting upon counterparty default[(2)]	Net amounts[(3)]
Securities purchased under agreements to resell	$ 403,663	$ 112,391	$ 291,272	$ 204,077	$ 87,195
Deposits paid for securities borrowed	88,817	14,652	74,165	13,844	60,321
Total	$ 492,480	$ 127,043	$ 365,437	$ 217,921	$ 147,516

In millions of dollars	Gross amounts of recognized liabilities	Gross amounts offset on the Consolidated Balance Sheet[(1)]	Net amounts of liabilities included on the Consolidated Balance Sheet	Amounts not offset on the Consolidated Balance Sheet but eligible for offsetting upon counterparty default[(2)]	Net amounts[(3)]
Securities sold under agreements to repurchase	$ 296,218	$ 112,391	$ 183,827	$ 71,635	$ 112,192
Deposits received for securities loaned	33,269	14,652	18,617	2,542	16,075
Total	$ 329,487	$ 127,043	$ 202,444	$ 74,177	$ 128,267

(1) Includes financial instruments subject to enforceable master netting agreements that are permitted to be offset under ASC 210-20-45.
(2) Includes financial instruments subject to enforceable master netting agreements that are not permitted to be offset under ASC 210-20-45, but would be eligible for offsetting to the extent that an event of default has occurred and a legal opinion supporting enforceability of the offsetting right has been obtained.
(3) Remaining exposures continue to be secured by financial collateral, but the Company may not have sought or been able to obtain a legal opinion evidencing enforceability of the offsetting right.

The following tables present the gross amounts of liabilities associated with repurchase agreements and securities lending agreements by remaining contractual maturity:

	As of June 30, 2023				
In millions of dollars	**Open and overnight**	**Up to 30 days**	**31–90 days**	**Greater than 90 days**	**Total**
Securities sold under agreements to repurchase	**$ 277,705**	**$ 107,162**	**$ 25,550**	**$ 55,923**	**$ 466,340**
Deposits received for securities loaned	**21,543**	**304**	**645**	**6,948**	**29,440**
Total	**$ 299,248**	**$ 107,466**	**$ 26,195**	**$ 62,871**	**$ 495,780**

	As of December 31, 2022				
In millions of dollars	Open and overnight	Up to 30 days	31–90 days	Greater than 90 days	Total
Securities sold under agreements to repurchase	$ 138,710	$ 86,819	$ 25,119	$ 45,570	$ 296,218
Deposits received for securities loaned	25,388	267	2,121	5,493	33,269
Total	$ 164,098	$ 87,086	$ 27,240	$ 51,063	$ 329,487

The following tables present the gross amounts of liabilities associated with repurchase agreements and securities lending agreements by class of underlying collateral:

In millions of dollars	**As of June 30, 2023**		
	Repurchase agreements	**Securities lending agreements**	**Total**
U.S. Treasury and federal agency securities	**$ 185,547**	**$ 544**	**$ 186,091**
State and municipal securities	**1,465**	**—**	**1,465**
Foreign government securities	**176,437**	**593**	**177,030**
Corporate bonds	**16,729**	**246**	**16,975**
Equity securities	**21,548**	**27,561**	**49,109**
Mortgage-backed securities	**54,842**	**314**	**55,156**
Asset-backed securities	**2,906**	**—**	**2,906**
Other	**6,866**	**182**	**7,048**
Total	**$ 466,340**	**$ 29,440**	**$ 495,780**

In millions of dollars	As of December 31, 2022		
	Repurchase agreements	Securities lending agreements	Total
U.S. Treasury and federal agency securities	$ 99,979	$ 106	$ 100,085
State and municipal securities	1,911	—	1,911
Foreign government securities	123,826	13	123,839
Corporate bonds	14,308	45	14,353
Equity securities	9,749	33,096	42,845
Mortgage-backed securities	36,225	—	36,225
Asset-backed securities	1,755	—	1,755
Other	8,465	9	8,474
Total	$ 296,218	$ 33,269	$ 329,487

11. BROKERAGE RECEIVABLES AND BROKERAGE PAYABLES

The Company has receivables and payables for financial instruments sold to and purchased from brokers, dealers and customers, which arise in the ordinary course of business.

For additional information on these receivables and payables, see Note 12 to the Consolidated Financial Statements in Citi's 2022 Form 10-K.

Brokerage receivables and *Brokerage payables* consisted of the following:

In millions of dollars		**June 30, 2023**		December 31, 2022
Receivables from customers	**$**	**16,305**	$	15,462
Receivables from brokers, dealers and clearing organizations		**44,545**		38,730
Total brokerage receivables[(1)]	**$**	**60,850**	$	54,192
Payables to customers	**$**	**50,450**	$	55,747
Payables to brokers, dealers and clearing organizations		**18,983**		13,471
Total brokerage payables[(1)]	**$**	**69,433**	$	69,218

(1) Includes brokerage receivables and payables recorded by Citi broker-dealer entities that are accounted for in accordance with the AICPA Accounting Guide for Brokers and Dealers in Securities as codified in ASC 940-320.

12. INVESTMENTS

For additional information regarding Citi's investment portfolios, including evaluating investments for impairment, see Note 13 to the Consolidated Financial Statements in Citi's 2022 Form 10-K.

The following table presents Citi's investments by category:

In millions of dollars	**June 30, 2023**	December 31, 2022
Debt securities available-for-sale (AFS)	**$ 237,334**	$ 249,679
Debt securities held-to-maturity (HTM)[1]	**262,066**	268,863
Marketable equity securities carried at fair value[2]	**296**	429
Non-marketable equity securities carried at fair value[2][5]	**433**	466
Non-marketable equity securities measured using the measurement alternative[3]	**1,618**	1,676
Non-marketable equity securities carried at cost[4]	**5,398**	5,469
Total investments[6]	**$ 507,145**	$ 526,582

(1) Carried at adjusted amortized cost basis, net of any ACL.
(2) Unrealized gains and losses are recognized in earnings.
(3) Impairment losses and adjustments to the carrying value as a result of observable price changes are recognized in earnings. See "Non-Marketable Equity Securities Not Carried at Fair Value" below.
(4) Represents shares issued by the Federal Reserve Bank, Federal Home Loan Banks and certain exchanges of which Citigroup is a member.
(5) Includes $24 million and $27 million of investments in funds for which the fair values are estimated using the net asset value of the Company's ownership interest in the funds at June 30, 2023 and December 31, 2022, respectively.
(6) Not included in the balances above is approximately $2 billion of accrued interest receivable at June 30, 2023 and December 31, 2022, which is included in *Other assets* on the Consolidated Balance Sheet. The Company does not recognize an allowance for credit losses on accrued interest receivable for AFS and HTM debt securities, consistent with its non-accrual policy, which results in timely write-off of accrued interest. The Company did not reverse through interest income any accrued interest receivables for the quarters ended June 30, 2023 and 2022.

The following table presents interest and dividend income on investments:

	Three Months Ended June 30,		**Six Months Ended June 30,**	
In millions of dollars	**2023**	2022	**2023**	2022
Taxable interest	**$ 4,284**	$ 2,274	**$ 8,284**	$ 4,287
Interest exempt from U.S. federal income tax	**84**	38	**169**	43
Dividend income	**83**	58	**142**	90
Total interest and dividend income on investments	**$ 4,451**	$ 2,370	**$ 8,595**	$ 4,420

The following table presents realized gains and losses on the sales of investments, which exclude impairment losses:

	Three Months Ended June 30,		**Six Months Ended June 30,**	
In millions of dollars	**2023**	2022	**2023**	2022
Gross realized investment gains	**$ 91**	$ 27	**$ 179**	$ 180
Gross realized investment losses	**(42)**	(85)	**(58)**	(158)
Net realized gains (losses) on sales of investments	**$ 49**	$ (58)	**$ 121**	$ 22

Debt Securities Available-for-Sale

The amortized cost and fair value of AFS debt securities were as follows:

	June 30, 2023					December 31, 2022				
In millions of dollars	**Amortized cost**	**Gross unrealized gains**	**Gross unrealized losses**	**Allowance for credit losses**	**Fair value**	Amortized cost	Gross unrealized gains	Gross unrealized losses	Allowance for credit losses	Fair value
Debt securities AFS										
Mortgage-backed securities[1]										
U.S. government-sponsored agency guaranteed[2][3]	**$ 15,578**	**$ 82**	**$ 697**	**$ —**	**$ 14,963**	$ 12,009	$ 8	$ 755	$ —	$ 11,262
Residential	**340**	**—**	**3**	**—**	**337**	488	—	3	—	485
Commercial	**2**	**—**	**—**	**—**	**2**	2	—	—	—	2
Total mortgage-backed securities	**$ 15,920**	**$ 82**	**$ 700**	**$ —**	**$ 15,302**	$ 12,499	$ 8	$ 758	$ —	$ 11,749
U.S. Treasury and federal agency securities										
U.S. Treasury	**$ 84,250**	**$ 23**	**$ 2,030**	**$ —**	**$ 82,243**	$ 94,732	$ 50	$ 2,492	$ —	$ 92,290
Agency obligations	**—**	**—**	**—**	**—**	**—**	—	—	—	—	—
Total U.S. Treasury and federal agency securities	**$ 84,250**	**$ 23**	**$ 2,030**	**$ —**	**$ 82,243**	$ 94,732	$ 50	$ 2,492	$ —	$ 92,290
State and municipal	**$ 2,305**	**$ 24**	**$ 127**	**$ —**	**$ 2,202**	$ 2,363	$ 19	$ 159	$ —	$ 2,223
Foreign government	**126,967**	**356**	**2,053**	**—**	**125,270**	135,648	569	2,940	—	133,277
Corporate	**5,596**	**13**	**277**	**5**	**5,327**	5,146	19	246	3	4,916
Asset-backed securities[1]	**842**	**7**	**3**	**—**	**846**	1,022	12	4	—	1,030
Other debt securities	**6,145**	**2**	**3**	**—**	**6,144**	4,198	1	5	—	4,194
Total debt securities AFS	**$ 242,025**	**$ 507**	**$ 5,193**	**$ 5**	**$ 237,334**	$ 255,608	$ 678	$ 6,604	$ 3	$ 249,679

(1) The Company invests in mortgage- and asset-backed securities, which are typically issued by VIEs through securitization transactions. The Company's maximum exposure to loss from these VIEs is equal to the carrying amount of the securities, which is reflected in the table above. See Note 20 for mortgage- and asset-backed securitizations in which the Company has other involvement.

(2) In January 2023, Citi adopted ASU 2022-01. Upon adoption, Citi transferred $3.3 billion of mortgage-backed securities from HTM classification to AFS classification as allowed under the ASU. At the time of transfer, the securities were in an unrealized gain position of $0.1 billion, which was recorded in *AOCI* upon transfer. See Note 1 to the Consolidated Financial Statements in Citi's 2022 Form 10-K.

(3) Amortized cost includes unallocated portfolio layer cumulative basis adjustments of $(0.2) billion as of June 30, 2023. Gross unrealized gains and gross unrealized losses on mortgage-backed securities excluding the effect of unallocated portfolio layer cumulative basis adjustments were $32 million and $848 million, respectively, as of June 30, 2023.

The following table presents the fair value of AFS debt securities that have been in an unrealized loss position:

In millions of dollars	Less than 12 months		12 months or longer		Total	
	Fair value	Gross unrealized losses	Fair value	Gross unrealized losses	Fair value	Gross unrealized losses
June 30, 2023						
Debt securities AFS						
Mortgage-backed securities						
U.S. government-sponsored agency guaranteed[(1)]	**$ 2,276**	**$ 73**	**$ 9,385**	**$ 624**	**$ 11,661**	**$ 697**
Residential	**331**	**3**	**—**	**—**	**331**	**3**
Commercial	**—**	**—**	**2**	**—**	**2**	**—**
Total mortgage-backed securities	**$ 2,607**	**$ 76**	**$ 9,387**	**$ 624**	**$ 11,994**	**$ 700**
U.S. Treasury and federal agency securities						
U.S. Treasury	**$ 20,820**	**$ 743**	**$ 48,429**	**$ 1,287**	**$ 69,249**	**$ 2,030**
Total U.S. Treasury and federal agency securities	**$ 20,820**	**$ 743**	**$ 48,429**	**$ 1,287**	**$ 69,249**	**$ 2,030**
State and municipal	**$ 414**	**$ 14**	**$ 847**	**$ 113**	**$ 1,261**	**$ 127**
Foreign government	**63,765**	**1,446**	**19,543**	**607**	**83,308**	**2,053**
Corporate	**2,893**	**220**	**1,583**	**57**	**4,476**	**277**
Asset-backed securities	**640**	**3**	**—**	**—**	**640**	**3**
Other debt securities	**1,491**	**3**	**—**	**—**	**1,491**	**3**
Total debt securities AFS	**$ 92,630**	**$ 2,505**	**$ 79,789**	**$ 2,688**	**$ 172,419**	**$ 5,193**
December 31, 2022						
Debt securities AFS						
Mortgage-backed securities						
U.S. government-sponsored agency guaranteed	$ 7,908	$ 412	$ 3,290	$ 343	$ 11,198	$ 755
Residential	158	3	1	—	159	3
Commercial	1	—	1	—	2	—
Total mortgage-backed securities	$ 8,067	$ 415	$ 3,292	$ 343	$ 11,359	$ 758
U.S. Treasury and federal agency securities						
U.S. Treasury	$ 40,701	$ 1,001	$ 34,692	$ 1,491	$ 75,393	$ 2,492
Agency obligations	—	—	—	—	—	—
Total U.S. Treasury and federal agency securities	$ 40,701	$ 1,001	$ 34,692	$ 1,491	$ 75,393	$ 2,492
State and municipal	$ 896	$ 31	$ 707	$ 128	$ 1,603	$ 159
Foreign government	82,900	2,332	14,220	608	97,120	2,940
Corporate	3,082	209	784	37	3,866	246
Asset-backed securities	708	4	—	—	708	4
Other debt securities	2,213	5	—	—	2,213	5
Total debt securities AFS	$ 138,567	$ 3,997	$ 53,695	$ 2,607	$ 192,262	$ 6,604

(1) Gross unrealized losses on mortgage-backed securities excluding the effect of unallocated portfolio layer cumulative basis adjustments were $82 million and $767 million for less than 12 months and 12 months or longer, respectively.

The following table presents the amortized cost and fair value of AFS debt securities by contractual maturity dates:

In millions of dollars	**June 30, 2023** Amortized cost	**Fair value**	December 31, 2022 Amortized cost	Fair value
Mortgage-backed securities[1]				
Due within 1 year	**$ 4**	**$ 4**	$ 42	$ 44
After 1 but within 5 years	**403**	**393**	523	513
After 5 but within 10 years	**500**	**473**	468	440
After 10 years	**15,214**	**14,432**	11,466	10,752
Total[2]	**$ 16,121**	**$ 15,302**	$ 12,499	$ 11,749
U.S. Treasury and federal agency securities				
Due within 1 year	**$ 25,343**	**$ 25,156**	$ 25,935	$ 25,829
After 1 but within 5 years	**58,339**	**56,565**	68,455	66,166
After 5 but within 10 years	**568**	**522**	342	295
After 10 years	**—**	**—**	—	—
Total	**$ 84,250**	**$ 82,243**	$ 94,732	$ 92,290
State and municipal				
Due within 1 year	**$ 14**	**$ 12**	$ 19	$ 18
After 1 but within 5 years	**93**	**92**	94	92
After 5 but within 10 years	**279**	**275**	305	302
After 10 years	**1,919**	**1,823**	1,945	1,811
Total	**$ 2,305**	**$ 2,202**	$ 2,363	$ 2,223
Foreign government				
Due within 1 year	**$ 55,587**	**$ 55,384**	$ 64,795	$ 64,479
After 1 but within 5 years	**66,904**	**65,612**	67,935	66,150
After 5 but within 10 years	**3,897**	**3,725**	2,491	2,250
After 10 years	**579**	**549**	427	398
Total	**$ 126,967**	**$ 125,270**	$ 135,648	$ 133,277
All other[3]				
Due within 1 year	**$ 5,763**	**$ 5,759**	$ 4,452	$ 4,441
After 1 but within 5 years	**6,174**	**5,962**	5,162	4,988
After 5 but within 10 years	**588**	**583**	695	693
After 10 years	**58**	**13**	57	18
Total	**$ 12,583**	**$ 12,317**	$ 10,366	$ 10,140
Total debt securities AFS[2]	**$ 242,226**	**$ 237,334**	$ 255,608	$ 249,679

(1) Includes mortgage-backed securities of U.S. government-sponsored agencies. The Company invests in mortgage- and asset-backed securities, which are typically issued by VIEs through securitization transactions. See Note 20 for more information about mortgage- and asset-backed securitizations in which the Company has other involvement.

(2) Amortized cost excludes unallocated portfolio layer cumulative basis adjustments of $(0.2) billion as of June 30, 2023.

(3) Includes corporate, asset-backed and other debt securities.

Debt Securities Held-to-Maturity

The carrying value and fair value of debt securities HTM were as follows:

In millions of dollars	Amortized cost, net[1]	Gross unrealized gains	Gross unrealized losses	Fair value
June 30, 2023				
Debt securities HTM				
Mortgage-backed securities[2]				
U.S. government-sponsored agency guaranteed[3]	**$ 83,541**	**$ 6**	**$ 9,708**	**$ 73,839**
Non-U.S. residential	**362**	**—**	**—**	**362**
Commercial	**1,145**	**—**	**149**	**996**
Total mortgage-backed securities	**$ 85,048**	**$ 6**	**$ 9,857**	**$ 75,197**
U.S. Treasury securities	**$ 134,944**	**$ —**	**$ 13,091**	**$ 121,853**
State and municipal	**9,181**	**35**	**628**	**8,588**
Foreign government	**2,360**	**—**	**93**	**2,267**
Asset-backed securities[2]	**30,533**	**—**	**417**	**30,116**
Total debt securities HTM, net	**$ 262,066**	**$ 41**	**$ 24,086**	**$ 238,021**
December 31, 2022				
Debt securities HTM				
Mortgage-backed securities[2]				
U.S. government-sponsored agency guaranteed	$ 90,063	$ 58	$ 10,033	$ 80,088
Non-U.S. residential	445	—	—	445
Commercial	1,114	5	1	1,118
Total mortgage-backed securities	$ 91,622	$ 63	$ 10,034	$ 81,651
U.S. Treasury securities	$ 134,961	$ —	$ 13,722	$ 121,239
State and municipal	9,237	34	764	8,507
Foreign government	2,075	—	93	1,982
Asset-backed securities[2]	30,968	4	703	30,269
Total debt securities HTM, net	$ 268,863	$ 101	$ 25,316	$ 243,648

(1) Amortized cost is reported net of ACL of $99 million and $120 million at June 30, 2023 and December 31, 2022, respectively.

(2) The Company invests in mortgage- and asset-backed securities. These securitizations are generally considered VIEs. The Company's maximum exposure to loss from these VIEs is equal to the carrying amount of the securities, which is reflected in the table above. See Note 20 for mortgage- and asset-backed securitizations in which the Company has other involvement.

(3) In January 2023, Citi adopted ASU 2022-01. Upon adoption, Citi transferred $3.3 billion of mortgage-backed securities from HTM classification to AFS classification as allowed under the ASU. At the time of transfer, the securities were in an unrealized gain position of $0.1 billion, which was recorded in *AOCI* upon transfer. See Note 1 to the Consolidated Financial Statements in Citi's 2022 Form 10-K.

The following table presents the carrying value and fair value of HTM debt securities by contractual maturity dates:

	June 30, 2023		December 31, 2022	
In millions of dollars	**Amortized cost[1]**	**Fair value**	Amortized cost[1]	Fair value
Mortgage-backed securities				
Due within 1 year	**$ 15**	**$ 15**	$ 27	$ 27
After 1 but within 5 years	**690**	**655**	520	505
After 5 but within 10 years	**1,254**	**1,141**	1,496	1,374
After 10 years	**83,089**	**73,386**	89,579	79,745
Total	**$ 85,048**	**$ 75,197**	$ 91,622	$ 81,651
U.S. Treasury securities				
Due within 1 year	**$ 3,149**	**$ 3,077**	$ 3,148	$ 3,017
After 1 but within 5 years	**120,838**	**109,351**	86,617	79,104
After 5 but within 10 years	**10,957**	**9,425**	45,196	39,118
After 10 years	**—**	**—**	—	—
Total	**$ 134,944**	**$ 121,853**	$ 134,961	$ 121,239
State and municipal				
Due within 1 year	**$ 36**	**$ 35**	$ 22	$ 21
After 1 but within 5 years	**104**	**102**	102	100
After 5 but within 10 years	**1,222**	**1,183**	1,002	967
After 10 years	**7,819**	**7,268**	8,111	7,419
Total	**$ 9,181**	**$ 8,588**	$ 9,237	$ 8,507
Foreign government				
Due within 1 year	**$ 163**	**$ 161**	$ 143	$ 139
After 1 but within 5 years	**2,197**	**2,106**	1,932	1,843
After 5 but within 10 years	**—**	**—**	—	—
After 10 years	**—**	**—**	—	—
Total	**$ 2,360**	**$ 2,267**	$ 2,075	$ 1,982
All other[2]				
Due within 1 year	**$ —**	**$ —**	$ —	$ —
After 1 but within 5 years	**—**	**—**	—	—
After 5 but within 10 years	**12,232**	**12,141**	11,751	11,583
After 10 years	**18,301**	**17,975**	19,217	18,686
Total	**$ 30,533**	**$ 30,116**	$ 30,968	$ 30,269
Total debt securities HTM	**$ 262,066**	**$ 238,021**	$ 268,863	$ 243,648

(1) Amortized cost is reported net of ACL of $99 million and $120 million at June 30, 2023 and December 31, 2022, respectively.
(2) Includes corporate and asset-backed securities.

HTM Debt Securities Delinquency and Non-Accrual Details

Citi did not have any HTM debt securities that were delinquent or on non-accrual status at June 30, 2023 or December 31, 2022.

There were no purchased credit-deteriorated HTM debt securities held by the Company as of June 30, 2023 or December 31, 2022.

Evaluating Investments for Impairment—AFS Debt Securities

Overview

The Company conducts periodic reviews of all AFS debt securities with unrealized losses to evaluate whether the impairment resulted from expected credit losses or from other factors and to evaluate the Company's intent to sell such securities.

For more information on evaluating investments for impairment, see Note 13 to the Consolidated Financial Statements in Citi's 2022 Form 10-K.

Recognition and Measurement of Impairment

The following table presents total impairment on AFS investments recognized in earnings:

	Three Months Ended June 30,		Six Months Ended June 30,	
In millions of dollars	**2023**	2022	**2023**	2022
Impairment losses related to debt securities that the Company does not intend to sell nor will likely be required to sell:				
Total impairment losses recognized during the period	**$ —**	$ —	**$ —**	$ —
Less: portion of impairment loss recognized in *AOCI* (before taxes)	**—**	—	**—**	—
Net impairment losses recognized in earnings for debt securities that the Company does not intend to sell nor will likely be required to sell	**$ —**	$ —	**$ —**	$ —
Impairment losses recognized in earnings for debt securities that the Company intends to sell, would more-likely-than-not be required to sell or will be subject to an issuer call deemed probable of exercise	**43**	90	**94**	180
Total impairment losses recognized in earnings	**$ 43**	$ 90	**$ 94**	$ 180

Allowance for Credit Losses on AFS Debt Securities

The allowance for credit losses on AFS securities held that the Company does not intend to sell nor will likely be required to sell was $5 million and $3 million as of June 30, 2023 and December 31, 2022, respectively.

Non-Marketable Equity Securities Not Carried at Fair Value

Non-marketable equity securities are required to be measured at fair value with changes in fair value recognized in earnings unless (i) the measurement alternative is elected or (ii) the investment represents Federal Reserve Bank and Federal Home Loan Bank stock or certain exchange seats that continue to be carried at cost.

The election to measure a non-marketable equity security using the measurement alternative is made on an instrument-by-instrument basis. Under the measurement alternative, an equity security is carried at cost plus or minus changes resulting from observable prices in orderly transactions for the identical or a similar investment of the same issuer. The carrying value of the equity security is adjusted to fair value on the date of an observed transaction. Fair value may differ from the observed transaction price due to a number of factors, including marketability adjustments and differences in rights and obligations when the observed transaction is not for the identical investment held by Citi.

Equity securities under the measurement alternative are also assessed for impairment. On a quarterly basis, management qualitatively assesses whether each equity security under the measurement alternative is impaired. For details on impairment indicators that are considered, see Note 13 to the Consolidated Financial Statements in Citi's 2022 Form 10-K.

When the qualitative assessment indicates that the equity security is impaired, its fair value is determined. If the fair value of the investment is less than its carrying value, the investment is written down to fair value through earnings.

Below is the carrying value of non-marketable equity securities measured using the measurement alternative at June 30, 2023 and December 31, 2022:

In millions of dollars	**June 30, 2023**	December 31, 2022
Measurement alternative:		
Carrying value	**$ 1,618**	$ 1,676

Below are amounts recognized in earnings and life-to-date amounts for non-marketable equity securities measured using the measurement alternative:

	Three Months Ended June 30,		**Six Months Ended June 30,**	
In millions of dollars	**2023**	2022	**2023**	2022
Measurement alternative[(1)]:				
Impairment losses	**$ 28**	$ 6	**$ 63**	$ 6
Downward changes for observable prices	**—**	—	**20**	—
Upward changes for observable prices	**3**	48	**33**	134

(1) See Note 22 for additional information on these nonrecurring fair value measurements.

	Life-to-date amounts on securities still held
In millions of dollars	**June 30, 2023**
Measurement alternative:	
Impairment losses	**$ 282**
Downward changes for observable prices	**26**
Upward changes for observable prices	**900**

A similar impairment analysis is performed for non-marketable equity securities carried at cost. For the three months ended June 30, 2023 and 2022, there was no impairment loss recognized in earnings for non-marketable equity securities carried at cost.

13. LOANS

Citigroup loans are reported in two categories: corporate and consumer. These categories are classified primarily according to the operating segment and component that manage the loans in addition to the nature of the obligor, with corporate loans generally made for corporate institutional and public sector clients around the world and consumer loans to retail and small business customers. For additional information regarding Citi's corporate and consumer loans, including related accounting policies, see Note 1 and Notes 1 and 14 to the Consolidated Financial Statements in Citi's 2022 Form 10-K.

Corporate Loans

Corporate loans represent loans and leases managed by *ICG* and the Mexico SBMM component of *Legacy Franchises*. The following table presents information by corporate loan type:

In millions of dollars		**June 30, 2023**		December 31, 2022
In North America offices[1]				
Commercial and industrial	**$**	**59,790**	$	56,176
Financial institutions		**36,268**		43,399
Mortgage and real estate[2]		**17,495**		17,829
Installment and other		**22,153**		23,767
Lease financing		**224**		308
Total	**$**	**135,930**	$	141,479
In offices outside North America[1]				
Commercial and industrial	**$**	**95,836**	$	93,967
Financial institutions		**21,701**		21,931
Mortgage and real estate[2]		**6,076**		4,179
Installment and other		**23,395**		23,347
Lease financing		**49**		46
Governments and official institutions		**3,034**		4,205
Total	**$**	**150,091**	$	147,675
Corporate loans, net of unearned income[3][4][5]	**$**	**286,021**	$	289,154

(1) North America includes the U.S., Canada and Puerto Rico. Mexico is included in offices outside North America. The classification between offices in North America and outside North America is based on the domicile of the booking unit. The difference between the domicile of the booking unit and the domicile of the managing unit is not material.

(2) Loans secured primarily by real estate.

(3) Corporate loans are net of unearned income of ($795) million and ($797) million at June 30, 2023 and December 31, 2022, respectively. Unearned income on corporate loans primarily represents interest received in advance, but not yet earned, on loans originated on a discounted basis.

(4) Not included in the balances above is approximately $2 billion of accrued interest receivable at June 30, 2023 and December 31, 2022, which is included in *Other assets* on the Consolidated Balance Sheet.

(5) Accrued interest receivable considered to be uncollectible is reversed through interest income. Amounts reversed were not material for the three months ended June 30, 2023 and 2022.

The Company sold and/or reclassified to held-for-sale $1.3 billion and $2.9 billion of corporate loans during the three and six months ended June 30, 2023, respectively, and $1.1 billion and $1.5 billion of corporate loans during the three and six months ended June 30, 2022, respectively. The Company did not have significant purchases of corporate loans classified as held-for-investment for the three and six months ended June 30, 2023 or 2022.

Corporate Loan Delinquencies and Non-Accrual Details at June 30, 2023

In millions of dollars	30–89 days past due and accruing[1]	≥ 90 days past due and accruing[1]	Total past due and accruing	Total non-accrual[2]	Total current[3]	Total loans[4]
Commercial and industrial	**$ 500**	**$ 197**	**$ 697**	**$ 856**	**$ 151,038**	**$ 152,591**
Financial institutions	**10**	**11**	**21**	**93**	**57,480**	**57,594**
Mortgage and real estate	**6**	**24**	**30**	**291**	**23,180**	**23,501**
Lease financing	**—**	**—**	**—**	**—**	**273**	**273**
Other	**56**	**35**	**91**	**21**	**46,421**	**46,533**
Loans at fair value						**5,529**
Total	**$ 572**	**$ 267**	**$ 839**	**$ 1,261**	**$ 278,392**	**$ 286,021**

Corporate Loan Delinquencies and Non-Accrual Details at December 31, 2022

In millions of dollars	30–89 days past due and accruing[1]	≥ 90 days past due and accruing[1]	Total past due and accruing	Total non-accrual[2]	Total current[3]	Total loans[4]
Commercial and industrial	$ 763	$ 594	$ 1,357	$ 860	$ 145,586	$ 147,803
Financial institutions	233	102	335	152	64,420	64,907
Mortgage and real estate	30	12	42	33	21,874	21,949
Lease financing	—	1	1	10	343	354
Other	145	18	163	67	48,788	49,018
Loans at fair value						5,123
Total	$ 1,171	$ 727	$ 1,898	$ 1,122	$ 281,011	$ 289,154

(1) Corporate loans that are 90 days past due are generally classified as non-accrual. Corporate loans are considered past due when principal or interest is contractually due but unpaid.
(2) Non-accrual loans generally include those loans that are 90 days or more past due or those loans for which Citi believes, based on actual experience and a forward-looking assessment of the collectibility of the loan in full, that the payment of interest and/or principal is doubtful.
(3) Loans less than 30 days past due are presented as current.
(4) The Total loans column includes loans at fair value, which are not included in the various delinquency columns, and therefore the tables' total rows will not cross-foot.

Corporate Loans Credit Quality Indicators

	Recorded investment in loans[1]							
	Term loans by year of origination							
In millions of dollars	2023	2022	2021	2020	2019	Prior	Revolving line of credit arrangements[2]	June 30, 2023
Investment grade[3]								
Commercial and industrial[4]	$ 40,041	$ 8,089	$ 5,285	$ 2,809	$ 3,151	$ 8,415	$ 37,929	$ 105,719
Financial institutions[4]	6,390	4,490	3,816	572	708	2,087	30,865	48,928
Mortgage and real estate	1,731	4,803	3,752	3,639	1,791	2,259	131	18,106
Other[5]	2,174	6,621	1,335	958	734	4,797	26,251	42,870
Total investment grade	$ 50,336	$ 24,003	$ 14,188	$ 7,978	$ 6,384	$ 17,558	$ 95,176	$ 215,623
Non-investment grade[3]								
Accrual								
Commercial and industrial[4]	$ 14,071	$ 6,408	$ 2,351	$ 1,666	$ 907	$ 3,657	$ 16,956	$ 46,016
Financial institutions[4]	3,421	1,552	892	23	437	176	2,072	8,573
Mortgage and real estate	608	544	782	510	725	1,419	516	5,104
Other[5]	559	756	478	372	497	108	1,145	3,915
Non-accrual								
Commercial and industrial[4]	5	81	59	9	52	159	491	856
Financial institutions	—	3	35	—	8	—	47	93
Mortgage and real estate	3	—	38	8	103	86	53	291
Other[5]	1	4	1	—	—	11	4	21
Total non-investment grade	$ 18,668	$ 9,348	$ 4,636	$ 2,588	$ 2,729	$ 5,616	$ 21,284	$ 64,869
Loans at fair value[6]								$ 5,529
Corporate loans, net of unearned income	$ 69,004	$ 33,351	$ 18,824	$ 10,566	$ 9,113	$ 23,174	$ 116,460	$ 286,021

	Recorded investment in loans[1]							
	Term loans by year of origination[7]							
In millions of dollars	2022	2021	2020	2019	2018	Prior	Revolving line of credit arrangements[2]	December 31, 2022
Investment grade[3]								
Commercial and industrial[4]	$ 40,639	$ 6,124	$ 3,620	$ 3,458	$ 2,617	$ 7,048	$ 38,358	$ 101,864
Financial institutions[4]	11,850	3,877	835	922	333	1,327	37,462	56,606
Mortgage and real estate	4,436	3,236	4,010	2,619	1,127	1,706	152	17,286
Other[5]	7,649	2,687	1,439	643	2,119	3,832	26,805	45,174
Total investment grade	$ 64,574	$ 15,924	$ 9,904	$ 7,642	$ 6,196	$ 13,913	$ 102,777	$ 220,930
Non-investment grade[3]								
Accrual								
Commercial and industrial[4]	$ 17,278	$ 3,139	$ 1,973	$ 1,331	$ 965	$ 3,546	$ 16,848	$ 45,080
Financial institutions[4]	4,708	630	197	254	47	240	2,073	8,149
Mortgage and real estate	582	835	429	729	783	801	472	4,631
Other[5]	1,244	559	391	413	1	219	1,292	4,119
Non-accrual								
Commercial and industrial[4]	1	12	99	115	49	105	479	860
Financial institutions	41	34	—	—	—	—	77	152
Mortgage and real estate	10	4	—	—	—	19	—	33
Other[5]	6	—	26	8	10	11	16	77
Total non-investment grade	$ 23,870	$ 5,213	$ 3,115	$ 2,850	$ 1,855	$ 4,941	$ 21,257	$ 63,101
Loans at fair value[6]								$ 5,123
Corporate loans, net of unearned income	$ 88,444	$ 21,137	$ 13,019	$ 10,492	$ 8,051	$ 18,854	$ 124,034	$ 289,154

(1) Recorded investment in a loan includes net deferred loan fees and costs, unamortized premium or discount, less any direct write-downs.
(2) There were no significant revolving line of credit arrangements that converted to term loans during the quarter.
(3) Held-for-investment loans are accounted for on an amortized cost basis.
(4) Includes certain short-term loans with less than one year in tenor.
(5) Other includes installment and other, lease financing and loans to government and official institutions.
(6) Loans at fair value include loans to commercial and industrial, financial institutions, mortgage and real estate and other.
(7) In the first quarter of 2023, Citi identified that at December 31, 2022 certain loans originated prior to 2022 were disclosed as originating in 2022. The table above has been revised to reflect the correct origination year. Citi evaluated the effect of the revision, both qualitatively and quantitatively, and concluded that the impact of the revision was not material. The impact of the revision increased (decreased) the year of origination amounts as follows: $(24.9) billion, $2.0 billion, $3.2 billion, $4.6 billion, $4.1 billion and $11.0 billion for 2022, 2021, 2020, 2019, 2018 and prior, respectively.

Corporate Gross Credit Losses

The table below details gross credit losses recognized during the six months ended June 30, 2023, by year of loan origination:

	For the Six Months Ended June 30, 2023							
In millions of dollars	**2023**	**2022**	**2021**	**2020**	**2019**	**Prior**	**Revolving line of credit arrangement**	**Total**
Commercial and industrial	**$ 8**	**$ —**	**$ —**	**$ 1**	**$ —**	**$ 2**	**$ 48**	**$ 59**
Financial institutions	**—**	**—**	**—**	**—**	**—**	**—**	**33**	**33**
Mortgage and real estate	**—**	**—**	**—**	**1**	**—**	**2**	**—**	**3**
Other[1]	**—**	**—**	**—**	**—**	**—**	**—**	**30**	**30**
Total	**$ 8**	**$ —**	**$ —**	**$ 2**	**$ —**	**$ 4**	**$ 111**	**$ 125**

(1) Other includes installment and other, lease financing and loans to government and official institutions.

Non-Accrual Corporate Loans

	June 30, 2023		December 31, 2022	
In millions of dollars	**Recorded investment[1][2]**	**Related specific allowance**	Recorded investment[1][2]	Related specific allowance
Non-accrual corporate loans with specific allowances				
Commercial and industrial	**$ 528**	**$ 221**	$ 583	$ 268
Financial institutions	**87**	**48**	149	51
Mortgage and real estate	**153**	**25**	33	4
Other	**1**	**1**	—	—
Total non-accrual corporate loans with specific allowances	**$ 769**	**$ 295**	$ 765	$ 323
Non-accrual corporate loans without specific allowances				
Commercial and industrial	**$ 328**	**N/A**	$ 277	N/A
Financial institutions	**6**	**N/A**	3	N/A
Mortgage and real estate	**138**	**N/A**	—	N/A
Lease financing	**—**	**N/A**	10	N/A
Other	**20**	**N/A**	67	N/A
Total non-accrual corporate loans without specific allowances	**$ 492**	**N/A**	$ 357	N/A

(1) Recorded investment in a loan includes net deferred loan fees and costs, unamortized premium or discount, less any direct write-downs.
(2) Interest income recognized for the three and six months ended June 30, 2023 was $13 million and $24 million, respectively, and for the three and six months ended June 30, 2022 was $11 million and $23 million, respectively.

N/A Not applicable

Corporate Loan Modifications to Borrowers Experiencing Financial Difficulty

Citi seeks to modify certain corporate loans to borrowers experiencing financial difficulty to reduce Citi's exposure to loss, often providing the borrower with an opportunity to work through financial difficulties. Each modification is unique to the borrower's individual circumstances. The following table details corporate loan modifications granted during the three and six months ended June 30, 2023 to borrowers experiencing financial difficulty by type of modification granted and the financial effect of those modifications. Citi defines a corporate loan modification to a borrower experiencing financial difficulty as a modification of a loan classified as substandard or worse at the time of modification.

	For the Three and Six Months Ended June 30, 2023			
In millions of dollars, except for weighted average term extension	**Total modifications balance at June 30, 2023[1][2][3]**	**Term extension**	**Combination: Term extension and payment delay[5]**	**Weighted average term extension (months)**
Three Months Ended June 30, 2023				
Commercial and industrial	**$ 66**	**$ 65**	**$ 1**	**22**
Financial institutions	**—**	**—**	**—**	**—**
Mortgage and real estate	**47**	**46**	**1**	**24**
Other[4]	**—**	**—**	**—**	**—**
Total	**$ 113**	**$ 111**	**$ 2**	
Six Months Ended June 30, 2023				
Commercial and industrial	**$ 121**	**$ 95**	**$ 26**	**21**
Financial institutions	**—**	**—**	**—**	**—**
Mortgage and real estate	**49**	**48**	**1**	**23**
Other[4]	**—**	**—**	**—**	**—**
Total	**$ 170**	**$ 143**	**$ 27**	

(1) The above table reflects activity for loans outstanding as of the end of the reporting period. The balances are not significant as a percentage of the total carrying values of loans by class of receivable as of June 30, 2023.
(2) Commitments to lend to borrowers experiencing financial difficulty that were granted modifications totaled $492 million as of June 30, 2023.
(3) The allowance for corporate loans, including modified loans, is based on the borrower's overall financial performance. Charge-offs for amounts deemed uncollectible may be recorded at the time of the modification or may have already been recorded in prior periods such that no charge-off is required at the time of modification.
(4) Other includes installment and other, lease financing and loans to government and official institutions.
(5) Payment delays either for principal or interest payments had an immaterial financial impact.

The following table presents the Company's three and six months ended June 30, 2022 corporate troubled debt restructurings (TDRs), under previous GAAP, prior to the Company's adoption of ASU No. 2022-02 on January 1, 2023:

	For the Three and Six Months Ended June 30, 2022			
In millions of dollars	Carrying value of TDRs modified during the period	TDRs involving changes in the amount and/or timing of principal payments[1]	TDRs involving changes in the amount and/or timing of interest payments[2]	TDRs involving changes in the amount and/or timing of both principal and interest payments
Three Months Ended June 30, 2022				
Commercial and industrial	$ 3	$ —	$ —	$ 3
Other[3]	23	—	—	23
Total	$ 26	$ —	$ —	$ 26
Six Months Ended June 30, 2022				
Commercial and industrial	$ 15	$ —	$ —	$ 15
Other[3]	23	1	—	22
Total	$ 38	$ 1	$ —	$ 37

(1) TDRs involving changes in the amount or timing of principal payments may involve principal forgiveness or deferral of periodic and/or final principal payments. Because forgiveness of principal is rare for corporate loans, modifications typically have little to no impact on the loans' projected cash flows and thus little to no impact on the allowance established for the loans. Charge-offs for amounts deemed uncollectible may be recorded at the time of the restructuring or may have already been recorded in prior periods such that no charge-off is required at the time of the modification.
(2) TDRs involving changes in the amount or timing of interest payments may involve a below-market interest rate.
(3) Other includes installment and other, lease financing and loans to government and official institutions.

Performance of Modified Corporate Loans

The following table presents the delinquencies of modified corporate loans to borrowers experiencing financial difficulty. It includes loans that were modified during the six months ended June 30, 2023:

	As of June 30, 2023[1]			
In millions of dollars	**Total**	**Current**	**30–89 days past due**	**90+ days past due**
Commercial and industrial	**$ 121**	**$ 121**	**$ —**	**$ —**
Financial institutions	**—**	**—**	**—**	**—**
Mortgage and real estate	**49**	**49**	**—**	**—**
Other[2]	**—**	**—**	**—**	**—**
Total	**$ 170**	**$ 170**	**$ —**	**$ —**

(1) Corporate loans are generally not modified as a result of their delinquency status; rather, they are modified because of events that have impacted the overall financial performance of the borrower. Corporate loans, if past due, are re-aged to current status upon modification.

(2) Other includes installment and other, lease financing and loans to government and official institutions.

Defaults of Modified Corporate Loans

No modified corporate loans to borrowers experiencing financial difficulty defaulted during the three and six months ended June 30, 2023. Default is defined as 60 days past due, except for classifiably managed commercial banking loans, where default is defined as 90 days past due. For a modified corporate loan that is not collateral dependent, expected default rates are considered in the loan's individually assessed ACL.

The following table presents the Company's three and six months ended June 30, 2022 corporate TDRs, under previous GAAP, prior to the Company's adoption of ASU No. 2022-02 on January 1, 2023, that defaulted for which the payment default occurred within one year of a permanent modification. Default is defined as 60 days past due:

		TDR loans that re-defaulted within one year of modification during the	
In millions of dollars	TDR balances at June 30, 2022	Three Months Ended June 30, 2022	Six Months Ended June 30, 2022
Commercial and industrial	$ 148	$ —	$ —
Mortgage and real estate	16	—	—
Other[1]	39	—	—
Total[2]	$ 203	$ —	$ —

(1) Other includes installment and other, lease financing and loans to government and official institutions.

(2) The above table reflects activity for loans outstanding that were considered TDRs as of the end of the reporting period.

Consumer Loans

Consumer loans represent loans and leases managed primarily by *PBWM* and *Legacy Franchises* (except Mexico SBMM). The tables below present details about these loans, including the following loan categories:

- Residential first mortgages and Home equity loans in North America offices primarily represent secured mortgage lending to customers of Retail banking and Global Wealth (primarily Private bank and Citigold).
- Credit cards in North America offices primarily represent unsecured credit card lending to customers of Branded cards and Retail services.
- Personal, small business and other loans in North America are primarily composed of classifiably managed loans to customers of Global Wealth (mostly within the Private bank) who are typically high credit quality borrowers that historically experienced minimal delinquencies and credit losses. Loans to these borrowers are generally well collateralized in the form of liquid securities and other forms of collateral.
- Residential mortgage loans in offices outside North America primarily represent secured mortgage lending to customers of Global Wealth (primarily Private bank and Citigold) as well as customers of *Legacy Franchises*.
- Credit cards in offices outside North America primarily represent unsecured credit card lending to customers of *PBWM* and *Legacy Franchises*, primarily in Asia and Mexico.
- Personal, small business and other loans in offices outside North America are primarily composed of secured and unsecured loans to customers of *PBWM* and *Legacy Franchises*. A significant portion of *PBWM* loans is classifiably managed and represents loans to high credit quality Private bank customers who have historically experienced minimal delinquencies and credit losses. Loans to these borrowers are generally well collateralized in the form of liquid securities and other forms of collateral.

The following tables provide Citi's consumer loans by type:

Consumer Loans, Delinquencies and Non-Accrual Status at June 30, 2023

In millions of dollars	Total current[1][2]	30–89 days past due[3][4]	≥ 90 days past due[3][4]	Past due government guaranteed[5]	Total loans	Non-accrual loans for which there is no ACLL	Non-accrual loans for which there is an ACLL	Total non-accrual	90 days past due and accruing
In North America offices[6]									
Residential first mortgages[7]	$ 101,780	$ 371	$ 285	$ 244	$ 102,680	$ 101	$ 380	$ 481	$ 139
Home equity loans[8][9]	3,869	35	96	—	4,000	46	139	185	—
Credit cards	149,487	1,741	1,723	—	152,951	—	—	—	1,723
Personal, small business and other[10]	37,038	89	29	5	37,161	4	34	38	7
Total	$ 292,174	$ 2,236	$ 2,133	$ 249	$ 296,792	$ 151	$ 553	$ 704	$ 1,869
In offices outside North America[6]									
Residential mortgages[7]	$ 26,950	$ 48	$ 92	$ —	$ 27,090	$ —	$ 328	$ 328	$ 18
Credit cards	13,344	180	190	—	13,714	—	172	172	60
Personal, small business and other[10]	36,848	108	39	—	36,995	—	117	117	—
Total	$ 77,142	$ 336	$ 321	$ —	$ 77,799	$ —	$ 617	$ 617	$ 78
Total Citigroup[11][12]	$ 369,316	$ 2,572	$ 2,454	$ 249	$ 374,591	$ 151	$ 1,170	$ 1,321	$ 1,947

Consumer Loans, Delinquencies and Non-Accrual Status at December 31, 2022

In millions of dollars	Total current[1][2]	30–89 days past due[3][4]	≥ 90 days past due[3][4]	Past due government guaranteed[5]	Total loans	Non-accrual loans for which there is no ACLL	Non-accrual loans for which there is an ACLL	Total non-accrual	90 days past due and accruing
In North America offices[6]									
Residential first mortgages[7]	$ 95,023	$ 421	$ 316	$ 279	$ 96,039	$ 86	$ 434	$ 520	$ 163
Home equity loans[8][9]	4,407	38	135	—	4,580	51	151	202	—
Credit cards	147,717	1,511	1,415	—	150,643	—	—	—	1,415
Personal, small business and other[10]	37,635	88	22	7	37,752	3	23	26	11
Total	$ 284,782	$ 2,058	$ 1,888	$ 286	$ 289,014	$ 140	$ 608	$ 748	$ 1,589
In offices outside North America[6]									
Residential mortgages[7]	$ 27,946	$ 62	$ 106	$ —	$ 28,114	$ —	$ 305	$ 305	$ 13
Credit cards	12,659	147	149	—	12,955	—	127	127	56
Personal, small business and other[10]	37,869	105	10	—	37,984	—	137	137	—
Total	$ 78,474	$ 314	$ 265	$ —	$ 79,053	$ —	$ 569	$ 569	$ 69
Total Citigroup[11][12]	$ 363,256	$ 2,372	$ 2,153	$ 286	$ 368,067	$ 140	$ 1,177	$ 1,317	$ 1,658

(1) Loans less than 30 days past due are presented as current.
(2) Includes $237 million and $237 million at June 30, 2023 and December 31, 2022, respectively, of residential first mortgages recorded at fair value.
(3) Excludes loans guaranteed by U.S. government-sponsored agencies. Excludes delinquencies on $30.6 billion and $17.9 billion of classifiably managed Private bank loans in North America and outside North America, respectively, at June 30, 2023. Excludes delinquencies on $31.5 billion and $17.8 billion of classifiably managed Private bank loans in North America and outside North America, respectively, at December 31, 2022.
(4) Loans modified under Citi's COVID-19 consumer relief programs continue to be reported in the same delinquency bucket they were in at the time of modification. Most modified loans in North America would not be reported as 30–89 or 90+ days past due for the duration of the programs (which have various durations, and certain of which may be renewed).
(5) Consists of loans that are guaranteed by U.S. government-sponsored agencies that are 30–89 days past due of $0.1 billion and $0.1 billion and 90 days or more past due of $0.1 billion and $0.2 billion at June 30, 2023 and December 31, 2022, respectively.
(6) North America includes the U.S., Canada and Puerto Rico. Mexico is included in offices outside North America.
(7) Includes approximately $0.2 billion and $0.0 billion of residential first mortgage loans in process of foreclosure in North America and outside North America, respectively, and $20.4 billion of residential mortgages outside North America related to the Global Wealth business at June 30, 2023. Includes approximately $0.1 billion and $0.0 billion of residential first mortgage loans in process of foreclosure in North America and outside North America, respectively, and $19.8 billion of residential mortgages outside North America related to the Global Wealth business at December 31, 2022.
(8) Includes approximately $0.1 billion and $0.1 billion at June 30, 2023 and December 31, 2022, respectively, of home equity loans in process of foreclosure.
(9) Fixed-rate home equity loans and loans extended under home equity lines of credit, which are typically in junior lien positions.

(10) Includes loans related to the Global Wealth business: $33.1 billion in North America, approximately $30.6 billion of which are classifiably managed, and as of June 30, 2023 approximately 99% were rated investment grade; and $26.0 billion outside North America, approximately $17.9 billion of which are classifiably managed, and as of June 30, 2023 approximately 93% were rated investment grade. Includes loans related to the Global Wealth business: $34.0 billion in North America, approximately $31.5 billion of which are classifiably managed, and as of December 31, 2022 approximately 98% were rated investment grade; and $26.6 billion outside North America, approximately $17.8 billion of which are classifiably managed, and as of December 31, 2022 approximately 94% were rated investment grade. The classifiably managed portion of these loans is shown as "current" because the delinquency status is not applicable, since these loans are primarily evaluated for credit risk based on their internal risk classification.

(11) Consumer loans are net of unearned income of $769 million and $712 million at June 30, 2023 and December 31, 2022, respectively. Unearned income on consumer loans primarily represents unamortized origination fees and costs, premiums and discounts.

(12) Not included in the balances above are approximately $1 billion and $1 billion of accrued interest receivable at June 30, 2023 and December 31, 2022, respectively, which are included in *Other assets* on the Consolidated Balance Sheet, except for credit card loans (which include accrued interest and fees). When a loan becomes non-accrual or, if not subject to a non-accrual policy, is charged off per the Company's charge-off policy, any accrued interest receivable is also reversed against the interest income. During the three and six months ended June 30, 2023, the Company reversed accrued interest of approximately $0.3 billion and $0.5 billion, respectively, primarily related to credit card loans. During the three and six months ended June 30, 2022, the Company reversed accrued interest of approximately $0.2 billion and $0.3 billion, respectively, primarily related to credit card loans.

Interest Income Recognized for Non-Accrual Consumer Loans

In millions of dollars	**Three Months Ended June 30, 2023**	Three Months Ended June 30, 2022	**Six Months Ended June 30, 2023**	Six Months Ended June 30, 2022
In North America offices[1]				
Residential first mortgages	**$ 3**	$ 3	**$ 6**	$ 6
Home equity loans	**1**	1	**3**	2
Credit cards	**—**	—	**—**	—
Personal, small business and other	**1**	1	**1**	1
Total	**$ 5**	$ 5	**$ 10**	$ 9
In offices outside North America[1]				
Residential mortgages	**$ 4**	$ —	**$ 5**	$ —
Credit cards	**—**	—	**—**	—
Personal, small business and other	**—**	—	**—**	—
Total	**$ 4**	$ —	**$ 5**	$ —
Total Citigroup	**$ 9**	$ 5	**$ 15**	$ 9

(1) North America includes the U.S., Canada and Puerto Rico. Mexico is included in offices outside North America.

During the three and six months ended June 30, 2023, the Company sold and/or reclassified to held-for-sale $2 million and $1.8 billion of consumer loans, respectively. During the three and six months ended June 30, 2022, the Company sold and/or reclassified to held-for-sale $367 million and $374 million of consumer loans, respectively. The increase was due to the reclassification of a portfolio to HFS in the first quarter of 2023. The Company did not have significant purchases of consumer loans classified as held-for-investment for the three and six months ended June 30, 2023 or 2022. Loans held by a business for sale are not included in the above since they have been reclassified to *Other assets*. See Note 2 for additional information regarding Citigroup's businesses held-for-sale.

Consumer Credit Scores (FICO)

The following tables provide details on the Fair Isaac Corporation (FICO) scores for Citi's U.S. consumer loan portfolio based on end-of-period receivables by year of origination. FICO scores are updated monthly for substantially all of the portfolio or, otherwise, on a quarterly basis for the remaining portfolio. With respect to Citi's consumer loan portfolio outside of the U.S. as of June 30, 2023 and December 31, 2022 ($79.3 billion and $80.5 billion, respectively), various country-specific or regional credit risk metrics and acquisition and behavior scoring models are leveraged as one of the factors to evaluate the credit quality of customers (for additional information on loans outside of the U.S., see "Consumer Loans and Ratios Outside of North America" below). As a result, details of relevant credit quality indicators for those loans are not comparable to the below FICO score distribution for the U.S. portfolio.

FICO score distribution—U.S. portfolio[1][2]	June 30, 2023					
In millions of dollars	Less than 680	680 to 760	Greater than 760	Classifiably managed[3]	FICO not available[4]	Total loans
Residential first mortgages						
2023	$ 151	$ 2,704	$ 5,671			
2022	717	6,659	13,618			
2021	602	5,747	12,540			
2020	393	4,360	10,860			
2019	312	2,345	5,350			
Prior	2,185	7,099	13,907			
Total residential first mortgages	$ 4,360	$ 28,914	$ 61,946	$ —	$ 7,460	$ 102,680
Home equity loans (pre-reset)	$ 490	$ 1,212	$ 1,736			
Home equity loans (post-reset)	71	76	45			
Home equity term loans	92	137	108			
2023	—	—	—			
2022	—	—	—			
2021	—	1	1			
2020	1	2	2			
2019	1	1	1			
Prior	90	133	104			
Total home equity loans	$ 653	$ 1,425	$ 1,889	$ —	$ 33	$ 4,000
Credit cards	$ 29,111	$ 59,069	$ 60,712			
Revolving loans converted to term loans[5]	913	357	54			
Total credit cards[6]	$ 30,024	$ 59,426	$ 60,766	$ —	$ 2,136	$ 152,352
Personal, small business and other						
2023	$ 10	$ 45	$ 105			
2022	268	515	712			
2021	80	129	151			
2020	11	14	20			
2019	13	14	16			
Prior	126	181	135			
Total personal, small business and other[7][8]	$ 508	$ 898	$ 1,139	$ 30,596	$ 3,101	$ 36,242
Total	$ 35,545	$ 90,663	$ 125,740	$ 30,596	$ 12,730	$ 295,274

FICO score distribution—U.S. portfolio[1][2]	December 31, 2022					
In millions of dollars	Less than 680	680 to 760	Greater than 760	Classifiably managed[3]	FICO not available[4]	Total loans
Residential first mortgages						
2022	$ 691	$ 7,530	$ 12,928			
2021	639	5,933	12,672			
2020	431	4,621	10,936			
2019	321	2,505	5,445			
2018	302	1,072	1,899			
Prior	2,020	6,551	12,649			
Total residential first mortgages	$ 4,404	$ 28,212	$ 56,529		$ 6,894	$ 96,039
Home equity line of credit (pre-reset)	$ 552	$ 1,536	$ 1,876			
Home equity line of credit (post-reset)	62	65	40			
Home equity term loans	106	151	117			
2022	—	—	—			
2021	—	1	1			
2020	1	2	2			
2019	1	2	2			
2018	1	2	1			
Prior	103	144	111			
Total home equity loans	$ 720	$ 1,752	$ 2,033		$ 75	$ 4,580
Credit cards	$ 27,901	$ 58,213	$ 60,896			
Revolving loans converted to term loans[5]	766	354	54			
Total credit cards[6]	$ 28,667	$ 58,567	$ 60,950		$ 1,914	$ 150,098
Personal, small business and other						
2022	$ 247	$ 546	$ 800			
2021	96	170	210			
2020	15	20	30			
2019	21	23	28			
2018	10	10	9			
Prior	126	190	144			
Total personal, small business and other[7][8]	$ 515	$ 959	$ 1,221	$ 31,478	$ 2,639	$ 36,812
Total	$ 34,306	$ 89,490	$ 120,733	$ 31,478	$ 11,522	$ 287,529

(1) The FICO bands in the tables are consistent with general industry peer presentations.
(2) FICO scores are updated on either a monthly or quarterly basis. For updates that are made only quarterly, certain current-period loans by year of origination are greater than those disclosed in the prior periods. Loans that did not have FICO scores as of the prior period have been updated with FICO scores as they become available.
(3) These personal, small business and other loans without a FICO score available include $30.6 billion and $31.5 billion of Private bank loans as of June 30, 2023 and December 31, 2022, respectively, which are classifiably managed within Global Wealth and are primarily evaluated for credit risk based on their internal risk ratings. As of June 30, 2023 and December 31, 2022, approximately 99% and 98% of these loans, respectively, were rated investment grade.
(4) FICO scores not available related to loans guaranteed by government-sponsored enterprises for which FICO scores are generally not utilized.
(5) Not included in the tables above are $63 million and $75 million of revolving credit card loans outside of the U.S. that were converted to term loans as of June 30, 2023 and December 31, 2022, respectively.
(6) Excludes $599 million and $545 million of balances related to Canada for June 30, 2023 and December 31, 2022, respectively.
(7) Excludes $919 million and $940 million of balances related to Canada for June 30, 2023 and December 31, 2022, respectively.
(8) Includes approximately $49 million and $67 million of personal revolving loans that were converted to term loans for June 30, 2023 and December 31, 2022, respectively.

Consumer Gross Credit Losses

The following table provides details on gross credit losses recognized during the six months ended June 30, 2023, by year of loan origination:

In millions of dollars		Six Months Ended June 30, 2023
Residential first mortgages		
2023	$	—
2022		**1**
2021		—
2020		**1**
2019		**3**
Prior		**20**
Total residential first mortgages	$	**25**
Home equity line of credit (pre-reset)	$	**2**
Home equity line of credit (post-reset)		—
Home equity term loans		**1**
Total home equity loans	$	**3**
Credit cards	$	**2,925**
Revolving loans converted to term loans		**87**
Total credit cards	$	**3,012**
Personal, small business and other		
2023	$	**69**
2022		**89**
2021		**56**
2020		**23**
2019		**27**
Prior		**84**
Total personal, small business and other	$	**348**
Total Citigroup	$	**3,388**

Loan-to-Value (LTV) Ratios—U.S. Consumer Mortgages

LTV ratios (loan balance divided by appraised value) are calculated at origination and updated by applying market price data.

The following tables provide details on the LTV ratios for Citi's U.S. consumer mortgage portfolios by year of origination. LTV ratios are updated monthly using the most recent Core Logic Home Price Index data available for substantially all of the portfolio applied at the Metropolitan Statistical Area level, if available, or the state level if not. The remainder of the portfolio is updated in a similar manner using the Federal Housing Finance Agency indices.

LTV distribution—U.S. portfolio	**June 30, 2023**				
In millions of dollars	**Less than or equal to 80%**	**> 80% but less than or equal to 100%**	**Greater than 100%**	**LTV not available[1]**	**Total**
Residential first mortgages					
2023	**$ 6,634**	**$ 1,975**	**$ 6**		
2022	**16,146**	**5,916**	**43**		
2021	**18,846**	**1,096**	**33**		
2020	**16,451**	**362**	**1**		
2019	**8,395**	**226**	**26**		
Prior	**25,029**	**318**	**78**		
Total residential first mortgages	**$ 91,501**	**$ 9,893**	**$ 187**	**$ 1,099**	**$ 102,680**
Home equity loans (pre-reset)	**$ 3,167**	**$ 28**	**$ 9**		
Home equity loans (post-reset)	**491**	**8**	**13**		
Total home equity loans	**$ 3,658**	**$ 36**	**$ 22**	**$ 284**	**$ 4,000**
Total	**$ 95,159**	**$ 9,929**	**$ 209**	**$ 1,383**	**$ 106,680**

LTV distribution—U.S. portfolio	December 31, 2022				
In millions of dollars	Less than or equal to 80%	> 80% but less than or equal to 100%	Greater than 100%	LTV not available[1]	Total
Residential first mortgages					
2022	$ 15,644	$ 6,497	$ 40		
2021	19,104	1,227	33		
2020	16,935	267	1		
2019	8,789	140	23		
2018	3,598	74	9		
Prior	22,367	132	74		
Total residential first mortgages	$ 86,437	$ 8,337	$ 180	$ 1,085	$ 96,039
Home equity loans (pre-reset)	$ 3,677	$ 36	$ 56		
Home equity loans (post-reset)	627	12	27		
Total home equity loans	$ 4,304	$ 48	$ 83	$ 145	$ 4,580
Total	$ 90,741	$ 8,385	$ 263	$ 1,230	$ 100,619

(1) Residential first mortgages with no LTV information available includes government-guaranteed loans that do not require LTV information for credit risk assessment and fair value loans.

Loan-to-Value (LTV) Ratios—Outside of U.S. Consumer Mortgages

The following tables provide details on the LTV ratios for Citi's consumer mortgage portfolio outside of the U.S. by year of origination:

LTV distribution—outside of U.S. portfolio[1]	**June 30, 2023**				
In millions of dollars	**Less than or equal to 80%**	**> 80% but less than or equal to 100%**	**Greater than 100%**	**LTV not available**	**Total**
Residential mortgages					
2023	**$ 1,847**	**$ 620**	**$ —**		
2022	**3,356**	**1,102**	**33**		
2021	**3,713**	**1,069**	**44**		
2020	**2,845**	**385**	**—**		
2019	**2,775**	**63**	**1**		
Prior	**8,942**	**44**	**8**		
Total	**$ 23,478**	**$ 3,283**	**$ 86**	**$ 243**	**$ 27,090**

LTV distribution—outside of U.S. portfolio[1]	December 31, 2022				
In millions of dollars	Less than or equal to 80%	> 80% but less than or equal to 100%	Greater than 100%	LTV not available	Total
Residential mortgages					
2022	$ 3,106	$ 975	$ 294		
2021	4,144	964	273		
2020	3,293	502	25		
2019	3,048	92	1		
2018	2,074	48	—		
Prior	9,201	36	7		
Total	$ 24,866	$ 2,617	$ 600	$ 31	$ 28,114

(1) Mortgage portfolios outside of the U.S. are primarily in Global Wealth. As of June 30, 2023 and December 31, 2022, mortgage portfolios outside of the U.S. had an average LTV of approximately 52% and 51%, respectively.

Consumer Loans and Ratios Outside of North America

In millions of dollars at June 30, 2023	Total loans outside of North America[1]	Classifiably managed loans[2]	Delinquency-managed loans and ratios: Delinquency-managed loans	30–89 days past due ratio	≥ 90 days past due ratio	2Q23 NCL ratio	2Q22 NCL ratio
Residential mortgages[3]	**$ 27,090**	**$ —**	**$ 27,090**	**0.18 %**	**0.34 %**	**(0.01)%**	0.04 %
Credit cards	**13,714**	**—**	**13,714**	**1.31**	**1.39**	**3.98**	3.08
Personal, small business and other[4]	**36,995**	**17,902**	**19,093**	**0.57**	**0.20**	**0.91**	0.55
Total	**$ 77,799**	**$ 17,902**	**$ 59,897**	**0.56 %**	**0.54 %**	**1.12 %**	0.72 %

In millions of dollars at December 31, 2022	Total loans outside of North America[1]	Classifiably managed loans[2]	Delinquency-managed loans and ratios: Delinquency-managed loans	30–89 days past due ratio	≥ 90 days past due ratio
Residential mortgages[3]	$ 28,114	$ —	$ 28,114	0.22 %	0.38 %
Credit cards	12,955	—	12,955	1.13	1.15
Personal, small business and other[4]	37,984	17,762	20,222	0.52	0.05
Total	$ 79,053	$ 17,762	$ 61,291	0.51 %	0.43 %

(1) Mexico is included in offices outside of North America.
(2) Classifiably managed loans are primarily evaluated for credit risk based on their internal risk classification. As of June 30, 2023 and December 31, 2022, approximately 93% and 94% of these loans, respectively, were rated investment grade.
(3) Includes $20.4 billion and $19.8 billion as of June 30, 2023 and December 31, 2022, respectively, of residential mortgages related to the Global Wealth business.
(4) Includes $26.0 billion and $26.6 billion as of June 30, 2023 and December 31, 2022, respectively, of loans related to the Global Wealth business.

Consumer Loan Modifications to Borrowers Experiencing Financial Difficulty

Citi seeks to modify consumer loans to borrowers experiencing financial difficulty to minimize losses, avoid foreclosure or repossession of collateral, and ultimately maximize payments received from the borrowers. Citi uses various metrics to identify consumer borrowers experiencing financial difficulty, with the primary indicator being delinquency at the time of modification. Citi's significant consumer modification programs are described below.

Credit Cards

Citi seeks to assist credit card borrowers who are experiencing financial difficulty by offering long-term loan modification programs. These modifications generally involve reducing the interest rate on the credit card, placing the customer on a fixed payment plan not to exceed 60 months and canceling the customer's available line of credit. Citi also grants modifications to credit card borrowers working with third-party renegotiation agencies that seek to restructure customers' entire unsecured debt. In both circumstances, if the cardholder does not comply with the modified payment terms, the credit card loan continues to age and will ultimately be charged off in accordance with Citi's standard charge-off policy. In certain situations, Citi may forgive a portion of an outstanding balance if the borrower pays a required amount.

Residential Mortgages

Citi seeks to assist residential mortgage borrowers who are experiencing financial difficulty primarily by offering interest rate reductions, principal and/or interest forbearance, term extensions or combinations thereof. Borrowers enrolled in forbearance programs typically have payments suspended until the end of the forbearance period. In the U.S., before permanently modifying the contractual payment terms of a mortgage loan, Citi enters into a trial modification with the borrower. Trial modifications generally represent a three-month period during which the borrower makes monthly payments under the anticipated modified payment terms. These loans continue to age and accrue interest in accordance with their original contractual terms. Upon successful completion of the trial period, and the borrower's formal acceptance of the modified terms, Citi and the borrower enter into a permanent modification. Citi expects the majority of loans entering trial modifications to ultimately be enrolled in a permanent modification. During the three and six months ended June 30, 2023, $15 million and $26 million, respectively, of mortgage loans were enrolled in trial programs. Mortgage loans of $1 million and $2 million had gone through Chapter 7 bankruptcy during the three and six months ended June 30, 2023, respectively.

Types of Consumer Loan Modifications and Their Financial Effect

The following tables provide details on permanent consumer loan modifications granted during the three and six months ended June 30, 2023 to borrowers experiencing financial difficulty by type of modification granted and the financial effect of those modifications:

	For the Three Months Ended June 30, 2023									
In millions of dollars, except weighted averages	Modifications as % of loans	Total modifications balance at June 30, 2023[1][2][3]	Interest rate reduction	Term extension	Payment delay	Combination: interest rate reduction and term extension	Combination: term extension and payment delay[4]	Weighted average interest rate reduction %	Weighted average term extension (months)	Weighted average delay in payments (months)
In North America offices[5]										
Residential first mortgages[6]	0.05 %	$ 47	$ 1	$ 15	$ 29	$ 2	$ —	1 %	191	6
Home equity loans	0.23	9	—	—	1	8	—	2	119	6
Credit cards	0.18	275	275	—	—	—	—	22	—	—
Personal, small business and other	0.01	4	—	1	—	3	—	6	13	—
Total	0.11 %	$ 335	$ 276	$ 16	$ 30	$ 13	$ —			
In offices outside North America[5]										
Residential mortgages	1.03 %	$ 278	$ 3	$ —	$ —	$ —	$ 275	— %	1	1
Credit cards	0.09	12	12	—	—	—	—	18	—	—
Personal, small business and other	0.02	7	1	2	—	4	—	9	20	—
Total	0.38 %	$ 297	$ 16	$ 2	$ —	$ 4	$ 275			

	For the Six Months Ended June 30, 2023									
In millions of dollars, except weighted averages	Modifications as % of loans	Total modifications balance at June 30, 2023[1][2][3]	Interest rate reduction	Term extension	Payment delay	Combination: interest rate reduction and term extension	Combination: term extension and payment delay[4]	Weighted average interest rate reduction %	Weighted average term extension (months)	Weighted average delay in payments (months)
In North America offices[5]										
Residential first mortgages[6]	0.10 %	$ 100	$ 1	$ 30	$ 64	$ 5	$ —	1 %	187	6
Home equity loans	0.48	19	—	—	6	13	—	2	120	6
Credit cards	0.33	499	499	—	—	—	—	22	—	—
Personal, small business and other	0.02	6	1	1	—	4	—	6	14	—
Total	0.21 %	$ 624	$ 501	$ 31	$ 70	$ 22	$ —			
In offices outside North America[5]										
Residential mortgages	1.09 %	$ 296	$ 5	$ —	$ —	$ 1	$ 290	— %	2	2
Credit cards	0.17	23	23	—	—	—	—	18	—	—
Personal, small business and other	0.04	16	3	4	—	9	—	8	21	—
Total	0.43 %	$ 335	$ 31	$ 4	$ —	$ 10	$ 290			

(1) The above tables reflect activity for loans outstanding as of the end of the reporting period. During the three and six months ended June 30, 2023, Citi granted forgiveness of $16 million and $26 million, respectively, in credit card loans, and $1 million and $1 million, respectively, in personal, small business and other loans that had no outstanding balance at June 30, 2023.

(2) Commitments to lend to borrowers experiencing financial difficulty that were granted modifications included in the tables above were immaterial at June 30, 2023.

(3) For major consumer portfolios, the ACLL is based on macroeconomic-sensitive models that rely on historical performance and macroeconomic scenarios to forecast expected credit losses. Modifications of consumer loans impact expected credit losses by affecting the likelihood of default.

(4) Residential mortgages in offices outside North America were granted four months of payment deferrals during the six months ended December 31, 2022.

(5) North America includes the U.S., Canada and Puerto Rico. Mexico is included in offices outside North America.

(6) Excludes residential first mortgages discharged in Chapter 7 bankruptcy in the three and six months ended June 30, 2023.

The following tables present the Company's three and six months ended June 30, 2022 consumer TDRs, under previous GAAP, prior to the Company's adoption of ASU No. 2022-02 on January 1, 2023:

Consumer Troubled Debt Restructurings[1]

	For the Three Months Ended June 30, 2022					
In millions of dollars, except number of loans modified	Number of loans modified	Post-modification recorded investment[2][3]	Deferred principal[4]	Contingent principal forgiveness[5]	Principal forgiveness[6]	Average interest rate reduction
North America						
Residential first mortgages	279	$ 56	$ —	$ —	$ —	— %
Home equity loans	103	7	—	—	—	—
Credit cards	36,820	157	—	—	—	18
Personal, small business and other	105	1	—	—	—	5
Total[7]	37,307	$ 221	$ —	$ —	$ —	
International						
Residential mortgages	110	$ 4	$ —	$ —	$ —	— %
Credit cards	3,462	13	—	—	—	27
Personal, small business and other	595	7	—	—	—	8
Total[7]	4,167	$ 24	$ —	$ —	$ —	

	For the Six Months Ended June 30, 2022					
In millions of dollars, except number of loans modified	Number of loans modified	Post-modification recorded investment[2][8]	Deferred principal[4]	Contingent principal forgiveness[5]	Principal forgiveness[6]	Average interest rate reduction
North America						
Residential first mortgages	625	$ 137	$ —	$ —	$ —	— %
Home equity loans	207	16	—	—	—	—
Credit cards	77,560	330	—	—	—	17
Personal, small business and other	251	2	—	—	—	5
Total[7]	78,643	$ 485	$ —	$ —	$ —	
International						
Residential first mortgages	293	$ 10	$ —	$ —	$ —	— %
Credit cards	8,462	35	—	—	1	23
Personal, small business and other	1,267	16	—	—	—	8
Total[7]	10,022	$ 61	$ —	$ —	$ 1	

(1) The above tables do not include loan modifications that meet the TDR relief criteria in the Coronavirus Aid, Relief, and Economic Security Act (CARES Act) or the interagency guidance.
(2) Post-modification balances include past-due amounts that are capitalized at the modification date.
(3) Post-modification balances in North America include $0.4 million of residential first mortgages to borrowers who have gone through Chapter 7 bankruptcy in the three months ended June 30, 2022. These amounts include $0.4 million of residential first mortgages that were newly classified as TDRs in the three months ended June 30, 2022, based on previously received OCC guidance.
(4) Represents portion of contractual loan principal that is non-interest bearing, but still due from the borrower. Such deferred principal is charged off at the time of permanent modification to the extent that the related loan balance exceeds the underlying collateral value.
(5) Represents portion of contractual loan principal that is non-interest bearing and, depending upon borrower performance, eligible for forgiveness.
(6) Represents portion of contractual loan principal that was forgiven at the time of permanent modification.
(7) The above tables reflect activity for restructured loans that were considered TDRs during the reporting period.
(8) Post-modification balances in North America include $2 million of residential first mortgages to borrowers who have gone through Chapter 7 bankruptcy in the six months ended June 30, 2022. These amounts include $2 million of residential first mortgages that were newly classified as TDRs in the six months ended June 30, 2022, based on previously received OCC guidance.

Performance of Modified Consumer Loans

The following table presents the delinquencies and gross credit losses of permanently modified consumer loans to borrowers experiencing financial difficulty. It includes loans that were modified during the six months ended June 30, 2023:

	As of June 30, 2023				
In millions of dollars	Total	Current	30–89 days past due	90+ days past due	Gross credit losses
In North America offices[1]					
Residential first mortgages	$ 100	$ 36	$ 20	$ 44	$ —
Home equity loans	19	14	1	4	—
Credit cards	499	319	102	78	57
Personal, small business and other	6	6	—	—	—
Total[2][3]	$ 624	$ 375	$ 123	$ 126	$ 57
In offices outside North America[1]					
Residential mortgages	$ 296	$ 295	$ 1	$ —	$ —
Credit cards	23	20	2	1	—
Personal, small business and other	16	14	1	1	1
Total[2][3]	$ 335	$ 329	$ 4	$ 2	$ 1

(1) North America includes the U.S., Canada and Puerto Rico. Mexico is included in offices outside North America.
(2) Typically, upon modification a loan re-ages to current. However, FFIEC guidelines for re-aging certain loans require that at least three consecutive minimum monthly payments, or the equivalent amount, be received. In these cases, the loan will remain delinquent until the payment criteria for re-aging have been satisfied.
(3) Loans modified under Citi's COVID-19 consumer relief programs continue to be reported in the same delinquency bucket they were in at the time of modification.

Defaults of Modified Consumer Loans

The following tables present default activity for permanently modified consumer loans to borrowers experiencing financial difficulty by type of modification granted, including loans that were modified and subsequently defaulted during the three and six months ended June 30, 2023. Default is defined as 60 days past due:

	For the Three Months Ended June 30, 2023						
In millions of dollars	Total[1][2]	Interest rate reduction	Term extension	Payment delay	Combination: interest rate reduction and term extension	Combination: term extension and payment delay	Combination: interest rate reduction, term extension and payment delay
In North America offices[3]							
Residential first mortgages	$ 1	$ 1	$ —	$ —	$ —	$ —	$ —
Home equity loans	—	—	—	—	—	—	—
Credit cards[4]	50	50	—	—	—	—	—
Personal, small business and other	—	—	—	—	—	—	—
Total	$ 51	$ 51	$ —	$ —	$ —	$ —	$ —
In offices outside North America[3]							
Residential mortgages	$ —	$ —	$ —	$ —	$ —	$ —	$ —
Credit cards[4]	1	1	—	—	—	—	—
Personal, small business and other	—	—	—	—	—	—	—
Total	$ 1	$ 1	$ —	$ —	$ —	$ —	$ —

In millions of dollars	Total[1][2]	Interest rate reduction	Term extension	Payment delay	Combination: interest rate reduction and term extension	Combination: term extension and payment delay	Combination: interest rate reduction, term extension and payment delay
	For the Six Months Ended June 30, 2023						
In North America offices[3]							
Residential first mortgages	$ 1	$ 1	$ —	$ —	$ —	$ —	$ —
Home equity loans	—	—	—	—	—	—	—
Credit cards[4]	55	55	—	—	—	—	—
Personal, small business and other	—	—	—	—	—	—	—
Total	$ 56	$ 56	$ —	$ —	$ —	$ —	$ —
In offices outside North America[3]							
Residential mortgages	$ —	$ —	$ —	$ —	$ —	$ —	$ —
Credit cards[4]	1	1	—	—	—	—	—
Personal, small business and other	1	—	—	—	1	—	—
Total	$ 2	$ 1	$ —	$ —	$ 1	$ —	$ —

(1) The above table reflects activity for loans outstanding as of the end of the reporting period.
(2) Modified residential first mortgages that default are typically liquidated through foreclosure or a similar type of liquidation.
(3) North America includes the U.S., Canada and Puerto Rico. Mexico is included in offices outside North America.
(4) Modified credit card loans that default continue to be charged off in accordance with Citi's consumer charge-off policy.

The following table presents the Company's three and six months ended June 30, 2022 consumer TDRs, under previous GAAP, prior to the Company's adoption of ASU No. 2022-02 on January 1, 2023, that defaulted for which the payment default occurred within one year of a permanent modification. Default is defined as 60 days past due:

In millions of dollars	Three Months Ended June 30, 2022	Six Months Ended June 30, 2022
North America		
Residential first mortgages	$ 13	$ 17
Home equity loans	2	2
Credit cards	59	116
Personal, small business and other	—	—
Total	$ 74	$ 135
International		
Residential mortgages	$ 3	$ 7
Credit cards	3	7
Personal, small business and other	1	2
Total	$ 7	$ 16

14. ALLOWANCE FOR CREDIT LOSSES

	Three Months Ended June 30,		Six Months Ended June 30,	
In millions of dollars	**2023**	2022	**2023**	2022
Allowance for credit losses on loans (ACLL) at beginning of period	**$ 17,169**	$ 15,393	**$ 16,974**	$ 16,455
Adjustments to opening balance[1]				
Financial instruments—TDRs and vintage disclosures[1]	**$ —**	$ —	**$ (352)**	$ —
Adjusted ACLL at beginning of period	**$ 17,169**	$ 15,393	**$ 16,622**	$ 16,455
Gross credit losses on loans	**$ (1,879)**	$ (1,212)	**$ (3,513)**	$ (2,452)
Gross recoveries on loans	**375**	362	**707**	730
Net credit losses on loans (NCLs)	**$ (1,504)**	$ (850)	**$ (2,806)**	$ (1,722)
Replenishment of NCLs	**$ 1,504**	$ 850	**$ 2,806**	$ 1,722
Net reserve builds (releases) for loans	**290**	520	**687**	(260)
Net specific reserve builds (releases) for loans	**(33)**	14	**5**	182
Total provision for credit losses on loans (PCLL)	**$ 1,761**	$ 1,384	**$ 3,498**	$ 1,644
Other, net (see table below)	**70**	25	**182**	(425)
ACLL at end of period	**$ 17,496**	$ 15,952	**$ 17,496**	$ 15,952
Allowance for credit losses on unfunded lending commitments (ACLUC) at beginning of period[2]	**$ 1,959**	$ 2,343	**$ 2,151**	$ 1,871
Provision (release) for credit losses on unfunded lending commitments	**(96)**	(159)	**(290)**	315
Other, net	**(1)**	9	**1**	7
ACLUC at end of period[2]	**$ 1,862**	$ 2,193	**$ 1,862**	$ 2,193
Total allowance for credit losses on loans, leases and unfunded lending commitments[3]	**$ 19,358**	$ 18,145	**$ 19,358**	$ 18,145

Other, net details	Three Months Ended June 30,		Six Months Ended June 30,	
In millions of dollars	**2023**	2022	**2023**	2022
Reclasses of consumer ACLL to HFS[4]	**$ —**	$ —	**$ —**	$ (350)
FX translation and other	**70**	25	**182**	(75)
Other, net	**$ 70**	$ 25	**$ 182**	$ (425)

(1) See Note 1 in Citi's First Quarter of 2023 Form 10-Q for a description of the impact of adopting ASU 2022-02 on the ACL.
(2) Represents additional credit loss reserves for unfunded lending commitments and letters of credit recorded in *Other liabilities* on the Consolidated Balance Sheet.
(3) See below for ACL on *HTM debt securities* and *Other assets*.
(4) See Note 2.

Allowance for Credit Losses on Loans and End-of-Period Loans

	Three Months Ended					
	June 30, 2023			June 30, 2022		
In millions of dollars	**Corporate**	**Consumer**	**Total**	Corporate	Consumer	Total
ACLL at beginning of period	**$ 2,780**	**$ 14,389**	**$ 17,169**	$ 3,025	$ 12,368	$ 15,393
Charge-offs	**(86)**	**(1,793)**	**(1,879)**	(57)	(1,155)	(1,212)
Recoveries	**11**	**364**	**375**	34	328	362
Replenishment of NCLs	**75**	**1,429**	**1,504**	23	827	850
Net reserve builds (releases)	**(119)**	**409**	**290**	(128)	648	520
Net specific reserve builds (releases)	**(33)**	**—**	**(33)**	49	(35)	14
Other	**2**	**68**	**70**	23	2	25
Ending balance	**$ 2,630**	**$ 14,866**	**$ 17,496**	$ 2,969	$ 12,983	$ 15,952

	Six Months Ended					
	June 30, 2023			June 30, 2022		
In millions of dollars	**Corporate**	**Consumer**	**Total**	Corporate	Consumer	Total
ACLL at beginning of period	**$ 2,855**	**$ 14,119**	**$ 16,974**	$ 2,415	$ 14,040	$ 16,455
Adjustments to opening balance:						
Financial instruments—TDRs and vintage disclosures[1]	**—**	**(352)**	**(352)**	—	—	—
Adjusted ACLL at beginning of period	**$ 2,855**	**$ 13,767**	**$ 16,622**	$ 2,415	$ 14,040	$ 16,455
Charge-offs	**$ (125)**	**$ (3,388)**	**$ (3,513)**	$ (105)	$ (2,347)	$ (2,452)
Recoveries	**28**	**679**	**707**	51	679	730
Replenishment of NCLs	**97**	**2,709**	**2,806**	54	1,668	1,722
Net reserve builds (releases)	**(209)**	**896**	**687**	249	(509)	(260)
Net specific reserve builds (releases)	**(28)**	**33**	**5**	273	(91)	182
Other	**12**	**170**	**182**	32	(457)	(425)
Ending balance	**$ 2,630**	**$ 14,866**	**$ 17,496**	$ 2,969	$ 12,983	$ 15,952

	June 30, 2023			December 31, 2022		
In millions of dollars	**Corporate**	**Consumer**	**Total**	Corporate	Consumer	Total
ACLL						
Collectively evaluated[1]	**$ 2,335**	**$ 14,827**	**$ 17,162**	$ 2,532	$ 13,521	$ 16,053
Individually evaluated	**295**	**39**	**334**	323	596	919
Purchased credit deteriorated	**—**	**—**	**—**	—	2	2
Total ACLL	**$ 2,630**	**$ 14,866**	**$ 17,496**	$ 2,855	$ 14,119	$ 16,974
Loans, net of unearned income						
Collectively evaluated[1]	**$ 279,231**	**$ 374,201**	**$ 653,432**	$ 282,909	$ 364,795	$ 647,704
Individually evaluated	**1,261**	**39**	**1,300**	1,122	2,921	4,043
Purchased credit deteriorated	**—**	**114**	**114**	—	114	114
Held at fair value	**5,529**	**237**	**5,766**	5,123	237	5,360
Total loans, net of unearned income	**$ 286,021**	**$ 374,591**	**$ 660,612**	$ 289,154	$ 368,067	$ 657,221

(1) See Note 1 in Citi's First Quarter of 2023 Form 10-Q for a description of the effect of adopting ASU 2022-02 on the ACL and for Citi's updated accounting policy for collectively evaluating the ACL for consumer loans formerly considered TDRs.

2Q23 Changes in the ACL

The total allowance for credit losses on loans, leases and unfunded lending commitments as of June 30, 2023 was $19,358 million, a slight increase from $19,125 million at December 31, 2022. The increase in the ACLL was primarily driven by growth in card balances in Branded cards and Retail services and an increase in transfer risk associated with exposures outside the U.S. driven by safety and soundness considerations under U.S. banking law, partially offset by a decrease in the ACLL of $352 million from the adoption of ASU 2022-02 for the recognition and measurement of TDRs (see Note 1) and an improved macroeconomic outlook.

Consumer ACLL

Citi's total consumer allowance for credit losses on loans (ACLL) as of June 30, 2023 was $14,866 million, an increase from $14,119 million at December 31, 2022. The increase was primarily driven by growth in U.S. cards balances, partially offset by a decrease to the ACLL of $352 million from the adoption of ASU 2022-02 for the recognition and measurement of TDRs.

Corporate ACLL

Citi's total corporate ACLL as of June 30, 2023 was $2,630 million, a decrease from $2,855 million at December 31, 2022. The decrease was primarily driven by an improved macroeconomic outlook.

ACLUC

As of June 30, 2023, Citi's total ACLUC, included in *Other liabilities*, was $1,862 million, a decrease from $2,151 million at December 31, 2022. The decrease was primarily driven by an improved macroeconomic outlook.

Allowance for Credit Losses on HTM Debt Securities

In millions of dollars	Three Months Ended June 30, 2023				
	Mortgage-backed	State and municipal	Foreign government	Asset-backed	Total HTM
Allowance for credit losses on HTM debt securities at beginning of quarter	**$ 2**	**$ 98**	**$ 3**	**$ 1**	**$ 104**
Gross credit losses	—	—	—	—	—
Gross recoveries	—	—	—	—	—
Net credit losses (NCLs)	**$ —**	**$ —**	**$ —**	**$ —**	**$ —**
Replenishment of NCLs	**$ —**	**$ —**	**$ —**	**$ —**	**$ —**
Net reserve builds (releases)	**3**	**(6)**	**(1)**	**—**	**(4)**
Net specific reserve builds (releases)	—	—	—	—	—
Total provision for credit losses on HTM debt securities	**$ 3**	**$ (6)**	**$ (1)**	**$ —**	**$ (4)**
Other, net	**$ —**	**$ —**	**$ —**	**$ (1)**	**$ (1)**
Allowance for credit losses on HTM debt securities at end of quarter	**$ 5**	**$ 92**	**$ 2**	**$ —**	**$ 99**

In millions of dollars	Six Months Ended June 30, 2023				
	Mortgage-backed	State and municipal	Foreign government	Asset-backed	Total HTM
Allowance for credit losses on HTM debt securities at beginning of year	**$ 1**	**$ 113**	**$ 3**	**$ 3**	**$ 120**
Gross credit losses	—	—	—	—	—
Gross recoveries	—	—	—	—	—
Net credit losses (NCLs)	**$ —**	**$ —**	**$ —**	**$ —**	**$ —**
Replenishment of NCLs	**$ —**	**$ —**	**$ —**	**$ —**	**$ —**
Net reserve builds (releases)	**5**	**(21)**	**(1)**	**(4)**	**(21)**
Net specific reserve builds (releases)	—	—	—	—	—
Total provision for credit losses on HTM debt securities	**$ 5**	**$ (21)**	**$ (1)**	**$ (4)**	**$ (21)**
Other, net	**$ (1)**	**$ —**	**$ —**	**$ 1**	**$ —**
Allowance for credit losses on HTM debt securities at end of quarter	**$ 5**	**$ 92**	**$ 2**	**$ —**	**$ 99**

In millions of dollars	Three Months Ended June 30, 2022				
	Mortgage-backed	State and municipal	Foreign government	Asset-backed	Total HTM
Allowance for credit losses on HTM debt securities at beginning of quarter	$ 4	$ 79	$ 2	$ —	$ 85
Gross credit losses	—	—	—	—	—
Gross recoveries	—	—	—	—	—
Net credit losses (NCLs)	$ —	$ —	$ —	$ —	$ —
Replenishment of NCLs	$ —	$ —	$ —	$ —	$ —
Net reserve builds (releases)	(2)	14	1	7	20
Net specific reserve builds (releases)	—	—	—	—	—
Total provision for credit losses on HTM debt securities	$ (2)	$ 14	$ 1	$ 7	$ 20
Allowance for credit losses on HTM debt securities at end of quarter	$ 2	$ 93	$ 3	$ 7	$ 105

In millions of dollars	Six Months Ended June 30, 2022				
	Mortgage-backed	State and municipal	Foreign government	Asset-backed	Total HTM
Allowance for credit losses on HTM debt securities at beginning of year	$ 6	$ 75	$ 4	$ 2	$ 87
Gross credit losses	—	—	—	—	—
Gross recoveries	—	—	—	—	—
Net credit losses (NCLs)	$ —	$ —	$ —	$ —	$ —
Replenishment of NCLs	$ —	$ —	$ —	$ —	$ —
Net reserve builds	(4)	18	(1)	5	18
Net specific reserve builds (releases)	—	—	—	—	—
Total provision for credit losses on HTM debt securities	$ (4)	$ 18	$ (1)	$ 5	$ 18
Allowance for credit losses on HTM debt securities at end of quarter	$ 2	$ 93	$ 3	$ 7	$ 105

Allowance for Credit Losses on Other Assets

In millions of dollars	Three Months Ended June 30, 2023 Deposits with banks	Securities borrowed and purchased under agreements to resell	All other assets[1]	Total
Allowance for credit losses on other assets at beginning of quarter	**$ 135**	**$ 30**	**$ 363**	**$ 528**
Gross credit losses	—	—	**(24)**	**(24)**
Gross recoveries	—	—	**5**	**5**
Net credit losses (NCLs)	**$ —**	**$ —**	**$ (19)**	**$ (19)**
Replenishment of NCLs	**$ —**	**$ —**	**$ 19**	**$ 19**
Net reserve builds (releases)	**(114)**	—	**244**	**130**
Total provision for credit losses	**$ (114)**	**$ —**	**$ 263**	**$ 149**
Other, net	**$ —**	**$ (4)**	**$ 5**	**$ 1**
Allowance for credit losses on other assets at end of quarter	**$ 21**	**$ 26**	**$ 612**	**$ 659**

In millions of dollars	Six Months Ended June 30, 2023 Deposits with banks	Securities borrowed and purchased under agreements to resell	All other assets[1]	Total
Allowance for credit losses on other assets at beginning of year	**$ 51**	**$ 36**	**$ 36**	**$ 123**
Gross credit losses	—	—	**(35)**	**(35)**
Gross recoveries	—	—	**5**	**5**
Net credit losses (NCLs)	**$ —**	**$ —**	**$ (30)**	**$ (30)**
Replenishment of NCLs	**$ —**	**$ —**	**$ 30**	**$ 30**
Net reserve builds (releases)	**(29)**	**(3)**	**576**	**544**
Total provision for credit losses	**$ (29)**	**$ (3)**	**$ 606**	**$ 574**
Other, net	**$ (1)**	**$ (7)**	**$ —**	**$ (8)**
Allowance for credit losses on other assets at end of quarter	**$ 21**	**$ 26**	**$ 612**	**$ 659**

(1) Primarily an increase related to transfer risk associated with exposures outside of the U.S. driven by safety and soundness considerations under U.S. banking law.

In millions of dollars	Three Months Ended June 30, 2022				
	Deposits with banks	Securities borrowed and purchased under agreements to resell	Brokerage receivables	All other assets[1]	Total
Allowance for credit losses on other assets at beginning of quarter	$ 15	$ 4	$ —	$ 24	$ 43
Gross credit losses	—	—	—	(8)	(8)
Gross recoveries	—	—	—	2	2
Net credit losses (NCLs)	$ —	$ —	$ —	$ (6)	$ (6)
Replenishment of NCLs	$ —	$ —	$ —	$ 6	$ 6
Net reserve builds (releases)	2	(8)	—	7	1
Total provision for credit losses	$ 2	$ (8)	$ —	$ 13	$ 7
Other, net	$ —	$ 31	$ —	$ (1)	$ 30
Allowance for credit losses on other assets at end of quarter	$ 17	$ 27	$ —	$ 30	$ 74

In millions of dollars	Six Months Ended June 30, 2022				
	Deposits with banks	Securities borrowed and purchased under agreements to resell	Brokerage receivables	All other assets[1]	Total
Allowance for credit losses on other assets at beginning of year	$ 21	$ 6	$ —	$ 26	$ 53
Gross credit losses	—	—	—	(15)	(15)
Gross recoveries	—	—	—	2	2
Net credit losses (NCLs)	$ —	$ —	$ —	$ (13)	$ (13)
Replenishment of NCLs	$ —	$ —	$ —	$ 13	$ 13
Net reserve builds (releases)	(4)	(10)	—	4	(10)
Total provision for credit losses	$ (4)	$ (10)	$ —	$ 17	$ 3
Other, net	$ —	$ 31	$ —	$ —	$ 31
Allowance for credit losses on other assets at end of quarter	$ 17	$ 27	$ —	$ 30	$ 74

(1) Primarily accounts receivable.

For ACL on AFS debt securities, see Note 12.

15. GOODWILL AND INTANGIBLE ASSETS

Goodwill

The changes in *Goodwill* were as follows:

In millions of dollars	Institutional Clients Group	Personal Banking and Wealth Management	Legacy Franchises	Total
Balance at December 31, 2022	$ 8,986	$ 9,741	$ 964	$ 19,691
Foreign currency translation	42	69	80	191
Balance at March 31, 2023	$ 9,028	$ 9,810	$ 1,044	$ 19,882
Foreign currency translation	13	48	55	116
Balance at June 30, 2023	**$ 9,041**	**$ 9,858**	**$ 1,099**	**$ 19,998**

Citi tests goodwill impairment annually as of October 1 (the annual test) and conducts interim assessments between the annual test if an event occurs or circumstances change that would more-likely-than-not reduce the fair value of a reporting unit below its carrying amount. No such events or circumstances were identified as part of the qualitative assessment performed as of June 30, 2023. For additional information regarding Citi's goodwill impairment testing process, see Notes 1 and 16 to the Consolidated Financial Statements in Citi's 2022 Form 10-K.

While the inherent risk related to uncertainty is embedded in the key assumptions used in the valuations of the reporting units, the economic and business environments continue to evolve as Citi's management implements its strategic refresh. If management's future estimates of key economic and market assumptions were to differ from its current assumptions, Citi could potentially experience material goodwill impairment charges in the future.

Intangible Assets

The components of intangible assets were as follows:

	June 30, 2023			December 31, 2022		
In millions of dollars	Gross carrying amount	Accumulated amortization	Net carrying amount	Gross carrying amount	Accumulated amortization	Net carrying amount
Purchased credit card relationships[1]	**$ 5,302**	**$ 4,290**	**$ 1,012**	$ 5,513	$ 4,426	$ 1,087
Credit card contract-related intangibles[2]	**4,193**	**1,612**	**2,581**	3,903	1,518	2,385
Other customer relationships	**355**	**271**	**84**	373	283	90
Present value of future profits	**37**	**36**	**1**	32	31	1
Indefinite-lived intangible assets	**217**	**—**	**217**	192	—	192
Other	—	—	—	65	57	8
Intangible assets (excluding MSRs)	**$ 10,104**	**$ 6,209**	**$ 3,895**	$ 10,078	$ 6,315	$ 3,763
Mortgage servicing rights (MSRs)[3]	**681**	**—**	**681**	665	—	665
Total intangible assets	**$ 10,785**	**$ 6,209**	**$ 4,576**	$ 10,743	$ 6,315	$ 4,428

The changes in intangible assets were as follows:

In millions of dollars	Net carrying amount at December 31, 2022	Acquisitions/ renewals/ divestitures	Amortization	Impairments	FX translation and other	Net carrying amount at June 30, 2023
Purchased credit card relationships[1]	$ 1,087	**$ —**	**$ (75)**	**$ —**	**$ —**	**$ 1,012**
Credit card contract-related intangibles[2]	2,385	**290**	**(94)**	**—**	**—**	**2,581**
Other customer relationships	90	**11**	**(12)**	**—**	**(5)**	**84**
Present value of future profits	1	**—**	**—**	**—**	**—**	**1**
Indefinite-lived intangible assets	192	**—**	**—**	**—**	**25**	**217**
Other	8	**—**	**(8)**	**—**	**—**	**—**
Intangible assets (excluding MSRs)	$ 3,763	**$ 301**	**$ (189)**	**$ —**	**$ 20**	**$ 3,895**
Mortgage servicing rights (MSRs)[3]	665					**681**
Total intangible assets	$ 4,428					**$ 4,576**

(1) Reflects intangibles for the value of purchased cardholder relationships, which are discrete from contract-related intangibles.

(2) Reflects contract-related intangibles associated with the extension or renewal of existing credit card program agreements with card partners. For the credit card program agreement extended during 2023, the remaining term is over 10 years.
(3) See Note 20 for additional information on Citi's MSRs, including the rollforward for the three months ended June 30, 2023.

16. DEPOSITS

Deposits consisted of the following:

In millions of dollars		**June 30, 2023[1]**		December 31, 2022
Non-interest-bearing deposits in U.S. offices	**$**	**109,844**	$	122,655
Interest-bearing deposits in U.S. offices (including $998 and $903 as of June 30, 2023 and December 31, 2022, respectively, at fair value)		**590,700**		607,470
Non-interest-bearing deposits in offices outside the U.S.		**91,899**		95,182
Interest-bearing deposits in offices outside the U.S. (including $1,600 and $972 as of June 30, 2023 and December 31, 2022, respectively, at fair value)		**527,424**		540,647
Total deposits	**$**	**1,319,867**	$	1,365,954

(1) For information on time deposits that met or exceeded the insured limit at December 31, 2022, see Note 17 to the Consolidated Financial Statements in Citi's 2022 Form 10-K.

For additional information on Citi's deposits, see Citi's 2022 Form 10-K.

17. DEBT

For additional information regarding Citi's short-term borrowings and long-term debt, see Note 18 to the Consolidated Financial Statements in Citi's 2022 Form 10-K.

Short-Term Borrowings

In millions of dollars		**June 30, 2023**		December 31, 2022
Commercial paper				
Bank[1]	**$**	**11,108**	$	11,185
Broker-dealer and other[2]		**9,814**		14,345
Total commercial paper	**$**	**20,922**	$	25,530
Other borrowings[3]		**19,508**		21,566
Total	**$**	**40,430**	$	47,096

(1) Represents Citibank entities as well as other bank entities.
(2) Represents broker-dealer and other non-bank subsidiaries that are consolidated into Citigroup Inc., the parent holding company.
(3) Includes borrowings from Federal Home Loan Banks and other market participants. At June 30, 2023 and December 31, 2022, collateralized short-term advances from Federal Home Loan Banks were $10.0 billion and $12.0 billion, respectively.

Long-Term Debt

In millions of dollars		**June 30, 2023**		December 31, 2022
Citigroup Inc.[1]	**$**	**163,043**	$	166,257
Bank[2]		**19,101**		21,113
Broker-dealer and other[3]		**92,366**		84,236
Total	**$**	**274,510**	$	271,606

(1) Represents the parent holding company.
(2) Represents Citibank entities as well as other bank entities. At June 30, 2023 and December 31, 2022, collateralized long-term advances from the Federal Home Loan Banks were $7.5 billion and $7.3 billion, respectively.
(3) Represents broker-dealer and other non-bank subsidiaries that are consolidated into Citigroup Inc., the parent holding company. Certain Citigroup consolidated hedging activities are also included in this line.

Long-term debt outstanding includes trust preferred securities with a balance sheet carrying value of $1.6 billion at June 30, 2023 and December 31, 2022.

The following table summarizes Citi's outstanding trust preferred securities at June 30, 2023:

						Junior subordinated debentures owned by trust		
Trust	**Issuance date**	**Securities issued**	**Liquidation value[1]**	**Coupon rate[2]**	**Common shares issued to parent**	**Notional amount**	**Maturity**	**Redeemable by issuer beginning**
In millions of dollars, except securities and share amounts								
Citigroup Capital III	Dec. 1996	194,053	$ 194	7.625 %	6,003	$ 200	Dec. 1, 2036	Not redeemable
Citigroup Capital XIII	Oct. 2010	89,840,000	2,246	3 mo. LIBOR[3] + 637 bps	1,000	2,246	Oct. 30, 2040	Oct. 30, 2015
Total obligated			**$ 2,440**			**$ 2,446**		

Note: Distributions on the trust preferred securities and interest on the subordinated debentures are payable semiannually for Citigroup Capital III and quarterly for Citigroup Capital XIII.
(1) Represents the notional value received by outside investors from the trusts at the time of issuance. This differs from Citi's balance sheet carrying value due primarily to unamortized discount and issuance costs.
(2) In each case, the coupon rate on the subordinated debentures is the same as that on the trust preferred securities.
(3) The coupon rate will transition to 3-month term SOFR +26.161 bps +637 bps at the start of the next distribution period.

18. CHANGES IN ACCUMULATED OTHER COMPREHENSIVE INCOME (LOSS) (AOCI)

Changes in each component of Citigroup's *Accumulated other comprehensive income (loss)* were as follows:

In millions of dollars	Net unrealized gains (losses) on debt securities	Debt valuation adjustment (DVA)[1]	Cash flow hedges[2]	Benefit plans[3]	CTA, net of hedges[4]	Excluded component of fair value hedges	Long-duration insurance contracts[5]	Accumulated other comprehensive income (loss)
Three Months Ended June 30, 2023								
Balance, March 31, 2023	$ (5,162)	$ 517	$ (2,161)	$ (5,859)	$ (32,796)	$ (12)	$ 32	$ (45,441)
Other comprehensive income before reclassifications	**133**	**(613)**	**(206)**	**(170)**	**23**	**27**	**(6)**	**(812)**
Increase (decrease) due to amounts reclassified from *AOCI*	**(7)**	**(6)**	**377**	**34**	**—**	**(10)**	**—**	**388**
Change, net of taxes	**$ 126**	**$ (619)**	**$ 171**	**$ (136)**	**$ 23**	**$ 17**	**$ (6)**	**$ (424)**
Balance at June 30, 2023	**$ (5,036)**	**$ (102)**	**$ (1,990)**	**$ (5,995)**	**$ (32,773)**	**$ 5**	**$ 26**	**$ (45,865)**
Six Months Ended June 30, 2023								
Balance, December 31, 2022	$ (5,998)	$ 842	$ (2,522)	$ (5,755)	$ (33,637)	$ 8	$ —	$ (47,062)
Adjustment to opening balance, net of taxes[6]	—	—	—	—	—	—	27	27
Adjusted balance, beginning of period	**$ (5,998)**	**$ 842**	**$ (2,522)**	**$ (5,755)**	**$ (33,637)**	**$ 8**	**$ 27**	**$ (47,035)**
Other comprehensive income before reclassifications	**988**	**(940)**	**(200)**	**(302)**	**864**	**11**	**(1)**	**420**
Increase (decrease) due to amounts reclassified from *AOCI*	**(26)**	**(4)**	**732**	**62**	**—**	**(14)**	**—**	**750**
Change, net of taxes	**$ 962**	**$ (944)**	**$ 532**	**$ (240)**	**$ 864**	**$ (3)**	**$ (1)**	**$ 1,170**
Balance at June 30, 2023	**$ (5,036)**	**$ (102)**	**$ (1,990)**	**$ (5,995)**	**$ (32,773)**	**$ 5**	**$ 26**	**$ (45,865)**

In millions of dollars	Net unrealized gains (losses) on debt securities	Debt valuation adjustment (DVA)[1]	Cash flow hedges[2]	Benefit plans[3]	CTA, net of hedges[4]	Excluded component of fair value hedges	Long-duration insurance contracts	Accumulated other comprehensive income (loss)
Three Months Ended June 30, 2022								
Balance, March 31, 2022	$ (4,891)	$ (394)	$ (1,440)	$ (5,681)	$ (31,180)	$ 1	$ —	$ (43,585)
Other comprehensive income before reclassifications	(1,612)	1,968	(515)	(271)	(1,975)	4	—	(2,401)
Increase (decrease) due to amounts reclassified from *AOCI*	111	(1)	(151)	182	345	5	—	491
Change, net of taxes	$ (1,501)	$ 1,967	$ (666)	$ (89)	$ (1,630)	$ 9	$ —	$ (1,910)
Balance at June 30, 2022	$ (6,392)	$ 1,573	$ (2,106)	$ (5,770)	$ (32,810)	$ 10	$ —	$ (45,495)
Six Months Ended June 30, 2022								
Balance, December 31, 2021	$ (614)	$ (1,187)	$ 101	$ (5,852)	$ (31,166)	$ (47)	$ —	$ (38,765)
Other comprehensive income before reclassifications	(5,895)	2,761	(1,839)	21	(1,989)	50	—	(6,891)
Increase (decrease) due to amounts reclassified from *AOCI*	117	(1)	(368)	61	345	7	—	161
Change, net of taxes	$ (5,778)	$ 2,760	$ (2,207)	$ 82	$ (1,644)	$ 57	$ —	$ (6,730)
Balance at June 30, 2022	$ (6,392)	$ 1,573	$ (2,106)	$ (5,770)	$ (32,810)	$ 10	$ —	$ (45,495)

(1) Reflects the after-tax valuation of Citi's fair value option liabilities. See "Market Valuation Adjustments" in Note 22.

(2) Primarily driven by Citi's pay floating/receive fixed interest rate swap programs that hedge certain floating rates on assets.

(3) Primarily reflects adjustments based on the quarterly actuarial valuations of the Company's significant pension and postretirement plans, annual actuarial valuations of all other plans and amortization of amounts previously recognized in other comprehensive income.

(4) Primarily reflects the movements in (by order of impact) the Mexican peso, Brazilian real, Russian ruble and Japanese yen against the U.S. dollar and changes in related tax effects and hedges for the three months ended June 30, 2023. Primarily reflects the movements in (by order of impact) the Mexican peso, Brazilian real, Polish zloty, Chilean peso, Euro, Russian ruble, Japanese yen and South Korean won against the U.S. dollar and changes in related tax effects and hedges for the six months ended June 30, 2023. Primarily reflects the movements in (by order of impact) the South Korean won, Euro, Chilean peso, Mexican peso, Japanese yen and Brazilian real against the U.S. dollar and changes in related tax effects and hedges for the three months ended June 30, 2022. Primarily reflects the movements in (by order of impact) the South Korean won, Euro, Japanese yen, Indian rupee, British pound sterling and Chilean peso against the U.S. dollar and changes in related tax effects and hedges for the six months ended June 30, 2022. Amounts recorded in the CTA component of *AOCI* remain in *AOCI* until the sale or substantial liquidation of the foreign entity, at which point such amounts related to the foreign entity are reclassified into earnings.

(5) Reflects the change in the liability for future policyholder benefits for certain long-duration life-contingent annuity contracts that are issued by a regulated Citi insurance subsidiary in Mexico and reported within *Legacy Franchises*. The amount reflects the change in the liability after discounting using an upper-medium grade fixed income instrument yield that reflects the duration characteristics of the liability. As of June 30, 2023, the balance of the liability for future policyholder benefits, which is recorded within *Other Liabilities*, for this insurance subsidiary was approximately $560 million.

(6) See Note 1.

The pretax and after-tax changes in each component of *Accumulated other comprehensive income (loss)* were as follows:

In millions of dollars	Pretax	Tax effect[1]	After-tax
Three Months Ended June 30, 2023			
Balance, March 31, 2023	$ (53,443)	$ 8,002	$ (45,441)
Change in net unrealized gains (losses) on debt securities	**210**	**(84)**	**126**
Debt valuation adjustment (DVA)	**(837)**	**218**	**(619)**
Cash flow hedges	**233**	**(62)**	**171**
Benefit plans	**(156)**	**20**	**(136)**
Foreign currency translation adjustment (CTA)	**15**	**8**	**23**
Excluded component of fair value hedges	**22**	**(5)**	**17**
Long-duration insurance contracts	**(8)**	**2**	**(6)**
Change	**$ (521)**	**$ 97**	**$ (424)**
Balance at June 30, 2023	**$ (53,964)**	**$ 8,099**	**$ (45,865)**
Six Months Ended June 30, 2023			
Balance, December 31, 2022	$ (55,253)	$ 8,191	$ (47,062)
Adjustment to opening balance[2]	39	(12)	27
Adjusted balance, beginning of period	**$ (55,214)**	**$ 8,179**	**$ (47,035)**
Change in net unrealized gains (losses) on debt securities	**1,323**	**(361)**	**962**
DVA	**(1,270)**	**326**	**(944)**
Cash flow hedges	**712**	**(180)**	**532**
Benefit plans	**(312)**	**72**	**(240)**
CTA	**803**	**61**	**864**
Excluded component of fair value hedges	**(4)**	**1**	**(3)**
Long-duration insurance contracts	**(2)**	**1**	**(1)**
Change	**$ 1,250**	**$ (80)**	**$ 1,170**
Balance at June 30, 2023	**$ (53,964)**	**$ 8,099**	**$ (45,865)**

In millions of dollars	Pretax	Tax effect[1]	After-tax
Three Months Ended June 30, 2022			
Balance, March 31, 2022	$ (51,807)	$ 8,222	$ (43,585)
Change in net unrealized gains (losses) on debt securities	(1,990)	489	(1,501)
DVA	2,592	(625)	1,967
Cash flow hedges	(886)	220	(666)
Benefit plans	(73)	(16)	(89)
CTA	(1,414)	(216)	(1,630)
Excluded component of fair value hedges	12	(3)	9
Long-duration insurance contracts	—	—	—
Change	$ (1,759)	$ (151)	$ (1,910)
Balance, June 30, 2022	$ (53,566)	$ 8,071	$ (45,495)
Six Months Ended June 30, 2022			
Balance, December 31, 2021	$ (45,383)	$ 6,618	$ (38,765)
Change in net unrealized gains (losses) on debt securities	(7,614)	1,836	(5,778)
DVA	3,642	(882)	2,760
Cash flow hedges	(2,908)	701	(2,207)
Benefit plans	104	(22)	82
CTA	(1,483)	(161)	(1,644)
Excluded component of fair value hedges	76	(19)	57
Long-duration insurance contracts	—	—	—
Change	$ (8,183)	$ 1,453	$ (6,730)
Balance, June 30, 2022	$ (53,566)	$ 8,071	$ (45,495)

(1) Income tax effects of these items are released from *AOCI* contemporaneously with the related gross pretax amount.
(2) See Note 1.

The Company recognized pretax (gains) losses related to amounts in *AOCI* reclassified to the Consolidated Statement of Income as follows:

	Increase (decrease) in AOCI due to amounts reclassified to Consolidated Statement of Income			
	Three Months Ended June 30,		Six Months Ended June 30,	
In millions of dollars	**2023**	2022	**2023**	2022
Realized (gains) losses on sales of investments	**$ (49)**	$ 58	**$ (121)**	$ (22)
Gross impairment losses	**43**	90	**94**	180
Subtotal, pretax	**$ (6)**	$ 148	**$ (27)**	$ 158
Tax effect	**(1)**	(37)	**1**	(41)
Net realized (gains) losses on investments, after-tax[1]	**$ (7)**	$ 111	**$ (26)**	$ 117
Realized DVA (gains) losses on fair value option liabilities, pretax	**$ (7)**	$ (1)	**$ (4)**	$ (1)
Tax effect	**1**	—	**—**	—
Net realized DVA, after-tax	**$ (6)**	$ (1)	**$ (4)**	$ (1)
Interest rate contracts	**$ 495**	$ (199)	**$ 964**	$ (485)
Foreign exchange contracts	**1**	1	**2**	2
Subtotal, pretax	**$ 496**	$ (198)	**$ 966**	$ (483)
Tax effect	**(119)**	47	**(234)**	115
Amortization of cash flow hedges, after-tax[2]	**$ 377**	$ (151)	**$ 732**	$ (368)
Amortization of unrecognized:				
Prior service cost (benefit)	**$ (5)**	$ (5)	**$ (11)**	$ (11)
Net actuarial loss	**51**	58	**100**	128
Curtailment/settlement impact[3]	**1**	183	**(4)**	(33)
Subtotal, pretax	**$ 47**	$ 236	**$ 85**	$ 84
Tax effect	**(13)**	(54)	**(23)**	(23)
Amortization of benefit plans, after-tax[3]	**$ 34**	$ 182	**$ 62**	$ 61
Excluded component of fair value hedges, pretax	**$ (13)**	$ 7	**$ (19)**	$ 10
Tax effect	**3**	(2)	**5**	(3)
Excluded component of fair value hedges, after-tax	**$ (10)**	$ 5	**$ (14)**	$ 7
Long-duration insurance contracts, pretax	**$ —**	$ —	**$ —**	$ —
Tax effect	**—**	—	**—**	—
Long-duration insurance contracts, after-tax	**$ —**	$ —	**$ —**	$ —
CTA, pretax	**$ —**	$ 397	**$ —**	$ 397
Tax effect	**—**	(52)	**—**	(52)
CTA, after-tax[4]	**$ —**	$ 345	**$ —**	$ 345
Total amounts reclassified out of *AOCI*, pretax	**$ 517**	$ 589	**$ 1,001**	$ 165
Total tax effect	**(129)**	(98)	**(251)**	(4)
Total amounts reclassified out of *AOCI*, after-tax	**$ 388**	$ 491	**$ 750**	$ 161

(1) The pretax amount is reclassified to *Realized gains (losses) on sales of investments, net* and *Gross impairment losses* in the Consolidated Statement of Income. See Note 12 for additional details.
(2) See Note 21 for additional details.
(3) See Note 8 for additional details.
(4) The pretax amount is reclassified to *Discontinued operations* and *Other revenue* in the Consolidated Statement of Income, and results from the substantial liquidation of a legacy U.K. consumer operation. See Note 2 for additional details.

19. PREFERRED STOCK

The following table summarizes the Company's preferred stock outstanding:

	Issuance date	Redeemable by issuer beginning	Dividend rate	Redemption price per depositary share/preference share	Number of depositary shares	Carrying value (in millions of dollars) June 30, 2023	Carrying value (in millions of dollars) December 31, 2022
Series A[(1)]	October 29, 2012	January 30, 2023	3-month LIBOR+ 4.068%	$ 1,000	1,500,000	**$ 1,500**	$ 1,500
Series B[(2)]	December 13, 2012	February 15, 2023	3-month LIBOR+ 4.230%	1,000	750,000	**750**	750
Series D[(3)]	April 30, 2013	May 15, 2023	3-month LIBOR+ 3.466%	1,000	1,250,000	**1,250**	1,250
Series J[(4)]	September 19, 2013	September 30, 2023	7.125	25	38,000,000	**950**	950
Series K[(5)]	October 31, 2013	November 15, 2023	6.875	25	59,800,000	**1,495**	1,495
Series M[(6)]	April 30, 2014	May 15, 2024	6.300	1,000	1,750,000	**1,750**	1,750
Series P[(7)]	April 24, 2015	May 15, 2025	5.950	1,000	2,000,000	**2,000**	2,000
Series T[(8)]	April 25, 2016	August 15, 2026	6.250	1,000	1,500,000	**1,500**	1,500
Series U[(9)]	September 12, 2019	September 12, 2024	5.000	1,000	1,500,000	**1,500**	1,500
Series V[(10)]	January 23, 2020	January 30, 2025	4.700	1,000	1,500,000	**1,500**	1,500
Series W[(11)]	December 10, 2020	December 10, 2025	4.000	1,000	1,500,000	**1,500**	1,500
Series X[(12)]	February 18, 2021	February 18, 2026	3.875	1,000	2,300,000	**2,300**	2,300
Series Y[(13)]	October 27, 2021	November 15, 2026	4.150	1,000	1,000,000	**1,000**	1,000
Series Z[(14)]	March 7, 2023	May 15, 2028	7.375	1,000	1,250,000	**1,250**	—
						$ 20,245	$ 18,995

(1) Issued as depositary shares, each representing a 1/25th interest in a share of the corresponding series of non-cumulative perpetual preferred stock. Beginning in the second quarter of 2023, dividends are payable quarterly on January 30, April 30, July 30 and October 30 at a floating rate, in each case when, as and if declared by the Citi Board of Directors. The dividend rate will transition to 3-month term SOFR plus 0.26161% + 4.068% at the start of the next dividend period.

(2) Issued as depositary shares, each representing a 1/25th interest in a share of the corresponding series of non-cumulative perpetual preferred stock. Beginning in the second quarter of 2023, dividends are payable quarterly on February 15, May 15, August 15 and November 15 at a floating rate, in each case when, as and if declared by the Citi Board of Directors. As previously announced, Citi will be redeeming Series B in its entirety on August 15, 2023.

(3) Issued as depositary shares, each representing a 1/25th interest in a share of the corresponding series of non-cumulative perpetual preferred stock. Dividends are payable semiannually on May 15 and November 15 at a fixed rate until, but excluding, May 15, 2023, thereafter payable quarterly on February 15, May 15, August 15 and November 15 at a floating rate, in each case when, as and if declared by the Citi Board of Directors. Beginning in the third quarter of 2023, dividends are payable quarterly on February 15, May 15, August 15 and November 15 at a floating rate, in each case when, as and if declared by the Citi Board of Directors. The dividend rate will transition to 3-month term SOFR plus 0.26161% + 3.466% at the start of the next dividend period.

(4) Issued as depositary shares, each representing a 1/1,000th interest in a share of the corresponding series of non-cumulative perpetual preferred stock. Dividends are payable quarterly on March 30, June 30, September 30 and December 30 at a fixed rate until, but excluding, September 30, 2023, thereafter payable quarterly on the same dates at a floating rate, in each case when, as and if declared by the Citi Board of Directors. Beginning in the fourth quarter of 2023, dividends are payable quarterly on March 30, June 30, September 30 and December 30 at a floating rate, in each case when, as and if declared by the Citi Board of Directors. The dividend rate will transition to 3-month term SOFR plus 0.26161% + 4.040% at the start of the next dividend period.

(5) Issued as depositary shares, each representing a 1/1,000th interest in a share of the corresponding series of non-cumulative perpetual preferred stock. Dividends are payable quarterly on February 15, May 15, August 15 and November 15 at a fixed rate until, but excluding, November 15, 2023, thereafter payable quarterly on the same dates at a floating rate, in each case when, as and if declared by the Citi Board of Directors.

(6) Issued as depositary shares, each representing a 1/25th interest in a share of the corresponding series of non-cumulative perpetual preferred stock. Dividends are payable semiannually on May 15 and November 15 at a fixed rate until, but excluding, May 15, 2024, thereafter payable quarterly on February 15, May 15, August 15 and November 15 at a floating rate, in each case when, as and if declared by the Citi Board of Directors.

(7) Issued as depositary shares, each representing a 1/25th interest in a share of the corresponding series of non-cumulative perpetual preferred stock. Dividends are payable semiannually on May 15 and November 15 at a fixed rate until, but excluding, May 15, 2025, and thereafter payable quarterly on February 15, May 15, August 15 and November 15 at a floating rate, in each case when, as and if declared by the Citi Board of Directors.

(8) Issued as depositary shares, each representing a 1/25th interest in a share of the corresponding series of non-cumulative perpetual preferred stock. Dividends are payable semiannually on February 15 and August 15 at a fixed rate until, but excluding, August 15, 2026, thereafter payable quarterly on February 15, May 15, August 15 and November 15 at a floating rate, in each case when, as and if declared by the Citi Board of Directors.

(9) Issued as depositary shares, each representing a 1/25th interest in a share of the corresponding series of non-cumulative perpetual preferred stock. Dividends are payable semiannually on March 12 and September 12 at a fixed rate until, but excluding, September 12, 2024, thereafter payable quarterly on March 12, June 12, September 12 and December 12 at a floating rate, in each case when, as and if declared by the Citi Board of Directors.

(10) Issued as depositary shares, each representing a 1/25th interest in a share of the corresponding series of non-cumulative perpetual preferred stock. Dividends are payable semiannually on January 30 and July 30 at a fixed rate until, but excluding, January 30, 2025, thereafter payable quarterly on January 30, April 30, July 30 and October 30 at a floating rate, in each case when, as and if declared by the Citi Board of Directors.

(11) Issued as depositary shares, each representing a 1/25th interest in a share of the corresponding series of non-cumulative perpetual preferred stock. Dividends are payable quarterly on March 10, June 10, September 10 and December 10 at a fixed rate until, but excluding, December 10, 2025, thereafter payable quarterly on the same dates at a floating rate, in each case when, as and if declared by the Citi Board of Directors.

(12) Issued as depositary shares, each representing a 1/25th interest in a share of the corresponding series of non-cumulative perpetual preferred stock. Dividends are payable quarterly on February 18, May 18, August 18 and November 18 at a fixed rate until, but excluding, February 18, 2026, thereafter payable quarterly on the same dates at a floating rate, in each case when, as and if declared by the Citi Board of Directors.

(13) Issued as depositary shares, each representing a 1/25th interest in a share of the corresponding series of non-cumulative perpetual preferred stock. Dividends are payable quarterly on February 15, May 15, August 15 and November 15 at a fixed rate until, but excluding, November 15, 2026, thereafter payable quarterly on the same dates at a floating rate, in each case when, as and if declared by the Citi Board of Directors.

(14) Issued as depositary shares, each representing a 1/25th interest in a share of the corresponding series of non-cumulative perpetual preferred stock. Dividends are payable quarterly on February 15, May 15, August 15 and November 15 at a fixed rate until, but excluding, May 15, 2028, thereafter payable quarterly on the same dates at a floating rate, in each case when, as and if declared by the Citi Board of Directors.

20. SECURITIZATIONS AND VARIABLE INTEREST ENTITIES

For additional information regarding Citi's use of special purpose entities (SPEs) and variable interest entities (VIEs), see Note 23 to the Consolidated Financial Statements in Citi's 2022 Form 10-K.

Citigroup's involvement with consolidated and unconsolidated VIEs with which the Company holds significant variable interests or has continuing involvement through servicing a majority of the assets in a VIE is presented below:

	As of June 30, 2023							
				Maximum exposure to loss in significant unconsolidated VIEs[1]				
				Funded exposures[2]		Unfunded exposures		
In millions of dollars	**Total involvement with SPE assets**	**Consolidated VIE/SPE assets**	**Significant unconsolidated VIE assets[3]**	**Debt investments**	**Equity investments**	**Funding commitments**	**Guarantees and derivatives**	**Total**
Credit card securitizations	**$ 31,666**	**$ 31,666**	**$ —**	**$ —**	**$ —**	**$ —**	**$ —**	**$ —**
Mortgage securitizations[4]								
U.S. agency-sponsored	**125,515**	**—**	**125,515**	**2,093**	**—**	**—**	**138**	**2,231**
Non-agency-sponsored	**66,721**	**—**	**66,721**	**3,191**	**—**	**—**	**—**	**3,191**
Citi-administered asset-backed commercial paper conduits	**18,600**	**18,600**	**—**	**—**	**—**	**—**	**—**	**—**
Collateralized loan obligations (CLOs)	**5,916**	**—**	**5,916**	**2,525**	**—**	**—**	**—**	**2,525**
Asset-based financing[5]	**180,279**	**10,931**	**169,348**	**39,875**	**955**	**11,636**	**—**	**52,466**
Municipal securities tender option bond trusts (TOBs)	**1,527**	**596**	**931**	**16**	**—**	**681**	**—**	**697**
Municipal investments	**21,653**	**3**	**21,650**	**2,463**	**3,031**	**2,941**	**—**	**8,435**
Client intermediation	**487**	**97**	**390**	**75**	**—**	**—**	**—**	**75**
Investment funds	**490**	**103**	**387**	**4**	**7**	**78**	**1**	**90**
Total	**$ 452,854**	**$ 61,996**	**$ 390,858**	**$ 50,242**	**$ 3,993**	**$ 15,336**	**$ 139**	**$ 69,710**

	As of December 31, 2022							
				Maximum exposure to loss in significant unconsolidated VIEs[1]				
				Funded exposures[2]		Unfunded exposures		
In millions of dollars	Total involvement with SPE assets	Consolidated VIE/SPE assets	Significant unconsolidated VIE assets[3]	Debt investments	Equity investments	Funding commitments	Guarantees and derivatives	Total
Credit card securitizations	$ 32,021	$ 32,021	$ —	$ —	$ —	$ —	$ —	$ —
Mortgage securitizations[4]								
U.S. agency-sponsored	117,358	—	117,358	2,052	—	—	48	2,100
Non-agency-sponsored	67,704	—	67,704	3,294	—	—	—	3,294
Citi-administered asset-backed commercial paper conduits	19,621	19,621	—	—	—	—	—	—
Collateralized loan obligations (CLOs)	7,600	—	7,600	2,601	—	—	—	2,601
Asset-based financing[5]	242,348	9,672	232,676	40,121	1,022	10,726	—	51,869
Municipal securities tender option bond trusts (TOBs)	2,155	672	1,483	2	—	1,108	—	1,110
Municipal investments	22,167	3	22,164	2,731	3,143	3,420	—	9,294
Client intermediation	482	121	361	58	—	—	13	71
Investment funds	534	91	443	2	5	68	—	75
Other	—	—	—	—	—	—	—	—
Total	$ 511,990	$ 62,201	$ 449,789	$ 50,861	$ 4,170	$ 15,322	$ 61	$ 70,414

(1) The definition of maximum exposure to loss is included in the text that follows this table.
(2) Included on Citigroup's June 30, 2023 and December 31, 2022 Consolidated Balance Sheet.
(3) A significant unconsolidated VIE is an entity in which the Company has any variable interest or continuing involvement considered to be significant, regardless of the likelihood of loss.
(4) Citigroup mortgage securitizations also include agency and non-agency (private label) re-securitization activities. These SPEs are not consolidated.
(5) Included within this line are loans to third-party-sponsored private equity funds, which represent $11 billion and $69 billion in unconsolidated VIE assets and $534 million and $498 million in maximum exposure to loss as of June 30, 2023 and December 31, 2022, respectively.

The previous tables do not include:

- certain investment funds for which the Company provides investment management services and personal estate trusts for which the Company provides administrative, trustee and/or investment management services;
- certain third-party-sponsored private equity funds to which the Company provides secured credit facilities. The Company has no decision-making power and does not consolidate these funds, some of which may meet the definition of a VIE. The Company's maximum exposure to loss is generally limited to a loan or lending-related commitment. As of June 30, 2023 and December 31, 2022, the Company's maximum exposure to loss related to these transactions was $16.8 billion and $33.6 billion, respectively (for more information on these positions, see Note 13 and Note 27 to the Consolidated Financial Statements in Citi's 2022 Form 10-K);
- certain VIEs structured by third parties in which the Company holds securities in inventory, as these investments are made on arm's-length terms;
- certain positions in mortgage- and asset-backed securities held by the Company, which are classified as *Trading account assets* or *Investments*, in which the Company has no other involvement with the related securitization entity deemed to be significant (see Notes 12 and 21 for more information on these positions);
- certain representations and warranties exposures in Citigroup residential mortgage securitizations, in which the original mortgage loan balances are no longer outstanding; and
- VIEs such as preferred securities trusts used in connection with the Company's funding activities. The Company does not have a variable interest in these trusts.

The asset balances for consolidated VIEs represent the carrying amounts of the assets consolidated by the Company. The carrying amount may represent the amortized cost or the current fair value of the assets depending on the classification of the asset (e.g., loan or security) and the associated accounting model ascribed to that classification.

The asset balances for unconsolidated VIEs in which the Company has significant involvement represent the most current information available to the Company. In most cases, the asset balances represent an amortized cost basis without regard to impairments, unless fair value information is readily available to the Company.

The maximum funded exposure represents the balance sheet carrying amount of the Company's investment in the VIE. It reflects the initial amount of cash invested in the VIE, adjusted for any accrued interest and cash principal payments received. The carrying amount may also be adjusted for increases or declines in fair value or any impairment in value recognized in earnings. The maximum exposure of unfunded positions represents the remaining undrawn committed amount, including liquidity and credit facilities provided by the Company or the notional amount of a derivative instrument considered to be a variable interest. In certain transactions, the Company has entered into derivative instruments or other arrangements that are not considered variable interests in the VIE (e.g., interest rate swaps, cross-currency swaps or where the Company is the purchaser of credit protection under a credit default swap or total return swap where the Company pays the total return on certain assets to the SPE). Receivables under such arrangements are not included in the maximum exposure amounts.

The following tables present certain assets and liabilities of consolidated variable interest entities (VIEs), which are included on Citi's Consolidated Balance Sheet. The assets in the table below include those assets that can only be used to settle obligations of consolidated VIEs and are in excess of those obligations. In addition, the assets in the table below include third-party assets of consolidated VIEs only and exclude intercompany balances that eliminate in consolidation. The liabilities in the table below include third-party liabilities of consolidated VIEs only and exclude intercompany balances that eliminate in consolidation. The liabilities also exclude amounts where creditors or beneficial interest holders have recourse to the general credit of Citigroup.

In millions of dollars		**June 30, 2023 (Unaudited)**		December 31, 2022
Assets of consolidated VIEs to be used to settle obligations of consolidated VIEs				
Cash and due from banks	**$**	**69**	$	61
Trading account assets		**10,417**		9,153
Investments		**496**		594
Loans, net of unearned income				
Consumer		**34,786**		35,026
Corporate		**18,731**		19,782
Loans, net of unearned income	**$**	**53,517**	$	54,808
Allowance for credit losses on loans (ACLL)		**(2,623)**		(2,520)
Total loans, net	**$**	**50,894**	$	52,288
Other assets		**120**		105
Total assets of consolidated VIEs to be used to settle obligations of consolidated VIEs	**$**	**61,996**	$	62,201

In millions of dollars		**June 30, 2023 (Unaudited)**		December 31, 2022
Liabilities of consolidated VIEs for which creditors or beneficial interest holders do not have recourse to the general credit of Citigroup				
Short-term borrowings	**$**	**9,652**	$	9,807
Long-term debt		**7,930**		10,324
Other liabilities		**853**		622
Total liabilities of consolidated VIEs for which creditors or beneficial interest holders do not have recourse to the general credit of Citigroup	**$**	**18,435**	$	20,753

Funding Commitments for Significant Unconsolidated VIEs—Liquidity Facilities and Loan Commitments

The following table presents the notional amount of liquidity facilities and loan commitments that are classified as funding commitments in the VIE tables above:

	June 30, 2023		December 31, 2022	
In millions of dollars	**Liquidity facilities**	**Loan/equity commitments**	Liquidity facilities	Loan/equity commitments
Non-agency-sponsored mortgage securitizations	**$ —**	**$ —**	$ —	$ —
Asset-based financing	**—**	**11,636**	—	10,726
Municipal securities tender option bond trusts (TOBs)	**681**	**—**	1,108	—
Municipal investments	**—**	**2,941**	—	3,420
Investment funds	**—**	**78**	—	68
Other	**—**	**—**	—	—
Total funding commitments	**$ 681**	**$ 14,655**	$ 1,108	$ 14,214

Significant Interests in Unconsolidated VIEs—Balance Sheet Classification

The following table presents the carrying amounts and classification of significant variable interests in unconsolidated VIEs:

In billions of dollars	**June 30, 2023**	December 31, 2022
Cash	**$ —**	$ —
Trading account assets	**1.6**	1.6
Investments	**8.5**	8.6
Total loans, net of allowance	**43.5**	44.2
Other	**0.6**	0.6
Total assets	**$ 54.2**	$ 55.0

Credit Card Securitizations

The Company's primary credit card securitization activity is through two trusts—Citibank Credit Card Master Trust and Citibank Omni Trust. These trusts are consolidated entities given Citi's continuing involvement. For additional information, see Note 22 to the Consolidated Financial Statements in Citi's 2022 Form 10-K. There were no material cash flows arising from either proceeds from new securitizations or paydowns of maturing notes during the six months ended June 30, 2023 and 2022.

Mortgage Securitizations

The following tables summarize selected cash flow information and retained interests related to Citigroup mortgage securitizations:

	Three Months Ended June 30,			
	2023		2022	
In billions of dollars	**U.S. agency-sponsored mortgages**	**Non-agency-sponsored mortgages**	U.S. agency-sponsored mortgages	Non-agency-sponsored mortgages
Principal securitized	**$ 1.6**	**$ 1.0**	$ 1.9	$ 8.6
Proceeds from new securitizations	**1.6**	**0.9**	1.8	8.4
Contractual servicing fees received	**—**	**—**	—	—
Cash flows received on retained interests and other net cash flows	**—**	**0.1**	—	—
Purchases of previously transferred financial assets	**—**	**—**	—	—

	Six Months Ended June 30,			
	2023		2022	
In billions of dollars	**U.S. agency-sponsored mortgages**	**Non-agency-sponsored mortgages**	U.S. agency-sponsored mortgages	Non-agency-sponsored mortgages
Principal securitized	**$ 2.3**	**$ 2.3**	$ 4.0	$ 10.2
Proceeds from new securitizations	**2.4**	**2.0**	3.9	10.0
Contractual servicing fees received	**0.1**	**—**	—	—
Cash flows received on retained interests and other net cash flows	**—**	**0.1**	—	—
Purchases of previously transferred financial assets	**—**	**—**	—	—

Note: Excludes broker-dealer re-securitization transactions.

Gains recognized on the securitization of U.S. agency-sponsored mortgages were $0.2 million and $0.3 million for the three and six months ended June 30, 2023, respectively. Gains recognized on the securitization of non-agency-sponsored mortgages were $11.3 million and $13.7 million for the three and six months ended June 30, 2023, respectively.

Gains recognized on the securitization of U.S. agency-sponsored mortgages were $0.3 million and $0.6 million for the three and six months ended June 30, 2022, respectively. Gains recognized on the securitization of non-agency-sponsored mortgages were $35 million and $73.7 million for the three and six months ended June 30, 2022, respectively.

	June 30, 2023			December 31, 2022		
		Non-agency-sponsored mortgages[1]			Non-agency-sponsored mortgages[1]	
In millions of dollars	**U.S. agency-sponsored mortgages**	**Senior interests[2]**	**Subordinated interests**	U.S. agency-sponsored mortgages	Senior interests	Subordinated interests
Carrying value of retained interests[3]	**$ 684**	**$ 1,043**	**$ 959**	$ 659	$ 1,119	$ 943

(1) Disclosure of non-agency-sponsored mortgages as senior and subordinated interests is indicative of the interests' position in the capital structure of the securitization.

(2) Senior interests in non-agency-sponsored mortgages include $1.7 million related to personal loan securitizations at June 30, 2023.

(3) Retained interests consist of Level 2 and Level 3 assets depending on the observability of significant inputs. See Note 22 for more information about fair value measurements.

The following table includes information about loan delinquencies and liquidation losses for assets held in non-consolidated, non-agency-sponsored securitization entities:

					Liquidation losses			
	Securitized assets		90 days past due		Three Months Ended June 30,		Six Months Ended June 30,	
In billions of dollars, except liquidation losses in millions	**Jun. 30, 2023**	Dec. 31, 2022	**Jun. 30, 2023**	Dec. 31, 2022	**2023**	2022	**2023**	2022
Securitized assets								
Residential mortgages[1]	**$ 30**	$ 30.8	**$ 0.5**	$ 0.5	**$ —**	$ (0.3)	**$ 2.3**	$ 1.2
Commercial and other	**28.7**	28.8	**—**	—	**—**	—	**—**	—
Total	**$ 58.7**	$ 59.6	**$ 0.5**	$ 0.5	**$ —**	$ (0.3)	**$ 2.3**	$ 1.2

(1) Securitized assets include $0.1 billion of personal loan securitizations as of June 30, 2023.

Mortgage Servicing Rights (MSRs)

The fair value of Citi's capitalized MSRs was $681 million and $600 million at June 30, 2023 and 2022, respectively. The MSRs correspond to principal loan balances of $51 billion and $49 billion as of June 30, 2023 and 2022, respectively. The following table summarizes the changes in capitalized MSRs:

	Three Months Ended June 30,		Six Months Ended June 30,	
In millions of dollars	**2023**	2022	**2023**	2022
Balance, beginning of period	**$ 658**	$ 520	**$ 665**	$ 404
Originations	**19**	35	**31**	69
Changes in fair value of MSRs due to changes in inputs and assumptions	**22**	59	**19**	158
Other changes[1]	**(18)**	(14)	**(34)**	(31)
Sales of MSRs	**—**	—	**—**	—
Balance, as of June 30	**$ 681**	$ 600	**$ 681**	$ 600

(1) Represents changes due to customer payments and passage of time.

The fair value of the MSRs is primarily affected by changes in prepayments of mortgages that result from shifts in mortgage interest rates. Specifically, higher interest rates tend to lead to declining prepayments, which causes the fair value of the MSRs to increase. In managing this risk, Citigroup economically hedges a significant portion of the value of its MSRs through the use of interest rate derivative contracts, forward purchase and sale commitments of mortgage-backed securities and purchased securities, all classified as *Trading account assets*.

The Company receives fees during the course of servicing previously securitized mortgages. The amounts of these fees were as follows:

	Three Months Ended June 30,		Six Months Ended June 30,	
In millions of dollars	**2023**	2022	**2023**	2022
Servicing fees	**$ 32**	$ 30	**$ 65**	$ 59
Late fees	**1**	1	**2**	2
Total MSR fees	**$ 33**	$ 31	**$ 67**	$ 61

In the Consolidated Statement of Income these fees are primarily classified as *Commissions and fees*, and changes in MSR fair values are classified as *Other revenue*.

Re-securitizations

The Company engages in re-securitization transactions in which debt securities are transferred to a VIE in exchange for new beneficial interests. Citi did not transfer non-agency (private label) securities to re-securitization entities during the three months ended June 30, 2023 and 2022. These securities are backed by either residential or commercial mortgages and are often structured on behalf of clients.

As of June 30, 2023 and December 31, 2022, Citi held no retained interests in private label re-securitization transactions structured by Citi.

The Company also re-securitizes U.S. government-agency-guaranteed mortgage-backed (agency) securities. During the three and six months ended June 30, 2023, Citi transferred agency securities with a fair value of approximately $3.3 billion and $8.6 billion, respectively, to re-securitization entities, compared to approximately $5.6 billion and $14.9 billion for the three and six months ended June 30, 2022, respectively.

As of June 30, 2023, the fair value of Citi-retained interests in agency re-securitization transactions structured by Citi totaled approximately $1.4 billion (including $402 million related to re-securitization transactions executed in 2023), compared to $1.4 billion as of December 31, 2022 (including

$801 million related to re-securitization transactions executed in 2022), which is recorded in *Trading account assets*. The original fair values of agency re-securitization transactions in which Citi holds a retained interest as of June 30, 2023 and December 31, 2022 were approximately $86.8 billion and $79.4 billion, respectively.

As of June 30, 2023 and December 31, 2022, the Company did not consolidate any private label or agency re-securitization entities.

Citi-Administered Asset-Backed Commercial Paper Conduits

At June 30, 2023 and December 31, 2022, the commercial paper conduits administered by Citi had approximately $18.6 billion and $19.6 billion of purchased assets outstanding, respectively, and had incremental funding commitments with clients of approximately $16.1 billion and $13.9 billion, respectively.

Substantially all of the funding of the conduits is in the form of short-term commercial paper. At June 30, 2023 and December 31, 2022, the weighted average remaining lives of the commercial paper issued by the conduits were approximately 66 and 64 days, respectively.

Each asset purchased by the conduit is structured with transaction-specific credit enhancement features provided by the third-party client seller, including over-collateralization, cash and excess spread collateral accounts, direct recourse or third-party guarantees. These credit enhancements are sized with the objective of approximating a credit rating of A or above, based on Citi's internal risk ratings. In addition to the transaction-specific credit enhancements, the conduits, other than the government-guaranteed loan conduit, have obtained letters of credit from the Company, which equal at least 8% to 10% of the conduit's assets with a minimum of $350 million. The letters of credit provided by the Company to the conduits total approximately $1.9 billion and $1.9 billion as of June 30, 2023 and December 31, 2022, respectively. The net result across multiseller conduits administered by the Company is that, in the event that defaulted assets exceed the transaction-specific credit enhancements described above, any losses in each conduit are allocated first to the Company and then to the commercial paper investors.

At June 30, 2023 and December 31, 2022, the Company owned $7.7 billion and $8.6 billion, respectively, of the commercial paper issued by its administered conduits. The Company's investments were not driven by market illiquidity and the Company is not obligated under any agreement to purchase the commercial paper issued by the conduits.

Municipal Securities Tender Option Bond (TOB) Trusts

At June 30, 2023 and December 31, 2022, none of the municipal bonds owned by non-customer TOB trusts were subject to a credit guarantee provided by the Company.

At June 30, 2023 and December 31, 2022, liquidity agreements provided with respect to customer TOB trusts totaled $0.7 billion and $1.1 billion, respectively, of which $0.5 billion and $0.7 billion, respectively, were offset by reimbursement agreements. For the remaining exposure related to TOB transactions, where the residual owned by the customer was at least 25% of the bond value at the inception of the transaction, no reimbursement agreement was executed.

The Company also provides other liquidity agreements or letters of credit to customer-sponsored municipal investment funds, which are not variable interest entities, and municipality-related issuers that totaled $1.4 billion and $1.4 billion as of June 30, 2023 and December 31, 2022, respectively. These liquidity agreements and letters of credit are offset by reimbursement agreements with various term-out provisions.

Asset-Based Financing

The primary types of Citi's asset-based financings, total assets of the unconsolidated VIEs with significant involvement and Citi's maximum exposure to loss are presented below. For Citi to realize the maximum loss, the VIE (borrower) would have to default with no recovery from the assets held by the VIE.

	June 30, 2023		December 31, 2022	
In millions of dollars	**Total unconsolidated VIE assets**	**Maximum exposure to unconsolidated VIEs**	Total unconsolidated VIE assets	Maximum exposure to unconsolidated VIEs
Type				
Commercial and other real estate	**$ 43,836**	**$ 9,100**	$ 43,236	$ 8,806
Corporate loans	**21,396**	**14,535**	23,120	15,077
Other (including investment funds, airlines and shipping)	**104,116**	**28,831**	166,320	27,986
Total	**$ 169,348**	**$ 52,466**	$ 232,676	$ 51,869

21. DERIVATIVES

In the ordinary course of business, Citigroup enters into various types of derivative transactions. All derivatives are recorded in *Trading account assets/Trading account liabilities* on the Consolidated Balance Sheet. For additional information regarding Citi's use of and accounting for derivatives, see Note 23 to the Consolidated Financial Statements in Citi's 2022 Form 10-K.

Information pertaining to Citigroup's derivatives activities, based on notional amounts, is presented in the table below. Derivative notional amounts are reference amounts from which contractual payments are derived and do not represent a complete measure of Citi's exposure to derivative transactions. Citi's derivative exposure arises primarily from market fluctuations (i.e., market risk), counterparty failure (i.e., credit risk) and/or periods of high volatility or financial stress (i.e., liquidity risk), as well as any market valuation adjustments that may be required on the transactions. Moreover, notional amounts do not reflect the netting of offsetting trades. For example, if Citi enters into a receive-fixed interest rate swap with $100 million notional, and offsets this risk with an identical but opposite pay-fixed position with a different counterparty, $200 million in derivative notionals is reported, although these offsetting positions may result in de minimis overall market risk.

In addition, aggregate derivative notional amounts can fluctuate from period to period in the normal course of business based on Citi's market share, levels of client activity and other factors.

Derivative Notionals

	Hedging instruments under ASC 815		Trading derivative instruments	
In millions of dollars	**June 30, 2023**	December 31, 2022	**June 30, 2023**	December 31, 2022
Interest rate contracts				
Swaps	**$ 256,131**	$ 255,280	**$ 26,965,401**	$ 23,780,711
Futures and forwards	**—**	—	**3,494,099**	2,966,025
Written options	**—**	—	**2,598,919**	1,937,025
Purchased options	**—**	—	**2,425,954**	1,881,291
Total interest rate contracts	**$ 256,131**	$ 255,280	**$ 35,484,373**	$ 30,565,052
Foreign exchange contracts				
Swaps	**$ 42,117**	$ 48,678	**$ 7,613,604**	$ 6,746,070
Futures, forwards and spot	**47,752**	43,666	**3,869,688**	3,350,341
Written options	**—**	—	**838,598**	789,077
Purchased options	**—**	—	**829,662**	783,591
Total foreign exchange contracts	**$ 89,869**	$ 92,344	**$ 13,151,552**	$ 11,669,079
Equity contracts				
Swaps	**$ —**	$ —	**$ 273,483**	$ 266,115
Futures and forwards	**—**	—	**87,637**	76,935
Written options	**—**	—	**558,215**	482,266
Purchased options	**—**	—	**444,663**	387,766
Total equity contracts	**$ —**	$ —	**$ 1,363,998**	$ 1,213,082
Commodity and other contracts				
Swaps	**$ —**	$ —	**$ 82,002**	$ 90,884
Futures and forwards	**1,586**	1,571	**177,615**	165,314
Written options	**—**	—	**50,931**	45,862
Purchased options	**—**	—	**51,882**	48,197
Total commodity and other contracts	**$ 1,586**	$ 1,571	**$ 362,430**	$ 350,257
Credit derivatives[(1)]				
Protection sold	**$ —**	$ —	**$ 725,634**	$ 593,136
Protection purchased	**—**	—	**789,558**	641,639
Total credit derivatives	**$ —**	$ —	**$ 1,515,192**	$ 1,234,775
Total derivative notionals	**$ 347,586**	$ 349,195	**$ 51,877,545**	$ 45,032,245

(1) Credit derivatives are arrangements designed to allow one party (protection purchaser) to transfer the credit risk of a "reference asset" to another party (protection seller). These arrangements allow a protection seller to assume the credit risk associated with the reference asset without directly purchasing that asset. The Company enters into credit derivative positions for purposes such as risk management, yield enhancement, reduction of credit concentrations and diversification of overall risk.

The following tables present the gross and net fair values of the Company's derivative transactions and the related offsetting amounts as of June 30, 2023 and December 31, 2022. Gross positive fair values are offset against gross negative fair values by counterparty, pursuant to enforceable master netting agreements. Under ASC 815-10-45, payables and receivables in respect of cash collateral received from or paid to a given counterparty pursuant to a credit support annex are included in the offsetting amount if a legal opinion supporting the enforceability of netting and collateral rights has been obtained. GAAP does not permit similar offsetting for security collateral.

In addition, the following tables reflect rule changes adopted by clearing organizations that require or allow entities to treat certain derivative assets, liabilities and the related variation margin as settlement of the related derivative fair values for legal and accounting purposes, as opposed to presenting gross derivative assets and liabilities that are subject to collateral, whereby the counterparties would also record a related collateral payable or receivable. The tables also present amounts that are not permitted to be offset, such as security collateral or cash collateral posted at third-party custodians, but which would be eligible for offsetting to the extent that an event of default has occurred and a legal opinion supporting enforceability of the netting and collateral rights has been obtained.

Derivative Mark-to-Market (MTM) Receivables/Payables

	Derivatives classified in Trading account assets/liabilities[1][2]	
In millions of dollars at June 30, 2023	**Assets**	**Liabilities**
Derivatives instruments designated as ASC 815 hedges		
Over-the-counter	**$ 414**	**$ 18**
Cleared	**126**	**18**
Interest rate contracts	**$ 540**	**$ 36**
Over-the-counter	**$ 1,620**	**$ 1,306**
Cleared	**1**	**—**
Foreign exchange contracts	**$ 1,621**	**$ 1,306**
Total derivatives instruments designated as ASC 815 hedges	**$ 2,161**	**$ 1,342**
Derivatives instruments not designated as ASC 815 hedges		
Over-the-counter	**$ 120,857**	**$ 114,712**
Cleared	**47,014**	**49,212**
Exchange traded	**283**	**251**
Interest rate contracts	**$ 168,154**	**$ 164,175**
Over-the-counter	**$ 157,724**	**$ 150,913**
Cleared	**511**	**601**
Exchange traded	**—**	**5**
Foreign exchange contracts	**$ 158,235**	**$ 151,519**
Over-the-counter	**$ 22,029**	**$ 27,163**
Cleared	**36**	**6**
Exchange traded	**25,020**	**24,412**
Equity contracts	**$ 47,085**	**$ 51,581**
Over-the-counter	**$ 15,640**	**$ 16,678**
Exchange traded	**886**	**992**
Commodity and other contracts	**$ 16,526**	**$ 17,670**
Over-the-counter	**$ 6,566**	**$ 6,607**
Cleared	**4,273**	**4,121**
Credit derivatives	**$ 10,839**	**$ 10,728**
Total derivatives instruments not designated as ASC 815 hedges	**$ 400,839**	**$ 395,673**
Total derivatives	**$ 403,000**	**$ 397,015**
Less: Netting agreements[3]	**$ (312,754)**	**$ (312,754)**
Less: Netting cash collateral received/paid[4]	**(18,645)**	**(28,221)**
Net receivables/payables included on the Consolidated Balance Sheet[5]	**$ 71,601**	**$ 56,040**
Additional amounts subject to an enforceable master netting agreement, but not offset on the Consolidated Balance Sheet		
Less: Cash collateral received/paid	**$ (723)**	**$ (2,793)**
Less: Non-cash collateral received/paid	**(3,841)**	**(10,406)**
Total net receivables/payables[5]	**$ 67,037**	**$ 42,841**

(1) The derivative fair values are also presented in Note 22.

(2) Over-the-counter (OTC) derivatives are derivatives executed and settled bilaterally with counterparties without the use of an organized exchange or central clearing house. Cleared derivatives include derivatives executed bilaterally with a counterparty in the OTC market, but then novated to a central clearing house, whereby the central clearing house becomes the counterparty to both of the original counterparties. Exchange-traded derivatives include derivatives executed directly on an organized exchange that provides pre-trade price transparency.

(3) Represents the netting of balances with the same counterparty under enforceable netting agreements. Approximately $241 billion, $48 billion and $24 billion of the netting against trading account asset/liability balances is attributable to each of the OTC, cleared and exchange-traded derivatives, respectively.

(4) Represents the netting of cash collateral paid and received by counterparties under enforceable credit support agreements. Substantially all netting of cash collateral received and paid is against OTC derivative assets and liabilities, respectively.

(5) The net receivables/payables include approximately $14 billion of derivative asset and $9 billion of derivative liability fair values not subject to enforceable master netting agreements, respectively.

In millions of dollars at December 31, 2022	Derivatives classified in Trading account assets/liabilities[1][2]	
	Assets	Liabilities
Derivatives instruments designated as ASC 815 hedges		
Over-the-counter	$ 468	$ 1
Cleared	129	101
Interest rate contracts	$ 597	$ 102
Over-the-counter	$ 2,288	$ 1,766
Cleared	3	3
Foreign exchange contracts	$ 2,291	$ 1,769
Total derivatives instruments designated as ASC 815 hedges	$ 2,888	$ 1,871
Derivatives instruments not designated as ASC 815 hedges		
Over-the-counter	$ 126,844	$ 119,854
Cleared	50,515	52,566
Exchange traded	248	98
Interest rate contracts	$ 177,607	$ 172,518
Over-the-counter	$ 184,869	$ 183,578
Cleared	502	643
Exchange traded	1	5
Foreign exchange contracts	$ 185,372	$ 184,226
Over-the-counter	$ 19,674	$ 21,871
Cleared	1	4
Exchange traded	22,732	21,908
Equity contracts	$ 42,407	$ 43,783
Over-the-counter	$ 27,285	$ 24,912
Exchange traded	1,039	1,406
Commodity and other contracts	$ 28,324	$ 26,318
Over-the-counter	$ 6,836	$ 5,807
Cleared	1,553	1,970
Credit derivatives	$ 8,389	$ 7,777
Total derivatives instruments not designated as ASC 815 hedges	$ 442,099	$ 434,622
Total derivatives	$ 444,987	$ 436,493
Less: Netting agreements[3]	$ (346,545)	$ (346,545)
Less: Netting cash collateral received/paid[4]	(23,136)	(30,032)
Net receivables/payables included on the Consolidated Balance Sheet[5]	$ 75,306	$ 59,916
Additional amounts subject to an enforceable master netting agreement, but not offset on the Consolidated Balance Sheet		
Less: Cash collateral received/paid	$ (1,455)	$ (2,272)
Less: Non-cash collateral received/paid	(5,923)	(13,475)
Total net receivables/payables[5]	$ 67,928	$ 44,169

(1) The derivative fair values are also presented in Note 22.

(2) Over-the-counter (OTC) derivatives are derivatives executed and settled bilaterally with counterparties without the use of an organized exchange or central clearing house. Cleared derivatives include derivatives executed bilaterally with a counterparty in the OTC market, but then novated to a central clearing house, whereby the central clearing house becomes the counterparty to both of the original counterparties. Exchange-traded derivatives include derivatives executed directly on an organized exchange that provides pre-trade price transparency.

(3) Represents the netting of balances with the same counterparty under enforceable netting agreements. Approximately $276 billion, $49 billion and $22 billion of the netting against trading account asset/liability balances is attributable to each of the OTC, cleared and exchange-traded derivatives, respectively.

(4) Represents the netting of cash collateral paid and received by counterparties under enforceable credit support agreements. Substantially all netting of cash collateral received and paid is against OTC derivative assets and liabilities, respectively.

(5) The net receivables/payables include approximately $14 billion of derivative asset and $11 billion of derivative liability fair values not subject to enforceable master netting agreements, respectively.

For the three and six months ended June 30, 2023 and 2022, amounts recognized in *Principal transactions* in the Consolidated Statement of Income include certain derivatives not designated in a qualifying hedging relationship. Citigroup presents this disclosure by business classification, showing derivative gains and losses related to its trading activities together with gains and losses related to non-derivative instruments within the same trading portfolios, as this represents how these portfolios are risk managed. See Note 6 for further information.

The amounts recognized in *Other revenue* in the Consolidated Statement of Income related to derivatives not designated in a qualifying hedging relationship are presented below. The table below does not include any offsetting gains (losses) on the economically hedged items to the extent that such amounts are also recorded in *Other revenue*.

	Gains (losses) included in Other revenue			
	Three Months Ended June 30,		**Six Months Ended June 30,**	
In millions of dollars	**2023**	2022	**2023**	2022
Interest rate contracts	**$ (22)**	$ 72	**$ (34)**	$ 144
Foreign exchange	**(6)**	(4)	**(64)**	(81)
Total	**$ (28)**	$ 68	**$ (98)**	$ 63

Fair Value Hedges

For additional information regarding Citi's fair value hedges, see Note 23 to the Consolidated Financial Statements in Citi's 2022 Form 10-K.

The following table summarizes the gains (losses) on the Company's fair value hedges:

	Gains (losses) on fair value hedges[1]							
	Three Months Ended June 30,				Six Months Ended June 30,			
	2023		2022		2023		2022	
In millions of dollars	**Other revenue**	**Net interest income**	Other revenue	Net interest income	**Other revenue**	**Net interest income**	Other revenue	Net interest income
Gain (loss) on the hedging derivatives included in assessment of the effectiveness of fair value hedges								
Interest rate hedges	**$ —**	**$ (491)**	$ —	$ (1,717)	**$ —**	**$ (492)**	$ —	$ (6,383)
Foreign exchange hedges	**738**	**—**	(1,234)	—	**1,286**	**—**	(1,659)	—
Commodity hedges[4]	**183**	**—**	(257)	—	**(325)**	**—**	615	—
Total gain (loss) on the hedging derivatives included in assessment of the effectiveness of fair value hedges	**$ 921**	**$ (491)**	$ (1,491)	$ (1,717)	**$ 961**	**$ (492)**	$ (1,044)	$ (6,383)
Gain (loss) on the hedged item in designated and qualifying fair value hedges								
Interest rate hedges	**$ —**	**$ 488**	$ —	$ 1,646	**$ —**	**$ 481**	$ —	$ 6,243
Foreign exchange hedges	**(738)**	**—**	1,233	—	**(1,286)**	**—**	1,657	—
Commodity hedges[4]	**(183)**	**—**	257	—	**325**	**—**	(615)	—
Total gain (loss) on the hedged item in designated and qualifying fair value hedges	**$ (921)**	**$ 488**	$ 1,490	$ 1,646	**$ (961)**	**$ 481**	$ 1,042	$ 6,243
Net gain (loss) on the hedging derivatives excluded from assessment of the effectiveness of fair value hedges								
Interest rate hedges	**$ —**	**$ —**	$ —	$ (5)	**$ —**	**$ —**	$ —	$ (11)
Foreign exchange hedges[2]	**2**	**—**	73	—	**24**	**—**	104	—
Commodity hedges[3][4]	**52**	**—**	(26)	—	**101**	**—**	23	—
Total net gain (loss) on the hedging derivatives excluded from assessment of the effectiveness of fair value hedges	**$ 54**	**$ —**	$ 47	$ (5)	**$ 125**	**$ —**	$ 127	$ (11)

(1) Gain (loss) amounts for interest rate risk hedges are included in *Interest income/Interest expense*. The accrued interest income on fair value hedges is recorded in *Net interest income* and is excluded from this table. Amounts included both hedges of AFS securities and long-term debt on a net basis, which largely offset in the current period.

(2) Amounts related to the forward points (i.e., the spot-forward difference) that are excluded from the assessment of hedge effectiveness and are generally reflected directly in earnings under the mark-to-market approach. Amounts related to cross-currency basis, which are recognized in *AOCI*, are not reflected in the table above. The amount of cross-currency basis included in *AOCI* was $22 million and $(4) million for the three and six months ended June 30, 2023 and $12 million and $76 million for the three and six months ended June 30, 2022, respectively.

(3) Amounts related to the forward points (i.e., the spot-forward difference) that are excluded from the assessment of hedge effectiveness reflected directly in earnings under the mark-to-market approach or recorded in *AOCI* under the amortization approach. The quarter ended June 30, 2023 includes gain (loss) of approximately $41 million and $11 million under the mark-to-market approach and amortization approach, respectively. The quarter ended June 30, 2022 includes gain (loss) of approximately $(28) million and $2 million under the mark-to-market approach and amortization approach, respectively.

(4) The gain (loss) amounts for commodity hedges are included in *Principal transactions* for periods beginning 2023.

Cumulative Basis Adjustment

Upon electing to apply ASC 815 fair value hedge accounting, the carrying value of the hedged item is adjusted to reflect the cumulative changes in the hedged risk. This cumulative basis adjustment becomes part of the carrying amount of the hedged item until the hedged item is derecognized from the balance sheet. The table below presents the carrying amount of Citi's hedged assets and liabilities under qualifying fair value hedges at June 30, 2023 and December 31, 2022, along with the cumulative basis adjustments included in the carrying value of those hedged assets and liabilities that would reverse through earnings in future periods.

In millions of dollars

Balance sheet line item in which hedged item is recorded	Carrying amount of hedged asset/ liability[1]	Cumulative basis adjustment increasing (decreasing) the carrying amount	
		Active	De-designated
As of June 30, 2023			
Debt securities AFS[2][4]	**$ 87,804**	**$ (2,936)**	**$ (360)**
Long-term debt	**130,665**	**(3,522)**	**(4,816)**
As of December 31, 2022			
Debt securities AFS[3][4]	$ 98,837	$ (2,976)	$ (333)
Long-term debt	144,549	(5,040)	(3,399)

(1) Excludes physical commodities inventories with a carrying value of approximately $8 billion as of June 30, 2023, which includes cumulative basis adjustments of approximately $540 million for active hedges.

(2) These amounts include a cumulative basis adjustment of $(201) million for active hedges and $(283) million for de-designated hedges as of June 30, 2023, related to certain financial assets previously designated as the hedged item in a fair value hedge using the portfolio layer approach. The Company designated approximately $7 billion as the hedged amount (from a closed portfolio of financial assets with a carrying value of $13 billion as of June 30, 2023) in a portfolio layer-hedging relationship.

(3) These amounts include a cumulative basis adjustment of $(91) million for active hedges and $(309) million for de-designated hedges as of December 31, 2022, related to certain prepayable financial assets previously designated as the hedged item in a fair value hedge using the last-of-layer approach. The Company designated approximately $3 billion as the hedged amount (from a closed portfolio of prepayable financial assets with a carrying value of $11 billion as of December 31, 2022) in a last-of-layer hedging relationship.

(4) Carrying amount represents the amortized cost.

Cash Flow Hedges

Citigroup hedges the variability of forecasted cash flows due to changes in contractually specified interest rates associated with floating-rate assets/liabilities and other forecasted transactions. These cash flow hedging relationships use either regression analysis or dollar-offset ratio analysis to assess whether the hedging relationships are highly effective at inception and on an ongoing basis.

For cash flow hedges, the entire change in the fair value of the hedging derivative is recognized in *AOCI* and then reclassified to earnings in the same period that the forecasted hedged cash flows impact earnings. The net gain (loss) associated with cash flow hedges expected to be reclassified from *AOCI* within 12 months of June 30, 2023 is approximately $(1.3) billion. The maximum length of time over which forecasted cash flows are hedged is 13 years.

The pretax change in *AOCI* from cash flow hedges is presented below. The after-tax impact of cash flow hedges on *AOCI* is shown in Note 18.

	Three Months Ended June 30,				Six Months Ended June 30,			
In millions of dollars	**2023**		2022		**2023**		2022	
Amount of gain (loss) recognized in *AOCI* on derivatives								
Interest rate contracts	**$**	**(280)**	$	(681)	**$**	**(259)**	$	(2,441)
Foreign exchange contracts		**17**		(7)		**5**		16
Total gain (loss) recognized in *AOCI*	**$**	**(263)**	$	(688)	**$**	**(254)**	$	(2,425)
	Other revenue	**Net interest income**	Other revenue	Net interest income	**Other revenue**	**Net interest income**	Other revenue	Net interest income
Amount of gain (loss) reclassified from *AOCI* to earnings[(1)]								
Interest rate contracts	**$ —**	**$ (495)**	$ —	$ 199	**$ —**	**$ (964)**	$ —	$ 485
Foreign exchange contracts	**(1)**	**—**	(1)	—	**(2)**	**—**	(2)	—
Total gain (loss) reclassified from *AOCI* into earnings	**$ (1)**	**$ (495)**	$ (1)	$ 199	**$ (2)**	**$ (964)**	$ (2)	$ 485
Net pretax change in cash flow hedges included within *AOCI*		**$ 233**		$ (886)		**$ 712**		$ (2,908)

(1) All amounts reclassified into earnings for interest rate contracts are included in *Interest income/Interest expense (Net interest income)*. For all other hedges, the amounts reclassified to earnings are included primarily in *Other revenue* and *Net interest income* in the Consolidated Statement of Income.

Net Investment Hedges

Citigroup uses foreign currency forwards, cross-currency swaps, options and foreign currency-denominated debt instruments to manage the foreign exchange risk associated with Citigroup's equity investments in several non-U.S.-dollar-functional-currency foreign subsidiaries. Citi records the change in the fair value of these hedging instruments and the translation adjustment for the investments in these foreign subsidiaries in Foreign currency translation adjustment (CTA) within *AOCI*.

The pretax gain (loss) recorded in CTA within *AOCI*, related to net investment hedges, was $(272) million and $(948) million for the three and six months ended June 30, 2023 and $836 million and $641 million for the three and six months ended June 30, 2022, respectively. June 30, 2022 includes a $47 million pretax loss related to net investment hedges that was reclassified from *AOCI* into earnings (recorded in *Other revenue*).

Credit Derivatives

The following tables summarize the key characteristics of Citi's credit derivatives portfolio by counterparty and derivative form:

	Fair values		Notionals	
In millions of dollars at June 30, 2023	**Receivable[1]**	**Payable[2]**	**Protection purchased**	**Protection sold**
By instrument				
Credit default swaps and options	**$ 10,015**	**$ 10,352**	**$ 768,300**	**$ 721,289**
Total return swaps and other	**824**	**376**	**21,258**	**4,345**
Total by instrument	**$ 10,839**	**$ 10,728**	**$ 789,558**	**$ 725,634**
By rating of reference entity				
Investment grade	**$ 5,491**	**$ 4,977**	**$ 619,717**	**$ 574,059**
Non-investment grade	**5,348**	**5,751**	**169,841**	**151,575**
Total by rating of reference entity	**$ 10,839**	**$ 10,728**	**$ 789,558**	**$ 725,634**
By maturity				
Within 1 year	**$ 1,242**	**$ 1,642**	**$ 164,261**	**$ 146,723**
From 1 to 5 years	**7,503**	**7,102**	**570,605**	**538,159**
After 5 years	**2,094**	**1,984**	**54,692**	**40,752**
Total by maturity	**$ 10,839**	**$ 10,728**	**$ 789,558**	**$ 725,634**

(1) The fair value amount receivable is composed of $4,249 million under protection purchased and $6,590 million under protection sold.
(2) The fair value amount payable is composed of $7,011 million under protection purchased and $3,717 million under protection sold.

	Fair values		Notionals	
In millions of dollars at December 31, 2022	Receivable[1]	Payable[2]	Protection purchased	Protection sold
By instrument				
Credit default swaps and options	$ 6,867	$ 7,360	$ 623,981	$ 586,504
Total return swaps and other	1,522	417	17,658	6,632
Total by instrument	$ 8,389	$ 7,777	$ 641,639	$ 593,136
By rating of reference entity				
Investment grade	$ 3,796	$ 2,970	$ 499,339	$ 462,873
Non-investment grade	4,593	4,807	142,300	130,263
Total by rating of reference entity	$ 8,389	$ 7,777	$ 641,639	$ 593,136
By maturity				
Within 1 year	$ 1,753	$ 1,801	$ 147,031	$ 148,721
From 1 to 5 years	4,577	4,134	443,113	407,293
After 5 years	2,059	1,842	51,495	37,122
Total by maturity	$ 8,389	$ 7,777	$ 641,639	$ 593,136

(1) The fair value amount receivable is composed of $5,094 million under protection purchased and $3,295 million under protection sold.
(2) The fair value amount payable is composed of $3,573 million under protection purchased and $4,204 million under protection sold.

Credit Risk-Related Contingent Features in Derivatives

Certain derivative instruments contain provisions that require the Company to either post additional collateral or immediately settle any outstanding liability balances upon the occurrence of a specified event related to the credit risk of the Company. These events, which are defined by the existing derivative contracts, are primarily downgrades in the credit ratings of the Company and its affiliates.

The fair value (excluding CVA) of all derivative instruments with credit risk-related contingent features that were in a net liability position at June 30, 2023 and December 31, 2022 was $16 billion and $18 billion, respectively. The Company posted $14 billion and $15 billion as collateral for this exposure in the normal course of business as of June 30, 2023 and December 31, 2022, respectively.

A downgrade could trigger additional collateral or cash settlement requirements for the Company and certain affiliates. In the event that Citigroup and Citibank were downgraded a single notch by all three major rating agencies as of June 30, 2023, the Company could be required to post an additional $0.8 billion as either collateral or settlement of the derivative transactions. In addition, the Company could be required to segregate with third-party custodians collateral previously received from existing derivative counterparties in the amount of $16 million upon the single notch downgrade, resulting in aggregate cash obligations and collateral requirements of approximately $0.8 billion.

Derivatives Accompanied by Financial Asset Transfers

For transfers of financial assets accounted for as a sale by the Company, and for which the Company has retained substantially all of the economic exposure to the transferred asset through a total return swap executed with the same counterparty in contemplation of the initial sale (and still outstanding), the asset amounts derecognized and the gross cash proceeds received as of the date of derecognition were $2.7 billion and $1.4 billion as of June 30, 2023 and December 31, 2022, respectively.

At June 30, 2023, the fair value of these previously derecognized assets was $2.7 billion. The fair value of the total return swaps as of June 30, 2023 was $39 million recorded as gross derivative assets and $24 million recorded as gross derivative liabilities. At December 31, 2022, the fair value of these previously derecognized assets was $1.4 billion, and the fair value of the total return swaps was $27 million recorded as gross derivative assets and $32 million recorded as gross derivative liabilities.

The balances for the total return swaps are on a gross basis, before the application of counterparty and cash collateral netting, and are included primarily as equity derivatives in the tabular disclosures in this Note.

22. FAIR VALUE MEASUREMENT

For additional information regarding fair value measurement at Citi, see Note 25 to the Consolidated Financial Statements in Citi's 2022 Form 10-K.

Fair Value Hierarchy

ASC 820-10 specifies a hierarchy of inputs based on whether the inputs are observable or unobservable. Observable inputs are developed using market data and reflect market participant assumptions, while unobservable inputs reflect the Company's market assumptions. These two types of inputs have created the following fair value hierarchy:

- Level 1: Quoted prices for *identical* instruments in active markets.
- Level 2: Quoted prices for similar instruments in active markets, quoted prices for identical or similar instruments in markets that are not active and model-derived valuations in which all significant inputs and significant value drivers are *observable* in the market.
- Level 3: Valuations derived from valuation techniques in which one or more significant inputs or significant value drivers are *unobservable*.

As required under the fair value hierarchy, the Company considers relevant and observable market inputs in its valuations where possible.

The fair value hierarchy classification approach typically utilizes rules-based and data-driven selection criteria to determine whether an instrument is classified as Level 1, Level 2 or Level 3:

- The determination of whether an instrument is quoted in an active market and therefore considered a Level 1 instrument is based upon the frequency of observed transactions and the quality of independent market data available on the measurement date.
- A Level 2 classification is assigned where there is observability of prices/market inputs to models, or where any unobservable inputs are not significant to the valuation. The determination of whether an input is considered observable is based on the availability of independent market data and its corroboration, for example through observed transactions in the market.
- Otherwise, an instrument is classified as Level 3.

Market Valuation Adjustments

The table below summarizes the credit valuation adjustments (CVA) and funding valuation adjustments (FVA) applied to the fair value of derivative instruments at June 30, 2023 and December 31, 2022:

	Credit and funding valuation adjustments contra-liability (contra-asset)	
In millions of dollars	**June 30, 2023**	December 31, 2022
Counterparty CVA	**$ (651)**	$ (816)
Asset FVA	**(502)**	(622)
Citigroup (own credit) CVA	**456**	607
Liability FVA	**219**	263
Total CVA and FVA—derivative instruments	**$ (478)**	$ (568)

The table below summarizes pretax gains (losses) related to changes in CVA on derivative instruments, net of hedges, FVA on derivatives and debt valuation adjustments (DVA) on Citi's own fair value option (FVO) liabilities for the periods indicated:

	Credit/funding/debt valuation adjustments gain (loss)			
	Three Months Ended June 30,		Six Months Ended June 30,	
In millions of dollars	**2023**	2022	**2023**	2022
Counterparty CVA	**$ 4**	$ (94)	**$ (30)**	$ (201)
Asset FVA	**100**	(46)	**94**	(151)
Own credit CVA	**(114)**	182	**(149)**	298
Liability FVA	**(17)**	68	**(44)**	90
Total CVA and FVA—derivative instruments	**$ (27)**	$ 110	**$ (129)**	$ 36
DVA related to own FVO liabilities[(1)]	**$ (837)**	$ 2,592	**$ (1,270)**	$ 3,642
Total CVA, DVA and FVA	**$ (864)**	$ 2,702	**$ (1,399)**	$ 3,678

(1) See Note 20 to the Consolidated Financial Statements in Citi's 2022 Form 10-K.

Items Measured at Fair Value on a Recurring Basis

The following tables present for each of the fair value hierarchy levels the Company's assets and liabilities that are measured at fair value on a recurring basis at June 30, 2023 and December 31, 2022. The Company may hedge positions that have been classified in the Level 3 category with other financial instruments (hedging instruments) that may be classified as Level 3, but also with financial instruments classified as Level 1 or Level 2. The effects of these hedges are presented gross in the following tables:

Fair Value Levels

In millions of dollars at June 30, 2023	Level 1	Level 2	Level 3	Gross inventory	Netting[1]	Net balance
Assets						
Securities borrowed and purchased under agreements to resell	$ —	$ 428,174	$ 140	$ 428,314	$ (218,188)	$ 210,126
Trading non-derivative assets						
Trading mortgage-backed securities						
U.S. government-sponsored agency guaranteed	—	55,299	659	55,958	—	55,958
Residential	1	2,936	145	3,082	—	3,082
Commercial	—	784	182	966	—	966
Total trading mortgage-backed securities	$ 1	$ 59,019	$ 986	$ 60,006	$ —	$ 60,006
U.S. Treasury and federal agency securities	$ 88,273	$ 2,321	$ —	$ 90,594	$ —	$ 90,594
State and municipal	—	2,092	3	2,095	—	2,095
Foreign government	56,090	36,045	81	92,216	—	92,216
Corporate	1,695	16,623	581	18,899	—	18,899
Equity securities	55,898	11,400	285	67,583	—	67,583
Asset-backed securities	—	1,560	539	2,099	—	2,099
Other trading assets[2]	5	16,613	1,478	18,096	—	18,096
Total trading non-derivative assets	$ 201,962	$ 145,673	$ 3,953	$ 351,588	$ —	$ 351,588
Trading derivatives						
Interest rate contracts	$ 21	$ 166,402	$ 2,271	$ 168,694		
Foreign exchange contracts	—	158,360	1,496	159,856		
Equity contracts	31	45,762	1,292	47,085		
Commodity contracts	—	15,418	1,108	16,526		
Credit derivatives	—	9,984	855	10,839		
Total trading derivatives—before netting and collateral	$ 52	$ 395,926	$ 7,022	$ 403,000		
Netting agreements					$ (312,754)	
Netting of cash collateral received					(18,645)	
Total trading derivatives—after netting and collateral	$ 52	$ 395,926	$ 7,022	$ 403,000	$ (331,399)	$ 71,601
Investments						
Mortgage-backed securities						
U.S. government-sponsored agency guaranteed	$ —	$ 14,931	$ 32	$ 14,963	$ —	$ 14,963
Residential	—	312	25	337	—	337
Commercial	—	2	—	2	—	2
Total investment mortgage-backed securities	$ —	$ 15,245	$ 57	$ 15,302	$ —	$ 15,302
U.S. Treasury and federal agency securities	$ 81,878	$ 344	$ 21	$ 82,243	$ —	$ 82,243
State and municipal	—	1,695	507	2,202	—	2,202
Foreign government	50,928	73,928	414	125,270	—	125,270
Corporate	2,590	2,447	290	5,327	—	5,327
Marketable equity securities	164	119	13	296	—	296
Asset-backed securities	—	845	1	846	—	846
Other debt securities	—	6,087	57	6,144	—	6,144
Non-marketable equity securities[3]	—	5	404	409	—	409
Total investments	$ 135,560	$ 100,715	$ 1,764	$ 238,039	$ —	$ 238,039

Table continues on the next page.

In millions of dollars at June 30, 2023	Level 1	Level 2	Level 3	Gross inventory	Netting[1]	Net balance
Loans	$ —	$ 5,525	$ 241	$ 5,766	$ —	$ 5,766
Mortgage servicing rights	—	—	681	681	—	681
Non-trading derivatives and other financial assets measured on a recurring basis	$ 5,793	$ 7,771	$ 73	$ 13,637	$ —	$ 13,637
Total assets	$ 343,367	$ 1,083,784	$ 13,874	$ 1,441,025	$ (549,587)	$ 891,438
Total as a percentage of gross assets[4]	23.8%	75.2%	1.0%			
Liabilities						
Interest-bearing deposits	$ —	$ 2,572	$ 26	$ 2,598	$ —	$ 2,598
Securities loaned and sold under agreements to repurchase	—	213,804	627	214,431	(151,631)	62,800
Trading account liabilities						
Securities sold, not yet purchased	98,359	16,195	62	114,616	—	114,616
Other trading liabilities	—	4	4	8	—	8
Total trading account liabilities	$ 98,359	$ 16,199	$ 66	$ 114,624	$ —	$ 114,624
Trading derivatives						
Interest rate contracts	$ 19	$ 159,959	$ 4,233	$ 164,211		
Foreign exchange contracts	—	152,029	796	152,825		
Equity contracts	27	48,699	2,855	51,581		
Commodity contracts	—	16,892	778	17,670		
Credit derivatives	—	9,718	1,010	10,728		
Total trading derivatives—before netting and collateral	$ 46	$ 387,297	$ 9,672	$ 397,015		
Netting agreements					$ (312,754)	
Netting of cash collateral paid					(28,221)	
Total trading derivatives—after netting and collateral	$ 46	$ 387,297	$ 9,672	$ 397,015	$ (340,975)	$ 56,040
Short-term borrowings	$ —	$ 5,326	$ 296	$ 5,622	$ —	$ 5,622
Long-term debt	—	78,733	37,204	115,937	—	115,937
Total non-trading derivatives and other financial liabilities measured on a recurring basis	$ 5,793	$ 173	$ 23	$ 5,989	$ —	$ 5,989
Total liabilities	$ 104,198	$ 704,104	$ 47,914	$ 856,216	$ (492,606)	$ 363,610
Total as a percentage of gross liabilities[4]	12.2 %	82.2 %	5.6 %			

(1) Represents netting of (i) the amounts due under securities purchased under agreements to resell and the amounts owed under securities sold under agreements to repurchase and (ii) derivative exposures covered by a qualifying master netting agreement and cash collateral offsetting.

(2) Includes positions related to investments in unallocated precious metals, as discussed in Note 23. Also includes physical commodities accounted for at the lower of cost or fair value and unfunded credit products.

(3) Amounts exclude $24 million of investments measured at net asset value (NAV) in accordance with ASU 2015-07, *Fair Value Measurement (Topic 820): Disclosures for Investments in Certain Entities That Calculate Net Asset Value per Share (or Its Equivalent).*

(4) Because the amount of the cash collateral paid/received has not been allocated to the Level 1, 2 and 3 subtotals, these percentages are calculated based on total assets and liabilities measured at fair value on a recurring basis, excluding the cash collateral paid/received on derivatives.

Fair Value Levels

In millions of dollars at December 31, 2022	Level 1	Level 2	Level 3	Gross inventory	Netting[1]	Net balance
Assets						
Securities borrowed and purchased under agreements to resell	$ —	$ 350,145	$ 149	$ 350,294	$ (110,767)	$239,527
Trading non-derivative assets						
Trading mortgage-backed securities						
U.S. government-sponsored agency guaranteed	—	34,878	600	35,478	—	35,478
Residential	1	1,821	166	1,988	—	1,988
Commercial	—	798	145	943	—	943
Total trading mortgage-backed securities	$ 1	$ 37,497	$ 911	$ 38,409	$ —	$ 38,409
U.S. Treasury and federal agency securities	$ 63,067	$ 4,513	$ 1	$ 67,581	$ —	$ 67,581
State and municipal	—	2,256	7	2,263	—	2,263
Foreign government	38,383	25,850	119	64,352	—	64,352
Corporate	1,593	11,955	394	13,942	—	13,942
Equity securities	43,990	10,179	192	54,361	—	54,361
Asset-backed securities	—	1,597	668	2,265	—	2,265
Other trading assets[2]	24	14,963	648	15,635	—	15,635
Total trading non-derivative assets	$ 147,058	$ 108,810	$ 2,940	$ 258,808	$ —	$258,808
Trading derivatives						
Interest rate contracts	$ 297	$ 174,156	$ 3,751	$ 178,204		
Foreign exchange contracts	—	186,897	766	187,663		
Equity contracts	20	40,683	1,704	42,407		
Commodity contracts	—	26,823	1,501	28,324		
Credit derivatives	—	7,484	905	8,389		
Total trading derivatives—before netting and collateral	$ 317	$ 436,043	$ 8,627	$ 444,987		
Netting agreements					$ (346,545)	
Netting of cash collateral received[3]					(23,136)	
Total trading derivatives—after netting and collateral	$ 317	$ 436,043	$ 8,627	$ 444,987	$ (369,681)	$ 75,306
Investments						
Mortgage-backed securities						
U.S. government-sponsored agency guaranteed	$ —	$ 11,232	$ 30	$ 11,262	$ —	$ 11,262
Residential	—	444	41	485	—	485
Commercial	—	2	—	2	—	2
Total investment mortgage-backed securities	$ —	$ 11,678	$ 71	$ 11,749	$ —	$ 11,749
U.S. Treasury and federal agency securities	$ 91,851	$ 439	$ —	$ 92,290	$ —	$ 92,290
State and municipal	—	1,637	586	2,223	—	2,223
Foreign government	58,419	74,250	608	133,277	—	133,277
Corporate	2,230	2,343	343	4,916	—	4,916
Marketable equity securities	254	165	10	429	—	429
Asset-backed securities	—	1,029	1	1,030	—	1,030
Other debt securities	—	4,194	—	4,194	—	4,194
Non-marketable equity securities[4]	—	9	430	439	—	439
Total investments	$ 152,754	$ 95,744	$ 2,049	$ 250,547	$ —	$250,547

Table continues on the next page.

In millions of dollars at December 31, 2022	Level 1	Level 2	Level 3	Gross inventory	Netting[1]	Net balance
Loans	$ —	$ 3,999	$ 1,361	$ 5,360	$ —	$ 5,360
Mortgage servicing rights	—	—	665	665	—	665
Non-trading derivatives and other financial assets measured on a recurring basis	$ 4,310	$ 6,291	$ 57	$ 10,658	$ —	$ 10,658
Total assets	$ 304,439	$1,001,032	$ 15,848	$ 1,321,319	$ (480,448)	$840,871
Total as a percentage of gross assets[5]	23.0%	75.8%	1.2%			
Liabilities						
Interest-bearing deposits	$ —	$ 1,860	$ 15	$ 1,875	$ —	$ 1,875
Securities loaned and sold under agreements to repurchase	—	155,822	1,031	156,853	(85,967)	70,886
Trading account liabilities						
Securities sold, not yet purchased	97,559	13,111	50	110,720	—	110,720
Other trading liabilities	—	8	3	11	—	11
Total trading account liabilities	$ 97,559	$ 13,119	$ 53	$ 110,731	$ —	$110,731
Trading derivatives						
Interest rate contracts	$ 175	$ 169,049	$ 3,396	$ 172,620		
Foreign exchange contracts	—	185,279	716	185,995		
Equity contracts	70	40,905	2,808	43,783		
Commodity contracts	2	25,093	1,223	26,318		
Credit derivatives	—	6,715	1,062	7,777		
Total trading derivatives—before netting and collateral	$ 247	$ 427,041	$ 9,205	$ 436,493		
Netting agreements					$ (346,545)	
Netting of cash collateral paid[3]					(30,032)	
Total trading derivatives—after netting and collateral	$ 247	$ 427,041	$ 9,205	$ 436,493	$ (376,577)	$ 59,916
Short-term borrowings	$ —	$ 6,184	$ 38	$ 6,222	$ —	$ 6,222
Long-term debt	—	69,878	36,117	105,995	—	105,995
Total non-trading derivatives and other financial liabilities measured on a recurring basis	$ 4,197	$ 240	$ 2	$ 4,439	$ —	$ 4,439
Total liabilities	$ 102,003	$ 674,144	$ 46,461	$ 822,608	$ (462,544)	$360,064
Total as a percentage of gross liabilities[5]	12.4 %	82.0 %	5.6 %			

(1) Represents netting of (i) the amounts due under securities purchased under agreements to resell and the amounts owed under securities sold under agreements to repurchase and (ii) derivative exposures covered by a qualifying master netting agreement and cash collateral offsetting.

(2) Includes positions related to investments in unallocated precious metals, as discussed in Note 23. Also includes physical commodities accounted for at the lower of cost or fair value and unfunded credit products.

(3) Represents the netting of cash collateral paid and received by counterparties under enforceable credit support agreements. Substantially all netting of cash collateral received and paid is against OTC derivative assets and liabilities, respectively.

(4) Amounts exclude $27 million of investments measured at NAV in accordance with ASU 2015-07, *Fair Value Measurement (Topic 820): Disclosures for Investments in Certain Entities That Calculate Net Asset Value per Share (or Its Equivalent).*

(5) Because the amount of the cash collateral paid/received has not been allocated to the Level 1, 2 and 3 subtotals, these percentages are calculated based on total assets and liabilities measured at fair value on a recurring basis, excluding the cash collateral paid/received on derivatives.

Changes in Level 3 Fair Value Category

The following tables present the changes in the Level 3 fair value category for the three and six months ended June 30, 2023 and 2022. The gains and losses presented below include changes in the fair value related to both observable and unobservable inputs.

The Company often hedges positions with offsetting positions that are classified in a different level. For example, the gains and losses for assets and liabilities in the Level 3 category presented in the tables below do not reflect the effect of offsetting losses and gains on hedging instruments that may be classified in the Level 1 or Level 2 categories. In addition, the Company hedges items classified in the Level 3 category with instruments also classified in Level 3 of the fair value hierarchy. The hedged items and related hedges are presented gross in the following tables:

Level 3 Fair Value Rollforward

In millions of dollars	Mar. 31, 2023	Net realized/unrealized gains (losses) incl. in[1]		Transfers		Purchases	Issuances	Sales	Settlements	Jun. 30, 2023	Unrealized gains (losses) still held[3]
		Principal transactions	Other[1][2]	into Level 3	out of Level 3						
Assets											
Securities borrowed and purchased under agreements to resell	$ 153	$ (10)	$ —	$ —	$ (2)	$ —	$ —	$ —	$ (1)	$ 140	$ (8)
Trading non-derivative assets											
Trading mortgage-backed securities											
U.S. government-sponsored agency guaranteed	658	(32)	—	93	(124)	147	—	(83)	—	659	(24)
Residential	162	(2)	—	35	(43)	39	—	(46)	—	145	(3)
Commercial	163	(10)	—	48	(18)	31	—	(32)	—	182	(7)
Total trading mortgage-backed securities	$ 983	$ (44)	$ —	$ 176	$ (185)	$ 217	$ —	$ (161)	$ —	$ 986	$ (34)
U.S. Treasury and federal agency securities	$ 1	$ (1)	$ —	$ —	$ —	$ —	$ —	$ —	$ —	$ —	$ —
State and municipal	23	(1)	—	—	—	—	—	(19)	—	3	—
Foreign government	53	(1)	—	8	(2)	49	—	(26)	—	81	(1)
Corporate	296	46	—	196	(51)	256	—	(162)	—	581	88
Marketable equity securities	225	6	—	14	(2)	66	—	(24)	—	285	5
Asset-backed securities	567	(1)	—	74	(18)	197	—	(280)	—	539	(5)
Other trading assets	1,094	373	—	16	(74)	178	—	(109)	—	1,478	378
Total trading non-derivative assets	$ 3,242	$ 377	$ —	$ 484	$ (332)	$ 963	$ —	$ (781)	$ —	$ 3,953	$ 431
Trading derivatives, net[4]											
Interest rate contracts	$ 260	$ (1,550)	$ —	$ (167)	$ (669)	$ (17)	$ —	$ 13	$ 168	$ (1,962)	$ (1,486)
Foreign exchange contracts	76	503	—	121	50	27	—	(42)	(35)	700	438
Equity contracts	(1,582)	(486)	—	(16)	572	(7)	—	(21)	(23)	(1,563)	(494)
Commodity contracts	230	188	—	74	(83)	9	—	(9)	(79)	330	18
Credit derivatives	(21)	(154)	—	(20)	36	—	—	—	4	(155)	(215)
Total trading derivatives, net[4]	$ (1,037)	$ (1,499)	$ —	$ (8)	$ (94)	$ 12	$ —	$ (59)	$ 35	$ (2,650)	$ (1,739)

Table continues on the next page.

In millions of dollars	Mar. 31, 2023	Net realized/unrealized gains (losses) incl. in[1]		Transfers		Purchases	Issuances	Sales	Settlements	Jun. 30, 2023	Unrealized gains (losses) still held[3]
		Principal transactions	Other[1][2]	into Level 3	out of Level 3						
Investments											
Mortgage-backed securities											
U.S. government-sponsored agency guaranteed	$ 28	$ —	$ 1	$ —	$ —	$ 4	$ —	$ (1)	$ —	$ 32	$ (1)
Residential	25	—	—	—	—	—	—	—	—	25	—
Commercial	—	—	—	—	—	—	—	—	—	—	—
Total investment mortgage-backed securities	$ 53	$ —	$ 1	$ —	$ —	$ 4	$ —	$ (1)	$ —	$ 57	$ (1)
U.S. Treasury and federal agency securities	$ 51	$ —	$ —	$ —	$ —	$ —	$ —	$ (30)	$ —	$ 21	$ —
State and municipal	521	—	(8)	—	(2)	—	—	(4)	—	507	(8)
Foreign government	551	—	7	15	(17)	363	—	(505)	—	414	7
Corporate	291	—	(4)	—	—	23	—	(20)	—	290	(4)
Marketable equity securities	12	—	1	—	—	—	—	—	—	13	(7)
Asset-backed securities	1	—	—	—	—	—	—	—	—	1	—
Other debt securities	4	—	1	—	(5)	57	—	—	—	57	—
Non-marketable equity securities	409	—	(14)	—	—	10	—	(1)	—	404	5
Total investments	$ 1,893	$ —	$ (16)	$ 15	$ (24)	$ 457	$ —	$ (561)	$ —	$ 1,764	$ (8)
Loans	$ 640	$ —	$ (281)	$ 2	$ (119)	$ —	$ —	$ —	$ (1)	$ 241	$ (146)
Mortgage servicing rights	658	—	21	—	—	—	19	—	(17)	681	22
Other financial assets measured at fair value on a recurring basis	52	—	1	—	(1)	21	—	—	—	73	—
Liabilities											
Interest-bearing deposits	$ 16	$ (7)	$ —	$ —	$ —	$ —	$ 13	$ —	$ (10)	$ 26	$ (7)
Securities loaned and sold under agreements to repurchase	809	1	—	—	(24)	511	—	—	(668)	627	1
Trading account liabilities											
Securities sold, not yet purchased	72	2	—	5	(15)	33	—	—	(31)	62	4
Other trading liabilities	1	—	—	3	—	—	—	—	—	4	(1)
Short-term borrowings	281	13	—	19	(11)	—	21	—	(1)	296	(4)
Long-term debt	36,581	893	—	2,130	(1,263)	—	808	—	(159)	37,204	591
Other financial liabilities measured on a recurring basis	20	—	(1)	—	(1)	—	3	—	—	23	(1)

(1) Net realized/unrealized gains (losses) are presented as increase (decrease) to Level 3 assets, and as (increase) decrease to Level 3 liabilities. Changes in fair value of available-for-sale debt securities are recorded in *AOCI*, unless related to credit impairment, while gains and losses from sales are recorded in *Realized gains (losses) from sales of investments* in the Consolidated Statement of Income.

(2) Unrealized gains (losses) on MSRs are recorded in *Other revenue* in the Consolidated Statement of Income.

(3) Represents the amount of total gains or losses for the period, included in earnings (and *AOCI* for changes in fair value of available-for-sale debt securities and DVA on fair value option liabilities), attributable to the change in fair value relating to assets and liabilities classified as Level 3 that are still held at June 30, 2023.

(4) Total Level 3 derivative assets and liabilities have been netted in these tables for presentation purposes only.

In millions of dollars	Dec. 31, 2022	Net realized/unrealized gains (losses) incl. in[1]		Transfers		Purchases	Issuances	Sales	Settlements	Jun. 30, 2023	Unrealized gains (losses) still held[3]
		Principal transactions	Other[1][2]	into Level 3	out of Level 3						
Assets											
Securities borrowed and purchased under agreements to resell	$ 149	**$ 3**	**$ —**	**$ —**	**$ (2)**	**$ 137**	**$ —**	**$ —**	**$ (147)**	**$ 140**	**$ 5**
Trading non-derivative assets											
Trading mortgage-backed securities											
U.S. government-sponsored agency guaranteed	600	**(10)**	**—**	**185**	**(266)**	**370**	**—**	**(220)**	**—**	**659**	**(35)**
Residential	166	**(1)**	**—**	**61**	**(62)**	**100**	**—**	**(119)**	**—**	**145**	**(13)**
Commercial	145	**(15)**	**—**	**104**	**(31)**	**50**	**—**	**(71)**	**—**	**182**	**(13)**
Total trading mortgage-backed securities	$ 911	**$ (26)**	**$ —**	**$ 350**	**$ (359)**	**$ 520**	**$ —**	**$ (410)**	**$ —**	**$ 986**	**$ (61)**
U.S. Treasury and federal agency securities	$ 1	**$ (1)**	**$ —**	**$ —**	**$ —**	**$ —**	**$ —**	**$ —**	**$ —**	**$ —**	**$ —**
State and municipal	7	**(3)**	**—**	**19**	**—**	**—**	**—**	**(20)**	**—**	**3**	**—**
Foreign government	119	**6**	**—**	**8**	**(27)**	**61**	**—**	**(86)**	**—**	**81**	**5**
Corporate	394	**76**	**—**	**210**	**(178)**	**352**	**—**	**(273)**	**—**	**581**	**153**
Marketable equity securities	192	**9**	**—**	**26**	**(8)**	**97**	**—**	**(31)**	**—**	**285**	**10**
Asset-backed securities	668	**14**	**—**	**79**	**(81)**	**318**	**—**	**(459)**	**—**	**539**	**—**
Other trading assets	648	**401**	**—**	**261**	**(76)**	**468**	**—**	**(224)**	**—**	**1,478**	**411**
Total trading non-derivative assets	$ 2,940	**$ 476**	**$ —**	**$ 953**	**$ (729)**	**$ 1,816**	**$ —**	**$ (1,503)**	**$ —**	**$ 3,953**	**$ 518**
Trading derivatives, net[4]											
Interest rate contracts	$ 355	**$ (1,689)**	**$ —**	**$ (202)**	**$ (659)**	**$ (13)**	**$ —**	**$ 13**	**$ 233**	**$ (1,962)**	**$ (1,713)**
Foreign exchange contracts	50	**546**	**—**	**104**	**48**	**102**	**—**	**(81)**	**(69)**	**700**	**497**
Equity contracts	(1,104)	**(878)**	**—**	**(67)**	**806**	**(253)**	**—**	**(44)**	**(23)**	**(1,563)**	**(624)**
Commodity contracts	278	**(137)**	**—**	**174**	**240**	**(58)**	**—**	**(12)**	**(155)**	**330**	**(148)**
Credit derivatives	(157)	**(146)**	**—**	**(3)**	**136**	**2**	**—**	**—**	**13**	**(155)**	**(203)**
Total trading derivatives, net[4]	$ (578)	**$ (2,304)**	**$ —**	**$ 6**	**$ 571**	**$ (220)**	**$ —**	**$ (124)**	**$ (1)**	**$ (2,650)**	**$ (2,191)**

Table continues on the next page.

In millions of dollars	Dec. 31, 2022	Net realized/unrealized gains (losses) incl. in[1]		Transfers		Purchases	Issuances	Sales	Settlements	Jun. 30, 2023	Unrealized gains (losses) still held[3]
		Principal transactions	Other[1][2]	into Level 3	out of Level 3						
Investments											
Mortgage-backed securities											
U.S. government-sponsored agency guaranteed	$ 30	$ —	$ (1)	$ —	$ —	$ 4	$ —	$ (1)	$ —	$ 32	$ (4)
Residential	41	—	—	—	—	—	—	(16)	—	25	—
Commercial	—	—	—	—	—	—	—	—	—	—	—
Total investment mortgage-backed securities	$ 71	$ —	$ (1)	$ —	$ —	$ 4	$ —	$ (17)	$ —	$ 57	$ (4)
U.S. Treasury and federal agency securities	$ —	$ —	$ —	$ —	$ —	$ 51	$ —	$ (30)	$ —	$ 21	$ —
State and municipal	586	—	9	1	(77)	1	—	(13)	—	507	5
Foreign government	608	—	5	25	(18)	523	—	(729)	—	414	8
Corporate	343	—	(1)	—	(61)	81	—	(72)	—	290	(4)
Marketable equity securities	10	—	3	—	—	—	—	—	—	13	—
Asset-backed securities	1	—	—	—	—	—	—	—	—	1	—
Other debt securities	—	—	—	—	(5)	62	—	—	—	57	—
Non-marketable equity securities	430	—	(18)	2	—	16	—	(26)	—	404	5
Total investments	$ 2,049	$ —	$ (3)	$ 28	$ (161)	$ 738	$ —	$ (887)	$ —	$ 1,764	$ 10
Loans	$ 1,361	$ —	$ (264)	$ 2	$ (309)	$ —	$ 106	$ —	$ (655)	$ 241	$ (133)
Mortgage servicing rights	665	—	18	—	—	—	31	—	(33)	681	20
Other financial assets measured at fair value on a recurring basis	57	—	(2)	—	(2)	22	—	(2)	—	73	—
Liabilities											
Interest-bearing deposits	$ 15	$ (7)	$ (2)	$ —	$ (1)	$ —	$ 13	$ —	$ (10)	$ 26	$ (7)
Securities loaned and sold under agreements to repurchase	1,031	(6)	—	—	(24)	1,335	—	—	(1,721)	627	—
Trading account liabilities											
Securities sold, not yet purchased	50	(13)	—	11	(31)	64	—	—	(45)	62	6
Other trading liabilities	3	2	—	3	—	—	—	—	—	4	—
Short-term borrowings	38	40	—	19	(16)	—	297	—	(2)	296	(9)
Long-term debt	36,117	(227)	—	3,228	(6,106)	—	4,344	—	(606)	37,204	964
Other financial liabilities measured on a recurring basis	2	—	1	—	(1)	—	23	—	—	23	(1)

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(2) Unrealized gains (losses) on MSRs are recorded in *Other revenue* in the Consolidated Statement of Income.

(3) Represents the amount of total gains or losses for the period, included in earnings (and *AOCI* for changes in fair value of available-for-sale debt securities and DVA on fair value option liabilities), attributable to the change in fair value relating to assets and liabilities classified as Level 3 that are still held at June 30, 2023.

(4) Total Level 3 derivative assets and liabilities have been netted in these tables for presentation purposes only.

In millions of dollars	Mar. 31, 2022	Net realized/unrealized gains (losses) incl. in[1]		Transfers		Purchases	Issuances	Sales	Settlements	Jun. 30, 2022	Unrealized gains (losses) still held[3]
		Principal transactions	Other[1][2]	into Level 3	out of Level 3						
Assets											
Securities borrowed and purchased under agreements to resell	$ 202	$ (12)	$ —	$ —	$ —	$ 36	$ —	$ —	$ (43)	$ 183	$ (10)
Trading non-derivative assets											
Trading mortgage-backed securities											
U.S. government-sponsored agency guaranteed	498	(15)	—	80	(89)	318	—	(84)	—	708	(19)
Residential	118	—	—	28	(11)	47	—	(29)	—	153	(4)
Commercial	52	(3)	—	96	(8)	4	—	(3)	—	138	(3)
Total trading mortgage-backed securities	$ 668	$ (18)	$ —	$ 204	$ (108)	$ 369	$ —	$ (116)	$ —	$ 999	$ (26)
U.S. Treasury and federal agency securities	$ 2	$ —	$ —	$ —	$ (1)	$ —	$ —	$ —	$ —	$ 1	$ —
State and municipal	6	4	—	71	—	—	—	(1)	—	80	(3)
Foreign government	94	(27)	—	249	(1)	57	—	(8)	—	364	(12)
Corporate	1,013	59	—	120	(244)	181	—	(592)	—	537	38
Marketable equity securities	199	(9)	—	14	(61)	58	—	(68)	—	133	(23)
Asset-backed securities	466	(24)	—	82	(100)	262	—	(132)	—	554	(26)
Other trading assets	492	79	—	305	(30)	117	6	(149)	(4)	816	54
Total trading non-derivative assets	$ 2,940	$ 64	$ —	$ 1,045	$ (545)	$ 1,044	$ 6	$ (1,066)	$ (4)	$ 3,484	$ 2
Trading derivatives, net[4]											
Interest rate contracts	$ 779	$ 434	$ —	$ 141	$ (272)	$ 7	$ 6	$ (6)	$ (208)	$ 881	$ 473
Foreign exchange contracts	(131)	769	—	34	(50)	73	20	(547)	(12)	156	126
Equity contracts	(1,564)	1,189	—	(60)	232	220	—	(91)	(27)	(101)	1,182
Commodity contracts	217	208	—	(74)	84	67	—	(98)	(149)	255	246
Credit derivatives	(4)	6	—	(97)	(164)	—	—	—	(90)	(349)	(26)
Total trading derivatives, net[4]	$ (703)	$ 2,606	$ —	$ (56)	$ (170)	$ 367	$ 26	$ (742)	$ (486)	$ 842	$ 2,001

Table continues on the next page.

In millions of dollars	Mar. 31, 2022	Net realized/unrealized gains (losses) incl. in[1]		Transfers		Purchases	Issuances	Sales	Settlements	Jun. 30, 2022	Unrealized gains (losses) still held[3]
		Principal transactions	Other[1][2]	into Level 3	out of Level 3						
Investments											
Mortgage-backed securities											
U.S. government-sponsored agency guaranteed	$ 46	$ —	$ (2)	$ —	$ (10)	$ —	$ —	$ (6)	$ —	$ 28	$ (2)
Residential	44	—	(4)	—	—	—	—	—	—	40	(4)
Total investment mortgage-backed securities	$ 90	$ —	$ (6)	$ —	$ (10)	$ —	$ —	$ (6)	$ —	$ 68	$ (6)
U.S. Treasury and federal agency securities	$ 1	$ —	$ (1)	$ —	$ —	$ —	$ —	$ —	$ —	$ —	$ —
State and municipal	705	—	(34)	—	(131)	1	—	(2)	—	539	(14)
Foreign government	1,029	—	(15)	—	(54)	202	—	(161)	—	1,001	(16)
Corporate	237	—	(3)	100	—	—	—	—	—	334	(1)
Marketable equity securities	16	—	(6)	—	—	—	—	—	—	10	(7)
Asset-backed securities	2	—	(1)	—	—	—	—	—	—	1	—
Non-marketable equity securities	298	—	2	—	—	20	—	(10)	—	310	(1)
Total investments	$ 2,378	$ —	$ (64)	$ 100	$ (195)	$ 223	$ —	$ (179)	$ —	$ 2,263	$ (45)
Loans	$ 622	$ —	$ (105)	$ 1	$ (193)	$ —	$ 1	$ —	$ (1)	$ 325	$ (7)
Mortgage servicing rights	520	—	59	—	—	—	35	—	(14)	600	59
Other financial assets measured at fair value on a recurring basis	68	—	4	7	(12)	13	15	—	(32)	63	7
Liabilities											
Interest-bearing deposits	$ 191	$ —	$ 7	$ —	$ (122)	$ —	$ 17	$ —	$ (61)	$ 18	$ —
Securities loaned and sold under agreements to repurchase	612	24	—	—	(3)	16	—	—	(8)	593	10
Trading account liabilities											
Securities sold, not yet purchased	38	(8)	—	10	(4)	30	—	1	(11)	72	(12)
Short-term borrowings	36	1	—	12	(12)	—	69	—	(23)	81	2
Long-term debt	27,432	4,719	—	3,335	(2,634)	—	6,527	—	(163)	29,778	4,232

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(2) Unrealized gains (losses) on MSRs are recorded in *Other revenue* in the Consolidated Statement of Income.

(3) Represents the amount of total gains or losses for the period, included in earnings (and *AOCI* for changes in fair value of available-for-sale debt securities and DVA on fair value option liabilities), attributable to the change in fair value relating to assets and liabilities classified as Level 3 that are still held at June 30, 2022.

(4) Total Level 3 derivative assets and liabilities have been netted in these tables for presentation purposes only.

In millions of dollars	Dec. 31, 2021	Net realized/unrealized gains (losses) incl. in[1]		Transfers		Purchases	Issuances	Sales	Settlements	Jun. 30, 2022	Unrealized gains (losses) still held[3]
		Principal transactions	Other[1][2]	into Level 3	out of Level 3						
Assets											
Securities borrowed and purchased under agreements to resell	$ 231	$ (1)	$ —	$ —	$ —	$ 124	$ —	$ —	$ (171)	$ 183	$ (7)
Trading non-derivative assets											
Trading mortgage-backed securities											
U.S. government-sponsored agency guaranteed	496	(13)	—	127	(158)	484	—	(228)	—	708	(21)
Residential	104	—	—	61	(32)	85	—	(65)	—	153	(5)
Commercial	81	(5)	—	97	(34)	9	—	(10)	—	138	(2)
Total trading mortgage-backed securities	$ 681	$ (18)	$ —	$ 285	$ (224)	$ 578	$ —	$ (303)	$ —	$ 999	$ (28)
U.S. Treasury and federal agency securities	$ 4	$ (4)	$ —	$ 2	$ (1)	$ —	$ —	$ —	$ —	$ 1	$ —
State and municipal	37	5	—	71	(20)	1	—	(14)	—	80	(5)
Foreign government	23	(26)	—	299	(1)	87	—	(18)	—	364	(18)
Corporate	412	68	—	262	(278)	828	—	(755)	—	537	18
Marketable equity securities	174	(14)	—	63	(87)	108	—	(111)	—	133	(40)
Asset-backed securities	613	(19)	—	140	(167)	393	—	(406)	—	554	(45)
Other trading assets	576	126	—	333	(92)	366	16	(501)	(8)	816	75
Total trading non-derivative assets	$ 2,520	$ 118	$ —	$ 1,455	$ (870)	$ 2,361	$ 16	$ (2,108)	$ (8)	$ 3,484	$ (43)
Trading derivatives, net[4]											
Interest rate contracts	$ 1,726	$ 600	$ —	$ 73	$ (803)	$ 9	$ 6	$ (6)	$ (724)	$ 881	$ 650
Foreign exchange contracts	(89)	1,164	—	(475)	(6)	175	20	(611)	(22)	156	235
Equity contracts	(2,140)	1,997	—	(73)	207	405	—	(316)	(181)	(101)	1,634
Commodity contracts	422	622	—	(45)	(409)	120	—	(142)	(313)	255	410
Credit derivatives	(31)	(57)	—	(65)	(151)	—	—	(1)	(44)	(349)	(95)
Total trading derivatives, net[4]	$ (112)	$ 4,326	$ —	$ (585)	$ (1,162)	$ 709	$ 26	$ (1,076)	$ (1,284)	$ 842	$ 2,834

Table continues on the next page.

In millions of dollars	Dec. 31, 2021	Net realized/unrealized gains (losses) incl. in[1]		Transfers		Purchases	Issuances	Sales	Settlements	Jun. 30, 2022	Unrealized gains (losses) still held[3]
		Principal transactions	Other[1][2]	into Level 3	out of Level 3						
Investments											
Mortgage-backed securities											
U.S. government-sponsored agency guaranteed	$ 51	$ —	$ (9)	$ 1	$ (10)	$ 4	$ —	$ (9)	$ —	$ 28	$ (4)
Residential	94	—	(6)	—	(39)	—	—	(9)	—	40	(5)
Total investment mortgage-backed securities	$ 145	$ —	$ (15)	$ 1	$ (49)	$ 4	$ —	$ (18)	$ —	$ 68	$ (9)
U.S. Treasury and federal agency securities	$ 1	$ —	$ (1)	$ —	$ —	$ —	$ —	$ —	$ —	$ —	$ —
State and municipal	772	—	(78)	—	(142)	1	—	(14)	—	539	(47)
Foreign government	786	—	(39)	250	(113)	385	—	(268)	—	1,001	(19)
Corporate	188	—	(7)	153	—	—	—	—	—	334	(2)
Marketable equity securities	16	—	(6)	—	—	—	—	—	—	10	(7)
Asset-backed securities	3	—	11	—	—	—	—	(13)	—	1	—
Non-marketable equity securities	316	—	(12)	11	—	20	—	(25)	—	310	(1)
Total investments	$ 2,227	$ —	$ (147)	$ 415	$ (304)	$ 410	$ —	$ (338)	$ —	$ 2,263	$ (85)
Loans	$ 711	$ —	$ (190)	$ 1	$ (195)	$ —	$ 1	$ —	$ (3)	$ 325	$ 166
Mortgage servicing rights	404	—	158	—	—	—	69	—	(31)	600	157
Other financial assets measured at fair value on a recurring basis	73	—	7	7	(16)	14	40	(1)	(61)	63	48
Liabilities											
Interest-bearing deposits	$ 183	$ —	$ 3	$ 7	$ (122)	$ —	$ 18	$ —	$ (65)	$ 18	$ —
Securities loaned and sold under agreements to repurchase	643	50	—	—	(3)	16	—	—	(13)	593	28
Trading account liabilities											
Securities sold, not yet purchased	65	21	—	35	(19)	83	—	1	(72)	72	(2)
Short-term borrowings	105	89	—	40	(21)	—	76	—	(30)	81	1
Long-term debt	25,509	8,245	—	6,743	(3,507)	—	9,699	—	(421)	29,778	(4,197)
Other financial liabilities measured on a recurring basis	1	—	1	—	—	—	—	—	—	—	—

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(2) Unrealized gains (losses) on MSRs are recorded in *Other revenue* in the Consolidated Statement of Income.

(3) Represents the amount of total gains or losses for the period, included in earnings (and *AOCI* for changes in fair value of available-for-sale debt securities and DVA on fair value option liabilities), attributable to the change in fair value relating to assets and liabilities classified as Level 3 that are still held at June 30, 2022.

(4) Total Level 3 derivative assets and liabilities have been netted in these tables for presentation purposes only.

Level 3 Fair Value Transfers

The following were the significant Level 3 transfers for the period December 31, 2022 to June 30, 2023:

- During the three and six months ended June 30, 2023, transfers of *Long-term debt* were $2.1 billion and $3.2 billion from Level 2 to Level 3, respectively. Of the $3.2 billion transfer, approximately $2.9 billion related to interest rate option volatility inputs becoming unobservable and/or significant relative to their overall valuation, and $0.3 billion related to equity and credit derivative inputs (in addition to other volatility inputs, e.g., interest rate volatility inputs) becoming unobservable and/or significant to their overall valuation. In other instances, market changes have resulted in some inputs becoming more observable, and some unobservable inputs becoming less significant to the overall valuation of the instruments (e.g., when an option becomes deep-in or deep-out of the money). This has primarily resulted in $1.3 billion and $6.1 billion of certain structured long-term debt products being transferred from Level 3 to Level 2 during the three and six months ended June 30, 2023, respectively.

The following were the significant Level 3 transfers for the period December 31, 2021 to June 30, 2022:

- During the three and six months ended June 30, 2022, transfers of *Long-term debt* were $3.3 billion and $6.7 billion, respectively, from Level 2 to Level 3. Of the $6.7 billion transfer in the six months ended June 30, 2022, approximately $4.5 billion related to interest rate option volatility inputs becoming unobservable and/or significant relative to their overall valuation, and $2.2 billion related to equity and credit derivative inputs (in addition to other volatility inputs, e.g., interest rate volatility inputs) becoming unobservable and/or significant to their overall valuation. In other instances, market changes have resulted in some inputs becoming more observable, and some unobservable inputs becoming less significant to the overall valuation of the instruments (e.g., when an option becomes deep-in or deep-out of the money). This has primarily resulted in $2.6 billion and $3.5 billion of certain structured long-term debt products being transferred from Level 3 to Level 2 during the three and six months ended June 30, 2022, respectively.

Valuation Techniques and Inputs for Level 3 Fair Value Measurements

The following tables present the valuation techniques covering the majority of Level 3 inventory and the most significant unobservable inputs used in Level 3 fair value measurements.

Differences between this table and amounts presented in the Level 3 Fair Value Rollforward table represent individually immaterial items that have been measured using a variety of valuation techniques other than those listed.

As of June 30, 2023	Fair value[1] *(in millions)*	Methodology	Input	Low[2][3]	High[2][3]	Weighted average[4]
Assets						
Securities borrowed and purchased under agreements to resell	**$ 140**	Model-based	Interest rate	**1.23 %**	**1.23 %**	**1.23 %**
			Credit spread	**15 bps**	**15 bps**	**15 bps**
Mortgage-backed securities	**$ 726**	Yield analysis	Yield	**4.46 %**	**19.42 %**	**9.45 %**
	310	Price-based	Price	**$ 1.11**	**$ 102.74**	**$ 53.57**
State and municipal, foreign government, corporate and other debt securities	**$ 2,349**	Price-based	Price	**$ 0.01**	**$ 114.74**	**$ 83.15**
	973	Model-based	Credit spread	**35 bps**	**508 bps**	**275 bps**
			Forward price	**17.46 %**	**218.96 %**	**102.59 %**
			Commodity volatility	**8.79 %**	**166.93 %**	**27.52 %**
			Commodity correlation	**(21.00)%**	**95.73 %**	**43.10 %**
Marketable equity securities[5]	**$ 241**	Price-based	Price	**$ —**	**$ 10,165.30**	**$ 171.81**
	34	Model-based	WAL	**3 years**	**3 years**	**3 years**
			Recovery *(in millions)*	**$ 7,148**	**$ 7,148**	**$ 7,148**
Asset-backed securities	**$ 463**	Price-based	Price	**$ 5.45**	**$ 140.00**	**$ 70.87**
	77	Yield analysis	Yield	**6.12 %**	**11.91 %**	**8.58 %**
Non-marketable equities	**$ 298**	Comparables analysis	Illiquidity discount	**10.00 %**	**12.00 %**	**10.08 %**
	57	Cash flow	PE ratio	**13.80x**	**15.40x**	**14.23x**
			Discount to price	**8.50 %**	**33.00 %**	**17.28 %**
			Revenue multiple	**3.70x**	**13.77x**	**10.94x**
Derivatives—gross[6]						
Interest rate contracts (gross)	**$ 6,435**	Model-based	IR normal volatility	**0.28 %**	**15.00 %**	**1.20 %**
			Interest rate	**2.57 %**	**5.24 %**	**3.13 %**
Foreign exchange contracts (gross)	**$ 1,916**	Model-based	IR normal volatility	**0.28 %**	**44.99 %**	**1.71 %**
Equity contracts (gross)[7]	**$ 4,062**	Model-based	Equity volatility	**— %**	**279.49 %**	**33.30 %**
			Equity forward	**72.62 %**	**265.04 %**	**105.44 %**
			Equity-FX correlation	**(90.00)%**	**70.00 %**	**(11.24)%**
			WAL	**3 years**	**3 years**	**3 years**
			Recovery *(in millions)*	**$ 7,148**	**$ 7,148**	**$ 7,148**
			Equity-IR correlation	**(22.00)%**	**60.00 %**	**30.04 %**
Commodity and other contracts (gross)	**$ 1,772**	Model-based	Commodity correlation	**(21.00)%**	**95.73 %**	**43.10 %**
			Commodity volatility	**8.79 %**	**166.93 %**	**27.52 %**
			Forward price	**17.46 %**	**463.41 %**	**104.70 %**
Credit derivatives (gross)	**$ 1,307**	Model-based	Credit spread	**7 bps**	**520 bps**	**95 bps**
	510	Price-based	Recovery rate	**6.00 %**	**75.00 %**	**37.52 %**
			Credit correlation	**30.00 %**	**90.00 %**	**50.34 %**
			Price	**$ 3.66**	**$ 99.49**	**$ 36.20**
			Upfront points	**(0.64)%**	**99.00 %**	**54.49 %**
Nontrading derivatives and other financial assets and liabilities measured on a recurring basis (gross)	**$ 95**	Price-based	Price	**$ 0.01**	**$ 106.50**	**$ 87.76**

As of June 30, 2023	**Fair value[1] *(in millions)***	**Methodology**	**Input**	**Low[2][3]**	**High[2][3]**	**Weighted average[4]**
Loans and leases	**$ 234**	Price-based	Price	**$ 69.49**	**$ 106.96**	**$ 72.06**
			Forward price	**17.46 %**	**383.18 %**	**109.86 %**
			Commodity volatility	**8.79 %**	**166.93 %**	**27.52 %**
			Commodity correlation	**(21.00)%**	**95.73 %**	**43.10 %**
Mortgage servicing rights	**$ 597**	Cash flow	Yield	**— %**	**12.00 %**	**5.12 %**
	85	Model-based	WAL	**3.84 years**	**9.17 years**	**7.71 years**
Liabilities						
Interest-bearing deposits	**$ 26**	Model-based	Forward price	**100.00 %**	**100.00 %**	**100.00 %**
Securities loaned and sold under agreements to repurchase	**$ 627**	Model-based	Interest rate	**3.96 %**	**5.53 %**	**4.24 %**
Trading account liabilities						
Securities sold, not yet purchased and other trading liabilities	**$ 60**	Price-based	Price	**$ —**	**$ 10,616**	**$ 72**
Short-term borrowings and long-term debt	**$ 37,378**	Model-based	IR normal volatility	**0.28 %**	**13.00 %**	**1.07 %**

As of December 31, 2022	Fair value[1] *(in millions)*	Methodology	Input	Low[2][3]	High[2][3]	Weighted average[4]
Assets						
Securities borrowed and purchased under agreements to resell	$ 146	Model-based	Credit spread	15 bps	15 bps	15 bps
			Interest rate	2.61 %	2.61 %	2.61 %
Mortgage-backed securities	$ 228	Price-based	Price	$ 1.04	$ 99.71	$ 51.51
	732	Yield analysis	Yield	4.41 %	20.30 %	9.74 %
State and municipal, foreign government, corporate and other debt securities	$ 2,360	Price-based	Price	$ 0.01	$ 994.68	$ 245.85
Marketable equity securities[5]	$ 147	Price-based	Price	$ —	$ 9,087.76	$ 114.29
	31	Model-based	WAL	2.24 years	2.24 years	2.24 years
			Recovery *(in millions)*	$ 7,148	$ 7,148	$ 7,148
Asset-backed securities	$ 304	Price-based	Price	$ 10.50	$ 145.00	$ 74.97
	308	Yield analysis	Yield	5.76 %	18.58 %	9.34 %
Non-marketable equities	$ 287	Comparables analysis	Illiquidity discount	8.60 %	17.00 %	10.16 %
	101	Price-based	PE ratio	14.00x	15.70x	15.16x
			Cost of capital	8.10 %	17.50 %	10.44 %
			Revenue multiple	3.60x	13.90x	12.40x
Derivatives—gross[6]						
Interest rate contracts (gross)	$ 7,108	Model-based	IR normal volatility	0.33 %	1.82 %	0.96 %
Foreign exchange contracts (gross)	$ 1,437	Model-based	IR normal volatility	0.33 %	1.47 %	0.67 %
			IR basis	(4.23)%	9.68 %	(0.03)%
			Equity volatility	0.05 %	300.72 %	33.91 %
			Credit spread	116 bps	626 bps	594 bps
Equity contracts (gross)[7]	$ 4,430	Model-based	Equity volatility	0.05 %	300.72 %	41.47 %
			Equity forward	68.34 %	271.61 %	103.50 %
			Equity-FX correlation	(95.00)%	50.00 %	(16.33)%
			Equity-Equity correlation	(3.98)%	98.68 %	85.63 %
			WAL	2.24 years	2.24 years	2.24 years
			Recovery *(in millions)*	$ 7,148	$ 7,148	$ 7,148
			Equity-IR correlation	(18.83)%	60.00 %	32.37 %

Commodity and other contracts (gross)	$ 2,724	Model-based	Forward price		14.27 %	385.50 %	106.08 %
			Commodity volatility		10.43 %	151.50 %	33.55 %
			Commodity correlation		(32.00)%	91.94 %	36.70 %
Credit derivatives (gross)	$ 1,520	Model-based	Credit spread		2.50 bps	955.10 bps	101.27 bps
	439	Price-based	Recovery rate		25.00 %	75.00 %	42.27 %
			Credit correlation		25.00 %	80.00 %	42.38 %
			Price	$	31.71	$ 99.00	$ 78.75
			Credit spread volatility		35.58 %	64.79 %	40.47 %
Non-trading derivatives and other financial assets and liabilities measured on a recurring basis (gross)	$ 57	Price-based	Price	$	80.16	$ 105.32	$ 92.65
Loans and leases	$ 1,059	Model-based	Equity volatility		0.05 %	300.72 %	42.62 %
	304	Price-based	Forward price		14.27 %	324.85 %	105.07 %
			Price	$	0.01	$ 100.53	$ 84.77
			Equity forward		68.34 %	271.61 %	103.49 %
Mortgage servicing rights	$ 580	Cash flow	Yield		(0.40)%	13.20 %	5.36 %
	84	Model-based	WAL		3.92 years	9.33 years	7.71 years
Liabilities							
Interest-bearing deposits	$ 15	Model-based	Forward price		100.00 %	101.30 %	100.07 %
Securities loaned and sold under agreements to repurchase	$ 970	Model-based	Interest rate		4.01 %	4.97 %	4.07 %
Trading account liabilities							
Securities sold, not yet purchased and other trading liabilities	$ 47	Price-based	Price	$	—	$ 9,087.76	$ 41.22
	6	Model-based	FX volatility		2.00 %	40.00 %	12.85 %
Short-term borrowings and long-term debt	$ 36,155	Model-based	IR normal volatility		0.33 %	1.82 %	0.89 %

(1) The tables above include the fair values for the items listed and may not foot to the total population for each category.
(2) Some inputs are shown as zero due to rounding.
(3) When the low and high inputs are the same, there is either a constant input applied to all positions, or the methodology involving the input applies to only one large position.
(4) Weighted averages are calculated based on the fair values of the instruments.
(5) For equity securities, the price inputs are expressed on an absolute basis, not as a percentage of the notional amount.
(6) Both trading and non-trading account derivatives—assets and liabilities—are presented on a gross absolute value basis.
(7) Includes hybrid products.

Items Measured at Fair Value on a Nonrecurring Basis

Certain assets and liabilities are measured at fair value on a nonrecurring basis and, therefore, are not included in the tables above. These include assets measured at cost that have been written down to fair value during the periods as a result of an impairment. These also include non-marketable equity securities that have been measured using the measurement alternative and are either (i) written down to fair value during the periods as a result of an impairment or (ii) adjusted upward or downward to fair value as a result of a transaction observed during the periods for an identical or similar investment in the same issuer. In addition, these assets include loans held-for-sale and other real estate owned that are measured at the lower of cost or market value.

The following tables present the carrying amounts of all assets that were still held for which a nonrecurring fair value measurement was recorded:

In millions of dollars	**Fair value**	**Level 2**	**Level 3**
June 30, 2023			
Loans HFS[(1)]	**$ 2,325**	**$ 761**	**$ 1,564**
Other real estate owned	**3**	**—**	**3**
Loans[(2)]	**170**	**—**	**170**
Non-marketable equity securities measured using the measurement alternative	**48**	**—**	**48**
Total assets at fair value on a nonrecurring basis	**$ 2,546**	**$ 761**	**$ 1,785**

In millions of dollars	Fair value	Level 2	Level 3
December 31, 2022			
Loans HFS[(1)]	$ 2,336	$ 457	$ 1,879
Other real estate owned	1	—	1
Loans[(2)]	69	—	69
Non-marketable equity securities measured using the measurement alternative	597	—	597
Total assets at fair value on a nonrecurring basis	$ 3,003	$ 457	$ 2,546

(1) Net of mark-to-market amounts on the unfunded portion of loans HFS recognized as *Other liabilities* on the Consolidated Balance Sheet.

(2) Represents impaired loans held for investment whose carrying amount is based on the fair value of the underlying collateral less costs to sell, primarily real estate.

Valuation Techniques and Inputs for Level 3 Nonrecurring Fair Value Measurements

The following tables present the valuation techniques covering the majority of Level 3 nonrecurring fair value measurements and the most significant unobservable inputs used in those measurements:

As of June 30, 2023	**Fair value[1] *(in millions)***	**Methodology**	**Input**	**Low[2]**	**High**	**Weighted average[3]**
Loans HFS	**$ 1,558**	Price-based	Price	**$ 75.00**	**$ 100.00**	**$ 89.85**
Other real estate owned	**$ 2**	Price-based	Appraised value[4]	**$ 24,300**	**$ 666,000**	**$ 404,791**
Loans[5]	**$ 86**	Recovery analysis	Appraised value[4]	**$ 12,000**	**$ 77,400,786**	**$ 42,187,539**
	83	Price-based				
Non-marketable equity securities measured using the measurement alternative	**$ 35**	Price-based	Price	**$ 0.10**	**$ 3.30**	**$ 2.25**
	13	Comparable analysis	Revenue multiple	**1.20x**	**10.20x**	**9.19x**

As of December 31, 2022	Fair value[1] *(in millions)*	Methodology	Input	Low[2]	High	Weighted average[3]
Loans HFS	$ 1,830	Price-based	Price	$ 0.88	$ 100.23	$ 65.91
Other real estate owned	$ 1	Price-based	Appraised value[4]	$ 30,000	$ 441,750	$ 310,552
Loans[5]	$ 45	Recovery analysis	Appraised value[4]	$ 12,000	$ 14,022,820	$ 3,714,342
	24	Appraised value				
Non-marketable equity securities measured using the measurement alternative	$ 234	Comparable analysis	Revenue multiple	4.95x	73.10x	19.68x
	363	Price-based	Price	$ 0.46	$ 2,416.43	$ 557.86

(1) The tables above include the fair values for the items listed and may not foot to the total population for each category.
(2) Some inputs are shown as zero due to rounding.
(3) Weighted averages are calculated based on the fair values of the instruments.
(4) Appraised values are disclosed in whole dollars.
(5) Represents impaired loans held for investment whose carrying amount is based on the fair value of the underlying collateral less costs to sell, primarily real estate.

Nonrecurring Fair Value Changes

The following table presents total nonrecurring fair value measurements for the period, included in earnings, attributable to the change in fair value relating to assets that were still held:

	Three Months Ended June 30,		**Six Months Ended June 30,**	
In millions of dollars	**2023**	2022	**2023**	2022
Loans HFS	**$ (15)**	$ (86)	**$ (26)**	$ (223)
Other real estate owned	**—**	—	**—**	—
Loans[1]	**(16)**	4	**(18)**	9
Non-marketable equity securities measured using the measurement alternative	**(27)**	43	**(54)**	128
Total nonrecurring fair value gains (losses)	**$ (58)**	$ (39)	**$ (98)**	$ (86)

(1) Represents loans held for investment whose carrying amount is based on the fair value of the underlying collateral less costs to sell, primarily real estate.

Estimated Fair Value of Financial Instruments Not Carried at Fair Value

The following tables present the carrying value and fair value of Citigroup's financial instruments that are not carried at fair value. The tables below therefore exclude items measured at fair value on a recurring basis presented in the tables above.

	June 30, 2023		**Estimated fair value**		
In billions of dollars	**Carrying value**	**Estimated fair value**	**Level 1**	**Level 2**	**Level 3**
Assets					
Investments, net of allowance	**$ 267.5**	**$ 243.6**	**$ 124.1**	**$ 117.2**	**$ 2.3**
Securities borrowed and purchased under agreements to resell	**127.0**	**127.0**	**—**	**127.0**	**—**
Loans[1][2]	**637.1**	**646.9**	**—**	**—**	**646.9**
Other financial assets[2][3]	**389.0**	**389.0**	**279.2**	**17.7**	**92.1**
Liabilities					
Deposits	**$ 1,317.3**	**$ 1,316.3**	**$ —**	**$ 1,124.6**	**$ 191.7**
Securities loaned and sold under agreements to repurchase	**197.2**	**197.2**	**—**	**197.2**	**—**
Long-term debt[4]	**158.6**	**160.7**	**—**	**148.9**	**11.8**
Other financial liabilities[5]	**136.7**	**136.7**	**—**	**31.6**	**105.1**

	December 31, 2022		Estimated fair value		
In billions of dollars	Carrying value	Estimated fair value	Level 1	Level 2	Level 3
Assets					
Investments, net of allowance	$ 274.3	$ 249.2	$ 123.2	$ 123.1	$ 2.9
Securities borrowed and purchased under agreements to resell	125.9	125.9	—	125.9	—
Loans[1][2]	634.5	634.9	—	—	634.9
Other financial assets[2][3]	427.1	427.1	320.0	22.0	85.1
Liabilities					
Deposits	$ 1,364.1	$ 1,345.4	$ —	$ 1,159.4	$ 186.0
Securities loaned and sold under agreements to repurchase	131.6	131.6	—	131.6	—
Long-term debt[4]	165.6	160.5	—	151.1	9.4
Other financial liabilities[5]	142.4	142.4	—	26.5	115.9

(1) The carrying value of loans is net of the allowance for credit losses on loans of $17.5 billion for June 30, 2023 and $17.0 billion for December 31, 2022. In addition, the carrying values exclude $0.3 billion and $0.4 billion of lease finance receivables at June 30, 2023 and December 31, 2022, respectively.
(2) Includes items measured at fair value on a nonrecurring basis.
(3) Includes cash and due from banks, deposits with banks, brokerage receivables, reinsurance recoverables and other financial instruments included in *Other assets* on the Consolidated Balance Sheet, for all of which the carrying value is a reasonable estimate of fair value.
(4) The carrying value includes long-term debt balances under qualifying fair value hedges.
(5) Includes brokerage payables, separate and variable accounts, short-term borrowings (carried at cost) and other financial instruments included in *Other liabilities* on the Consolidated Balance Sheet, for all of which the carrying value is a reasonable estimate of fair value.

The estimated fair values of the Company's corporate unfunded lending commitments at June 30, 2023 and December 31, 2022 were off-balance sheet liabilities of $8.1 billion and $13.7 billion, respectively, substantially all of which are classified as Level 3. The Company does not estimate the fair values of consumer unfunded lending commitments, which are generally cancelable by providing notice to the borrower.

23. FAIR VALUE ELECTIONS

The Company may elect to report most financial instruments and certain other items at fair value on an instrument-by-instrument basis with changes in fair value reported in earnings, other than DVA (see below). The election is made upon the initial recognition of an eligible financial asset, financial liability or firm commitment or when certain specified reconsideration events occur. The fair value election may not otherwise be revoked once an election is made. The changes in fair value are recorded in current earnings. Movements in DVA are reported as a component of *AOCI*.

The Company has elected fair value accounting for its mortgage servicing rights (MSRs). See Note 20 for additional details on Citi's MSRs. Additional discussion regarding other applicable areas in which fair value elections were made is presented in Note 22.

The following table presents the changes in fair value of those items for which the fair value option has been elected:

	Changes in fair value—gains (losses)			
	Three Months Ended June 30,		Six Months Ended June 30,	
In millions of dollars	**2023**	2022	**2023**	2022
Assets				
Securities borrowed and purchased under agreements to resell	**$ (95)**	$ (21)	**$ (10)**	$ (83)
Trading account assets	**18**	(177)	**79**	(238)
Loans				
Certain corporate loans	**635**	(1,523)	**326**	(1,855)
Certain consumer loans	**(4)**	—	**1**	(1)
Total loans	**$ 631**	$ (1,523)	**$ 327**	$ (1,856)
Other assets				
MSRs	**$ 22**	$ 60	**$ 19**	$ 158
Certain mortgage loans HFS[1]	**(18)**	(144)	**(10)**	(330)
Total other assets	**$ 4**	$ (84)	**$ 9**	$ (172)
Total assets	**$ 558**	$ (1,805)	**$ 405**	$ (2,349)
Liabilities				
Interest-bearing deposits	**$ 82**	$ (168)	**$ (52)**	$ (123)
Securities loaned and sold under agreements to repurchase	**49**	19	**(19)**	96
Trading account liabilities	**77**	191	**152**	(449)
Short-term borrowings[2]	**230**	1,064	**88**	1,196
Long-term debt[2]	**(2,147)**	9,642	**(6,496)**	15,713
Total liabilities	**$ (1,709)**	$ 10,748	**$ (6,327)**	$ 16,433

(1) Includes gains (losses) associated with interest rate lock commitments for originated loans for which the Company has elected the fair value option.
(2) Includes DVA that is included in *AOCI*. See Notes 18 and 22.

Own Debt Valuation Adjustments (DVA)
Own debt valuation adjustments are recognized on Citi's liabilities for which the fair value option has been elected using Citi's credit spreads observed in the bond market. Changes in fair value of fair value option liabilities related to changes in Citigroup's own credit spreads (DVA) are reflected as a component of *AOCI*. See Note 18 for additional information.

Among other variables, the fair value of liabilities for which the fair value option has been elected (other than non-recourse debt and similar liabilities) is impacted by the narrowing or widening of the Company's credit spreads.

The estimated changes in the fair value of these non-derivative liabilities due to such changes in the Company's own credit spread (or instrument-specific credit risk) were a loss of $(837) million and gain of $2,592 million for the three months ended June 30, 2023 and 2022, respectively, and a loss of $(1,270) million and gain of $3,642 million for the six months ended June 30, 2023 and 2022, respectively. Changes in fair value resulting from changes in instrument-specific credit risk were estimated by incorporating the Company's current credit spreads observable in the bond market into the relevant valuation technique used to value each liability as described above.

The Fair Value Option for Financial Assets and Financial Liabilities

Selected Portfolios of Securities Purchased Under Agreements to Resell, Securities Borrowed, Securities Sold Under Agreements to Repurchase, Securities Loaned and Certain Uncollateralized Short-Term Borrowings
The Company elected the fair value option for certain portfolios of fixed income securities purchased under agreements to resell and fixed income securities sold under agreements to repurchase, securities borrowed, securities loaned and certain uncollateralized short-term borrowings held primarily by broker-dealer entities in the United States, the United Kingdom and Japan. In each case, the election was made because the related interest rate risk is managed on a portfolio basis, primarily with offsetting derivative instruments that are accounted for at fair value through earnings.

Changes in fair value for transactions in these portfolios are recorded in *Principal transactions*. The related interest revenue and interest expense are measured based on the contractual rates specified in the transactions and are reported as *Interest revenue* and *Interest expense* in the Consolidated Statement of Income.

Certain Loans and Other Credit Products
Citigroup has also elected the fair value option for certain other originated and purchased loans, including certain unfunded loan products, such as guarantees and letters of credit, executed by Citigroup's lending and trading businesses. None of these credit products are highly leveraged financing commitments. Significant groups of transactions include loans and unfunded loan products that are expected to be either sold or securitized in the near term, or transactions where the economic risks are hedged with derivative instruments, such as purchased credit default swaps or total return swaps where the Company pays the total return on the underlying loans to a third party. Citigroup has elected the fair value option to mitigate accounting mismatches in cases where hedge accounting is complex and to achieve operational simplifications. Fair value was not elected for most lending transactions across the Company.

The following table provides information about certain credit products carried at fair value:

	June 30, 2023		December 31, 2022	
In millions of dollars	**Trading assets**	**Loans**	Trading assets	Loans
Carrying amount reported on the Consolidated Balance Sheet	**$ 4,482**	**$ 5,766**	$ 6,011	$ 5,360
Aggregate unpaid principal balance in excess of (less than) fair value	**161**	**156**	167	51
Balance of non-accrual loans or loans more than 90 days past due	**—**	**2**	—	2
Aggregate unpaid principal balance in excess of (less than) fair value for non-accrual loans or loans more than 90 days past due	**—**	**1**	—	—

In addition to the amounts reported above, $651 million and $729 million of unfunded commitments related to certain credit products selected for fair value accounting were outstanding as of June 30, 2023 and December 31, 2022, respectively.

Changes in the fair value of funded and unfunded credit products are classified in *Principal transactions* in Citi's Consolidated Statement of Income. Related interest revenue is measured based on the contractual interest rates and reported as *Interest revenue* on *Trading account assets* or loan interest depending on the balance sheet classifications of the credit products. The changes in fair value for the three months ended June 30, 2023 and 2022 due to instrument-specific credit risk totaled to a loss of $25 million and $(47) million, respectively. Changes in fair value due to instrument-specific credit risk are estimated based on changes in borrower-specific credit spreads and recovery assumptions.

Certain Investments in Unallocated Precious Metals

Citigroup invests in unallocated precious metals accounts (e.g., gold, silver, platinum and palladium) as part of its commodity trading activities. Under ASC 815, the investment is bifurcated into a debt host contract and a commodity derivative instrument. Citigroup elects the fair value option for the debt host contract, and reports the contract within *Trading account assets* on the Company's Consolidated Balance Sheet. The total carrying amount of debt host contracts across unallocated precious metals accounts was approximately $0.6 billion and $0.3 billion at June 30, 2023 and December 31, 2022, respectively.

As part of its commodity trading activities, Citi trades unallocated precious metals investments and executes forward purchase and forward sale derivative contracts with trading counterparties. When Citi sells an unallocated precious metals investment, Citi's receivable from its depository bank is repaid and Citi derecognizes its investment in the unallocated precious metal. The forward purchase or sale contract with the trading counterparty indexed to unallocated precious metals is accounted for as a derivative, at fair value through earnings.

Certain Mortgage Loans Held-for-Sale (HFS)

Citigroup has elected the fair value option for certain purchased and originated prime fixed-rate and conforming adjustable-rate first mortgage loans HFS. These loans are intended for sale or securitization and are hedged with derivative instruments. The Company has elected the fair value option to mitigate accounting mismatches in cases where hedge accounting is complex and to achieve operational simplifications.

The following table provides information about certain mortgage loans HFS carried at fair value:

In millions of dollars	**June 30, 2023**	December 31, 2022
Carrying amount reported on the Consolidated Balance Sheet	**$ 1,069**	$ 793
Aggregate fair value in excess of (less than) unpaid principal balance	**(7)**	(10)
Balance of non-accrual loans or loans more than 90 days past due	**3**	1
Aggregate unpaid principal balance in excess of fair value for non-accrual loans or loans more than 90 days past due	**—**	—

The changes in the fair values of these mortgage loans are reported in *Other revenue* in the Company's Consolidated Statement of Income. There was no net change in fair value during the six months ended June 30, 2023 and 2022 due to instrument-specific credit risk. Changes in fair value due to instrument-specific credit risk are estimated based on changes in the borrower default, prepayment and recovery forecasts in addition to instrument-specific credit spread. Related interest income continues to be measured based on the contractual interest rates and reported as *Interest revenue* in the Consolidated Statement of Income.

Certain Debt Liabilities

The Company has elected the fair value option for certain debt liabilities, because these exposures are considered to be trading-related positions and, therefore, are managed on a fair value basis. These positions are classified as *Long-term debt* or *Short-term borrowings* on the Company's Consolidated Balance Sheet.

The following table provides information about the carrying value of notes carried at fair value, disaggregated by type of risk:

In billions of dollars		**June 30, 2023**		December 31, 2022
Interest rate linked	**$**	**57.3**	$	53.4
Foreign exchange linked		**0.1**		0.1
Equity linked		**48.9**		42.5
Commodity linked		**4.8**		5.0
Credit linked		**4.8**		5.0
Total	**$**	**115.9**	$	106.0

The portion of the changes in fair value attributable to changes in Citigroup's own credit spreads (DVA) is reflected as a component of *AOCI* while all other changes in fair value are reported in *Principal transactions*. Changes in the fair value of these liabilities include accrued interest, which is also included in the change in fair value reported in *Principal transactions*.

The following table provides information about long-term debt carried at fair value:

In millions of dollars		**June 30, 2023**		December 31, 2022
Carrying amount reported on the Consolidated Balance Sheet	**$**	**115,937**	$	105,995
Aggregate unpaid principal balance in excess of (less than) fair value		**(1,922)**		(2,944)

The following table provides information about short-term borrowings carried at fair value:

In millions of dollars		**June 30, 2023**		December 31, 2022
Carrying amount reported on the Consolidated Balance Sheet	**$**	**5,622**	$	6,222
Aggregate unpaid principal balance in excess of (less than) fair value		**(14)**		(9)

24. GUARANTEES AND COMMITMENTS

Citi provides a variety of guarantees and indemnifications to its customers to enhance their credit standing and enable them to complete a wide range of business transactions. For certain contracts meeting the definition of a guarantee, the guarantor must recognize, at inception, a liability for the fair value of the obligation undertaken in issuing the guarantee.

In addition, the guarantor must disclose the maximum potential amount of future payments that the guarantor could be required to make under the guarantee, if there were a total default by the guaranteed parties. The determination of the maximum potential future payments is based on the notional amount of the guarantees without consideration of possible recoveries under recourse provisions or from collateral held or pledged. As such, Citi believes such amounts bear no relationship to the anticipated losses, if any, on these guarantees.

For additional information regarding Citi's guarantees and indemnifications included in the tables below, as well as its other guarantees and indemnifications excluded from these tables, see Note 27 to the Consolidated Financial Statements in Citi's 2022 Form 10-K.

The following tables present information about Citi's guarantees at June 30, 2023 and December 31, 2022:

	Maximum potential amount of future payments			
In billions of dollars at June 30, 2023	**Expire within 1 year**	**Expire after 1 year**	**Total amount outstanding**	**Carrying value** *(in millions of dollars)*
Financial standby letters of credit	**$ 21.5**	**$ 63.1**	**$ 84.6**	**$ 780**
Performance guarantees	**4.7**	**5.9**	**10.6**	**48**
Derivative instruments considered to be guarantees	**14.8**	**31.4**	**46.2**	**338**
Loans sold with recourse	**0.6**	**1.2**	**1.8**	**13**
Securities lending indemnifications[1]	**108.6**	**—**	**108.6**	**—**
Credit card merchant processing[2]	**128.3**	**—**	**128.3**	**1**
Credit card arrangements with partners	**0.1**	**0.4**	**0.5**	**6**
Other	**1.2**	**8.4**	**9.6**	**41**
Total	**$ 279.8**	**$ 110.4**	**$ 390.2**	**$ 1,227**

	Maximum potential amount of future payments			
In billions of dollars at December 31, 2022	Expire within 1 year	Expire after 1 year	Total amount outstanding	Carrying value *(in millions of dollars)*
Financial standby letters of credit	$ 31.3	$ 58.3	$ 89.6	$ 905
Performance guarantees	6.1	5.6	11.7	65
Derivative instruments considered to be guarantees	18.5	30.0	48.5	353
Loans sold with recourse	—	1.7	1.7	13
Securities lending indemnifications[1]	95.9	—	95.9	—
Credit card merchant processing[2]	129.6	—	129.6	1
Credit card arrangements with partners	—	0.6	0.6	7
Other	0.1	8.4	8.5	32
Total	$ 281.5	$ 104.6	$ 386.1	$ 1,376

(1) The carrying values of securities lending indemnifications were not material for either period presented, as the probability of potential liabilities arising from these guarantees is minimal.

(2) At June 30, 2023 and December 31, 2022, this maximum potential exposure was estimated to be approximately $128 billion and $130 billion, respectively. However, Citi believes that the maximum exposure is not representative of the actual potential loss exposure based on its historical experience. This contingent liability is unlikely to arise, as most products and services are delivered when purchased and amounts are refunded when items are returned to merchants.

Loans Sold with Recourse

Loans sold with recourse represent Citi's obligations to reimburse the buyers for loan losses under certain circumstances. Recourse refers to the clause in a sales agreement under which a seller/lender will fully reimburse the buyer/investor for any losses resulting from the purchased loans. This may be accomplished by the sellers taking back any loans that become delinquent.

In addition to the amounts presented in the tables above, Citi has recorded a repurchase reserve for its potential repurchases or make-whole liability regarding residential mortgage representation and warranty claims related to its whole loan sales to U.S. government-sponsored agencies and, to a lesser extent, private investors. The repurchase reserve was approximately $10 million and $10 million at June 30, 2023 and December 31, 2022, respectively, and these amounts are included in *Other liabilities* on the Consolidated Balance Sheet.

Credit Card Arrangements with Partners

Citi, in one of its credit card partner arrangements, provides guarantees to the partner regarding the volume of certain customer originations during the term of the agreement. To the extent that such origination targets are not met, the guarantees serve to compensate the partner for certain payments that otherwise would have been generated in connection with such originations.

Other Guarantees and Indemnifications

Credit Card Protection Programs

Citi, through its credit card businesses, provides various cardholder protection programs on several of its card products, including programs that provide insurance coverage for rental cars, coverage for certain losses associated with purchased products, price protection for certain purchases and protection for lost luggage. These guarantees are not included in the table, since the total outstanding amount of the guarantees and Citi's maximum exposure to loss cannot be quantified. The protection is limited to certain types of purchases and losses, and it is not possible to quantify the purchases that would qualify for these benefits at any given time. Citi assesses the probability and amount of its potential liability related to these programs based on the extent and nature of its historical loss experience. At June 30, 2023 and December 31, 2022, the actual and estimated losses incurred and the carrying value of Citi's obligations related to these programs were immaterial.

Value-Transfer Networks (Including Exchanges and Clearing Houses) (VTNs)

Citi is a member of, or shareholder in, hundreds of value-transfer networks (VTNs) (payment, clearing and settlement systems as well as exchanges) around the world. As a condition of membership, many of these VTNs require that members stand ready to pay a pro rata share of the losses incurred by the organization due to another member's default on its obligations. Citi's potential obligations may be limited to its membership interests in the VTNs, contributions to the VTN's funds, or, in certain narrow cases, to the full pro rata share. The maximum exposure is difficult to estimate as this would require an assessment of claims that have not yet occurred; however, Citi believes the risk of loss is remote given historical experience with the VTNs. Accordingly, Citi's participation in VTNs is not reported in the guarantees tables above, and there are no amounts reflected on the Consolidated Balance Sheet as of June 30, 2023 or December 31, 2022 for potential obligations that could arise from Citi's involvement with VTN associations.

Long-Term Care (LTC) Insurance Indemnification

Citi has an indemnification contingency to Brighthouse Financial in connection with Citi's sale of an insurance subsidiary. A liability under this indemnification agreement is currently remote because Brighthouse Financial would become responsible for LTC policyholder claims only when both the reinsurance provided by other parties ceases and trust assets set aside to meet these claims are not adequate. However, should events occur causing both the reinsurance protection and trust collateral to become insufficient to cover Brighthouse Financial's LTC policyholder claims, Citi will be required to either estimate and disclose a reasonably possible loss or range of loss to the extent that such an estimate can be made, or to accrue for such liability if the event becomes probable and estimable. Citi continues to closely monitor its potential exposure under this indemnification obligation. For additional information, see Note 27 to the Consolidated Financial Statements in Citi's 2022 Form 10-K.

Futures and Over-the-Counter Derivatives Clearing

Citi provides clearing services on central clearing parties (CCP) for clients that need to clear exchange-traded and over-the-counter (OTC) derivatives contracts with CCPs. Based on all relevant facts and circumstances, Citi has concluded that it acts as an agent for accounting purposes in its role as clearing member for these client transactions. As such, Citi does not reflect the underlying exchange-traded or OTC derivatives contracts in its Consolidated Financial Statements. See Note 21 for a discussion of Citi's derivatives activities that are reflected in its Consolidated Financial Statements.

As a clearing member, Citi collects and remits cash and securities collateral (margin) between its clients and the respective CCP. In certain circumstances, Citi collects a higher amount of cash (or securities) from its clients than it needs to remit to the CCPs. This excess cash is then held at depository institutions such as banks or carry brokers.

There are two types of margin: initial and variation. Where Citi obtains benefits from or controls cash initial margin (e.g., retains an interest spread), cash initial margin collected from clients and remitted to the CCP or depository institutions is reflected within *Brokerage payables* (payables to customers) and *Brokerage receivables* (receivables from brokers, dealers and clearing organizations) or *Cash and due from banks*, respectively.

However, for exchange-traded and OTC-cleared derivatives contracts where Citi does not obtain benefits from or control the client cash balances, the client cash initial margin collected from clients and remitted to the CCP or depository institutions is not reflected on Citi's Consolidated Balance Sheet. These conditions are met when Citi has contractually agreed with the client that (i) Citi will pass

through to the client all interest paid by the CCP or depository institutions on the cash initial margin, (ii) Citi will not utilize its right as a clearing member to transform cash margin into other assets, (iii) Citi does not guarantee and is not liable to the client for the performance of the CCP or the depository institution and (iv) the client cash balances are legally isolated from Citi's bankruptcy estate. The total amount of cash initial margin collected and remitted in this manner was approximately $18.3 billion and $18.0 billion as of June 30, 2023 and December 31, 2022, respectively.

Variation margin due from clients to the respective CCP, or from the CCP to clients, reflects changes in the value of the client's derivative contracts for each trading day. As a clearing member, Citi is exposed to the risk of non-performance by clients (e.g., failure of a client to post variation margin to the CCP for negative changes in the value of the client's derivative contracts). In the event of non-performance by a client, Citi would move to close out the client's positions. The CCP would typically utilize initial margin posted by the client and held by the CCP, with any remaining shortfalls required to be paid by Citi as clearing member. Citi generally holds incremental cash or securities margin posted by the client, which would typically be expected to be sufficient to mitigate Citi's credit risk in the event the client fails to perform.

As required by ASC 860-30-25-5, securities collateral posted by clients is not recognized on Citi's Consolidated Balance Sheet.

Carrying Value—Guarantees and Indemnifications

At June 30, 2023 and December 31, 2022, the total carrying amounts of the liabilities related to the guarantees and indemnifications included in the tables above amounted to approximately $1.2 billion and $1.4 billion, respectively. The carrying value of financial and performance guarantees is included in *Other liabilities*. For loans sold with recourse, the carrying value of the liability is included in *Other liabilities*.

Collateral

Cash collateral available to Citi to reimburse losses realized under these guarantees and indemnifications amounted to $51.5 billion and $51.8 billion at June 30, 2023 and December 31, 2022, respectively. Securities and other marketable assets held as collateral amounted to $73.4 billion and $63.7 billion at June 30, 2023 and December 31, 2022, respectively. The majority of collateral is held to reimburse losses realized under securities lending indemnifications. In addition, letters of credit in favor of Citi held as collateral amounted to $3.0 billion and $3.7 billion at June 30, 2023 and December 31, 2022, respectively. Other property may also be available to Citi to cover losses under certain guarantees and indemnifications; however, the value of such property has not been determined.

Performance Risk

Presented in the tables below are the maximum potential amounts of future payments that are classified based on internal and external credit ratings. The determination of the maximum potential future payments is based on the notional amount of the guarantees without consideration of possible recoveries under recourse provisions or from collateral held or pledged. As such, Citi believes such amounts bear no relationship to the anticipated losses, if any, on these guarantees.

	Maximum potential amount of future payments			
In billions of dollars at June 30, 2023	**Investment grade**	**Non-investment grade**	**Not rated**	**Total**
Financial standby letters of credit	**$ 73.0**	**$ 10.1**	**$ 1.5**	**$ 84.6**
Loans sold with recourse	**—**	**—**	**1.8**	**1.8**
Other	**1.1**	**8.5**	**—**	**9.6**
Total	**$ 74.1**	**$ 18.6**	**$ 3.3**	**$ 96.0**

	Maximum potential amount of future payments			
In billions of dollars at December 31, 2022	Investment grade	Non-investment grade	Not rated	Total
Financial standby letters of credit	$ 77.9	$ 10.4	$ 1.3	$ 89.6
Loans sold with recourse	—	—	1.7	1.7
Other	—	8.5	—	8.5
Total	$ 77.9	$ 18.9	$ 3.0	$ 99.8

Credit Commitments and Lines of Credit

The table below summarizes Citigroup's credit commitments:

In millions of dollars	U.S.	Outside of U.S.[1]	June 30, 2023	December 31, 2022
Commercial and similar letters of credit	**$ 457**	**$ 4,412**	**$ 4,869**	$ 5,316
One- to four-family residential mortgages	**1,728**	**849**	**2,577**	2,394
Revolving open-end loans secured by one- to four-family residential properties	**5,656**	**668**	**6,324**	6,380
Commercial real estate, construction and land development	**13,399**	**1,596**	**14,995**	15,170
Credit card lines	**612,136**	**76,513**	**688,649**	683,232
Commercial and other consumer loan commitments	**199,231**	**108,309**	**307,540**	297,399
Other commitments and contingencies	**5,333**	**272**	**5,605**	5,673
Total	**$ 837,940**	**$ 192,619**	**$ 1,030,559**	$ 1,015,564

(1) Consumer commitments related to the business HFS countries under sales agreements are reflected in their original categories until the respective sales are completed.

The majority of unused commitments are contingent upon customers maintaining specific credit standards. Commercial commitments generally have floating interest rates and fixed expiration dates and may require payment of fees. Such fees (net of certain direct costs) are deferred and, upon exercise of the commitment, amortized over the life of the loan or, if exercise is deemed remote, amortized over the commitment period.

Other Commitments and Contingencies

Other commitments and contingencies include all other transactions related to commitments and contingencies not reported on the lines above.

Unsettled Reverse Repurchase and Securities Borrowing Agreements and Unsettled Repurchase and Securities Lending Agreements

In addition, in the normal course of business, Citigroup enters into reverse repurchase and securities borrowing agreements, as well as repurchase and securities lending agreements, which settle at a future date. At June 30, 2023 and December 31, 2022, Citigroup had approximately $150.4 billion and $111.6 billion of unsettled reverse repurchase and securities borrowing agreements, and approximately $117.5 billion and $37.3 billion of unsettled repurchase and securities lending agreements, respectively. See Note 10 for a further discussion of securities purchased under agreements to resell and securities borrowed, and securities sold under agreements to repurchase and securities loaned, including the Company's policy for offsetting repurchase and reverse repurchase agreements.

Restricted Cash

Citigroup defines restricted cash (as cash subject to withdrawal restrictions) to include cash deposited with central banks that must be maintained to meet minimum regulatory requirements, and cash set aside for the benefit of customers or for other purposes such as compensating balance arrangements or debt retirement. Restricted cash may include minimum reserve requirements at certain central banks and cash segregated to satisfy rules regarding the protection of customer assets as required by Citigroup broker-dealers' primary regulators, including the SEC, the Commodity Futures Trading Commission and the United Kingdom's Prudential Regulation Authority.

Restricted cash is included on the Consolidated Balance Sheet within the following balance sheet lines:

In millions of dollars	June 30, 2023	December 31, 2022
Cash and due from banks	**$ 3,860**	$ 4,820
Deposits with banks, net of allowance	**12,262**	12,156
Total	**$ 16,122**	$ 16,976

In addition to the restricted cash amounts presented above, at June 30, 2023 and December 31, 2022, approximately $2.8 billion and $1.8 billion, respectively, was held at the Deposit Insurance Agency and Russia National Settlements Depository and was subject to restrictions imposed by the Russian government. These restricted amounts are reported within *Other assets* on the Consolidated Balance Sheet.

25. LEASES

The Company's operating leases, where Citi is a lessee, include real estate, such as office space and branches, and various types of equipment. These leases may contain renewal and extension options and early termination features; however, these options do not impact the lease term unless the Company is reasonably certain that it will exercise options. These leases have a weighted-average remaining lease term of approximately six years as of June 30, 2023.

For additional information regarding Citi's leases, see Notes 1 and 28 to the Consolidated Financial Statements in Citi's 2022 Form 10-K.

The following table presents information on the right-of-use (ROU) asset and lease liabilities included in *Premises and equipment* and *Other liabilities*, respectively:

In millions of dollars	**June 30, 2023**	December 31, 2022
ROU asset	**$ 2,827**	$ 2,892
Lease liability	**3,016**	3,076

The Company recognizes fixed lease costs on a straight-line basis throughout the lease term in the Consolidated Statement of Income. In addition, variable lease costs are recognized in the period in which the obligation for those payments is incurred.

26. CONTINGENCIES

The following information supplements and amends, as applicable, the disclosure in Note 25 to the Consolidated Financial Statements in Citi's First Quarter 2023 Form 10-Q and in Note 29 to the Consolidated Financial Statements in Citi's 2022 Form 10-K. For purposes of this Note, Citigroup, its affiliates and subsidiaries and current and former officers, directors, and employees, are sometimes collectively referred to as Citigroup and Related Parties.

In accordance with ASC 450, Citigroup establishes accruals for contingencies, including any litigation, regulatory, or tax matters disclosed herein, when Citigroup believes it is probable that a loss has been incurred and the amount of the loss can be reasonably estimated. Once established, accruals are adjusted from time to time, as appropriate, in light of additional information. The amount of loss ultimately incurred in relation to those matters may be substantially higher or lower than the amounts accrued for those matters. With respect to previously incurred loss contingencies for which recovery is expected, Citi applies loss recovery accounting when disputes and uncertainties affecting recognition are resolved.

If Citigroup has not accrued for a matter because the matter does not meet the criteria for accrual (as set forth above), or Citigroup believes an exposure to loss exists in excess of the amount accrued for a particular matter, in each case assuming a material loss is reasonably possible but not probable, Citigroup discloses the matter. In addition, for such matters, Citigroup discloses an estimate of the aggregate reasonably possible loss or range of loss in excess of the amounts accrued for those matters for which an estimate can be made. At June 30, 2023, Citigroup estimates that the reasonably possible unaccrued loss for these matters ranges up to approximately $1.3 billion in the aggregate.

As available information changes, the matters for which Citigroup is able to estimate will change, and the estimates themselves will change. In addition, while many estimates presented in financial statements and other financial disclosures involve significant judgment and may be subject to significant uncertainty, estimates of the range of reasonably possible loss arising from litigation, regulatory, tax, or other matters are subject to particular uncertainties. For example, at the time of making an estimate, Citigroup may only have preliminary or incomplete information about the facts underlying the claim; its assumptions about the future rulings of the court or other tribunal on significant issues, or the behavior and incentives of adverse parties, regulators, or tax authorities may prove to be wrong; and the outcomes it is attempting to predict are often not amenable to the use of statistical or other quantitative analytical tools. In addition, from time to time an outcome may occur that Citigroup had not accounted for in its estimates because it had deemed such an outcome to be remote. For all these reasons, the amount of loss in excess of amounts accrued in relation to matters for which an estimate has been made could be substantially higher or lower than the range of loss included in the estimate.

Subject to the foregoing, it is the opinion of Citigroup's management, based on current knowledge and after taking into account its current accruals, that the eventual outcome of all matters described in this Note would not be likely to have a material adverse effect on the consolidated financial condition of Citigroup. Nonetheless, given the substantial or indeterminate amounts sought in certain of these matters and the inherent unpredictability of such matters, an adverse outcome in certain of these matters could, from time to time, have a material adverse effect on Citigroup's consolidated results of operations or cash flows in particular quarterly or annual periods.

For further information on ASC 450 and Citigroup's accounting and disclosure framework for contingencies, including for any litigation, regulatory, and tax matters disclosed herein, see Note 29 to the Consolidated Financial Statements in Citi's 2022 Form 10-K.

FDIC Special Assessment

On May 11, 2023, the FDIC issued a notice of proposed rulemaking that would implement a special assessment—primarily upon large banks—to recover the uninsured deposit losses from the failures of Silicon Valley Bank and Signature Bank. The FDIC estimated that of the cost of the failures of Silicon Valley Bank and Signature Bank, approximately $15.8 billion was attributable to the protection of uninsured depositors, an estimate that will be periodically adjusted. The FDIC has proposed collecting the special assessment at an annual rate of approximately 12.5 basis points of uninsured deposits over eight quarterly assessment periods beginning in 2024. There is sufficient uncertainty around the final FDIC regulation that would impact both the timing and amount. If the final rule for the FDIC special assessment is enacted as proposed, which is expected before the end of 2023, Citi estimates that the impact would be significant, potentially a pretax charge of up to $1.5 billion. This amount is not included in the reasonably possible loss estimate above.

Foreign Exchange Matters

Antitrust and Other Litigation: On May 23, 2023, in ALLIANZ GLOBAL INVESTORS GMBH AND OTHERS v. BARCLAYS BANK PLC AND OTHERS, the High Court of Justice in London formally discontinued the case in light of a March 29, 2023 settlement agreement. Additional information concerning this action is publicly available in court filings under the case number CL-2018-000840 in the High Court and under the case number 1430/5/7/22 (T) in the Competition Appeal Tribunal.

On May 18, 2023, in ALLIANZ GLOBAL INVESTORS, ET AL. v. BANK OF AMERICA CORP., ET AL., the United States District Court for the Southern District of New York approved a stipulation dismissing all remaining claims in the case with prejudice. Additional information concerning this action is publicly available in court filings under the docket number 18-CV-10364 (S.D.N.Y.) (Schofield, J.).

On July 25, 2023, the English Court of Appeal issued its judgment in MICHAEL O'HIGGINS FX CLASS REPRESENTATIVE LIMITED v. BARCLAYS BANK PLC AND OTHERS and PHILLIP EVANS v. BARCLAYS BANK PLC AND OTHERS on the claimants' appeal from the Competition Appeal Tribunal's March 31, 2022 judgment on certification and directed that the case proceed upon an opt-out basis with Phillip Evans having carriage of the claims.

Additional information concerning these actions is publicly available in court filings under the case numbers 1329/7/7/19 and 1336/7/7/19 in the Competition Appeal Tribunal and CA-2022-002002 and CA-2022-002003 in the Court of Appeal.

On April 13, 2023, in NYPL v. JPMORGAN CHASE & CO., ET AL., plaintiffs filed an appeal from the dismissal of the case by the district court to the United States Court of Appeals for the Second Circuit. Additional information concerning this action is publicly available in court filings under the docket numbers 15-CV-2290 (N.D. Cal.) (Chhabria, J.), 15-CV-9300 (S.D.N.Y.) (Schofield, J.), 22-698 (2d Cir.), and 23-619 (2d Cir.).

Madoff-Related Litigation

On May 5, 2023, in FAIRFIELD SENTRY LTD., ET AL. v. ZURICH CAPITAL MARKETS COMPANY, ET AL, the British Virgin Islands liquidators of Fairfield Sentry Limited voluntarily dismissed the pending claims against Citi (Switzerland) AG and Citivic Nominees Ltd. without prejudice. The claims previously dismissed against Citi (Switzerland) AG and Citivic Nominees Ltd. remain subject to the pending consolidated direct appeal in the United States Court of Appeals for the Second Circuit and are unaffected by the liquidators' voluntary dismissal. Additional information is publicly available in court filings under the docket number 10-3634 (Bankr. S.D.N.Y.) (Mastando, J.).

On July 5, 2023, in FAIRFIELD SENTRY LTD., ET AL. v. CITIGROUP GLOBAL MARKETS LTD., ET AL.; FAIRFIELD SENTRY LTD., ET AL. v. ZURICH CAPITAL MARKETS COMPANY, ET AL.; and FAIRFIELD SENTRY LTD., ET AL. v. CITIBANK NA LONDON, ET AL. the United States Court of Appeals for the Second Circuit granted CGML, Citibank (Switzerland) AG, Citivic Nominees Ltd., and Citibank, NA London leave to appeal the district court's decision permitting a single claim to proceed against them and consolidated the interlocutory appeals with the liquidators' pending consolidated direct appeal. Additional information is publicly available in court filings under the docket numbers 22-2101 (consolidated lead appeal), 23-549, 23-572, 23-573, 23-975, 23-982, and 23-987 (2d Cir.).

Sovereign Securities Matters

Regulatory Actions: On May 24, 2023, the UK Competition & Markets Authority (CMA) announced that it has provisionally found that Citigroup, CGML and four other banks unlawfully shared information related to the buying and selling of British pound sterling-denominated government bonds issued by the United Kingdom. The CMA further announced that Citigroup and CGML applied for leniency and had entered into a settlement agreement with the CMA.

Antitrust and Other Litigation: On June 16, 2023, purchasers of British pound sterling-denominated government bonds issued by the United Kingdom filed a proposed class action against CGMI, CGML and others, captioned OKLAHOMA FIREFIGHTERS PENSION AND RETIREMENT SYSTEM v. DEUTSCHE BANK AKTIENGESELLSCHAFT (F/K/A DEUTSCHE BANK AG), ET AL., in the United States District Court for the Southern District of New York. Plaintiffs allege that defendants engaged in a conspiracy to inflate prices of United Kingdom government bonds in secondary markets. Plaintiffs assert a claim under the Sherman Act and seek treble damages and attorneys' fees. Additional information relating to this action is publicly available in court filings under the docket number 1:23-cv-05095 (JGK).

Settlement Payments

Payments required in any settlement agreements described above have been made or are covered by existing litigation or other accruals.

27. SUBSIDIARY GUARANTEES

Citigroup Inc. has fully and unconditionally guaranteed the payments due on debt securities issued by Citigroup Global Markets Holdings Inc. (CGMHI), a wholly owned subsidiary, under the Senior Debt Indenture dated as of March 8, 2016, between CGMHI, Citigroup Inc. and The Bank of New York Mellon, as trustee. In addition, Citigroup Capital III and Citigroup Capital XIII (collectively, the Capital Trusts), each of which is a wholly owned finance subsidiary of Citigroup Inc., have issued trust preferred securities. Citigroup Inc. has guaranteed the payments due on the trust preferred securities to the extent that the Capital Trusts have insufficient available funds to make payments on the trust preferred securities. The guarantee, together with Citigroup Inc.'s other obligations with respect to the trust preferred securities, effectively provides a full and unconditional guarantee of amounts due on the trust preferred securities (see Note 17 for additional information). No other subsidiary of Citigroup Inc. guarantees the debt securities issued by CGMHI or the trust preferred securities issued by the Capital Trusts.

Summarized financial information for Citigroup Inc. and CGMHI is presented in the tables below:

SUMMARIZED INCOME STATEMENT

	Six Months Ended June 30, 2023	
In millions of dollars	**Citigroup parent company**	**CGMHI**
Total revenues, net of interest expense	**$ 6,584**	**$ 5,960**
Total operating expenses	**99**	**5,911**
Provision for credit losses	**—**	**23**
Equity in undistributed income of subsidiaries	**581**	**—**
Income (loss) from continuing operations before income taxes	**$ 7,066**	**$ 26**
Provision (benefit) for income taxes	**(455)**	**54**
Net income	**$ 7,521**	**$ (28)**

SUMMARIZED BALANCE SHEET

	June 30, 2023		December 31, 2022	
In millions of dollars	**Citigroup parent company**	**CGMHI**	Citigroup parent company	CGMHI
Cash and deposits with banks	**$ 3,016**	**$ 21,506**	$ 3,015	$ 27,122
Securities borrowed and purchased under resale agreements	**—**	**276,820**	—	306,273
Trading account assets	**262**	**271,512**	306	209,957
Advances to subsidiaries	**152,188**	**—**	146,843	—
Investments in subsidiary bank holding company	**175,277**	**—**	172,721	—
Investments in non-bank subsidiaries	**48,010**	**—**	48,295	—
Other assets	**15,896**	**171,046**	13,788	163,819
Total assets	**$ 394,649**	**$ 740,884**	$ 384,968	$ 707,171
Securities loaned and sold under agreements to repurchase	**$ —**	**$ 292,491**	$ —	$ 245,916
Trading account liabilities	**578**	**114,874**	604	115,929
Short-term borrowings	**—**	**26,731**	—	43,850
Long-term debt	**163,043**	**186,966**	166,257	172,068
Advances from subsidiaries	**19,579**	**—**	14,562	—
Other liabilities	**2,730**	**81,446**	2,356	90,570
Stockholders' equity	**208,719**	**38,376**	201,189	38,838
Total liabilities and equity	**$ 394,649**	**$ 740,884**	$ 384,968	$ 707,171

UNREGISTERED SALES OF EQUITY SECURITIES, REPURCHASES OF EQUITY SECURITIES AND DIVIDENDS

Unregistered Sales of Equity Securities
None.

Equity Security Repurchases
All large banks, including Citi, are subject to limitations on capital distributions in the event of a breach of any regulatory capital buffers, including the Stress Capital Buffer, with the degree of such restrictions based on the extent to which the buffers are breached. For additional information, see "Capital Resources—Regulatory Capital Buffers" and "Risk Factors—Strategic Risks" in Citi's 2022 Form 10-K.

The following table summarizes Citi's common share repurchases for the second quarter of 2023:

In millions, except per share amounts	Total shares purchased	Average price paid per share
April 2023		
Open market repurchases[1]	—	$ —
Employee transactions[2]	—	—
May 2023		
Open market repurchases[1]	**1.1**	**44.05**
Employee transactions[2]	—	—
June 2023		
Open market repurchases[1]	**20.1**	**47.24**
Employee transactions[2]	—	—
Total for 2Q23	**21.2**	**$ 47.07**

(1) Repurchases not made pursuant to any publicly announced plan or program.
(2) During the second quarter, pursuant to Citigroup's Board of Directors' authorization, Citi withheld an insignificant number of shares of common stock, added to treasury stock, related to activity on employee stock programs to satisfy the employee tax requirements.

As previously announced, Citi will continue to assess common share repurchases on a quarter-by-quarter basis given uncertainty regarding regulatory capital requirements.

Dividends
Citi paid common dividends of $0.51 per share for the second quarter of 2023, and on July 20, 2023, declared common dividends of $0.53 per share for the third quarter of 2023. Citi intends to maintain a quarterly common dividend of at least $0.53 per share, subject to financial and macroeconomic conditions as well as its Board of Directors' approval.

As discussed above, Citi's ability to pay common stock dividends is subject to limitations on capital distributions in the event of a breach of any regulatory capital buffers, including the Stress Capital Buffer, with the degree of such restrictions based on the extent to which the buffers are breached. For additional information, see "Capital Resources—Regulatory Capital Buffers" and "Risk Factors—Strategic Risks" in Citi's 2022 Form 10-K.

Any dividend on Citi's outstanding common stock would also need to be in compliance with Citi's obligations on its outstanding preferred stock.

On July 20, 2023, Citi declared preferred dividends of approximately $333 million for the third quarter of 2023.

For information on the ability of Citigroup's subsidiary depository institutions to pay dividends, see Note 19 to the Consolidated Financial Statements in Citi's 2022 Form 10-K.

OTHER INFORMATION

During the second quarter of 2023, no director or executive officer of Citi adopted or terminated any Rule 10b5-1 or non-Rule 10b5-1 trading arrangement (each, as defined in Item 408 of Regulation S-K).

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the Registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized, on the 4th day of August, 2023.

CITIGROUP INC.
(Registrant)

By /s/ Mark A. L. Mason
Mark A. L. Mason
Chief Financial Officer
(Principal Financial Officer)

By /s/ Johnbull E. Okpara
Johnbull E. Okpara
Controller and Chief Accounting Officer
(Principal Accounting Officer)

GLOSSARY OF TERMS AND ACRONYMS

The following is a list of terms and acronyms that are used in this Quarterly Report on Form 10-Q and other Citigroup SEC filings and presentations.

* Denotes a Citi metric

2022 Form 10-K: Annual Report on Form 10-K for year ended December 31, 2022, filed with the SEC.

90+ days past due delinquency rate*: Represents consumer loans that are past due by 90 or more days, divided by that period's total EOP loans.

ABS: Asset-backed securities

ACL: Allowance for credit losses, which is composed of the allowance for credit losses on loans (ACLL), allowance for credit losses on unfunded lending commitments (ACLUC), allowance for credit losses on HTM securities and allowance for credit losses on other assets.

ACLL: Allowance for credit losses on loans

ACLUC: Allowance for credit losses on unfunded lending commitments

Advanced Approaches: The Advanced Approaches capital framework, established through Basel III rules by the FRB, requires certain banking organizations to use an internal ratings-based approach and other methodologies to calculate risk-based capital requirements for credit risk and advanced measurement approaches to calculate risk-based capital requirements for operational risk.

AFS: Available-for-sale

ALCO: Asset Liability Committee

Amortized cost: Amount at which a financing receivable or investment is originated or acquired, adjusted for accretion or amortization of premium, discount, and net deferred fees or costs, collection of cash, charge-offs, foreign exchange, and fair value hedge accounting adjustments. For AFS securities, amortized cost is also reduced by any impairment losses recognized in earnings. Amortized cost is not reduced by the allowance for credit losses, except where explicitly presented net.

AOCI: Accumulated other comprehensive income (loss)

ARM: Adjustable rate mortgage(s)

ASC: Accounting Standards Codification under GAAP issued by the FASB.

Asia Consumer: Asia Consumer Banking

ASU: Accounting Standards Update under GAAP issued by the FASB.

AUC: Assets under custody

AUM: Assets under management. Represent assets managed on behalf of Citi's clients.

Available liquidity resources*: Resources available at the balance sheet date to support Citi's client and business needs, including HQLA assets; additional unencumbered securities, including excess liquidity held at bank entities that is non-transferable to other entities within Citigroup; and available assets not already accounted for within Citi's HQLA to support Federal Home Loan Bank (FHLB) and Federal Reserve Bank discount window borrowing capacity.

Basel III: Liquidity and capital rules adopted by the FRB based on an internationally agreed set of measures developed by the Basel Committee on Banking Supervision.

Beneficial interests issued by consolidated VIEs: Represents the interest of third-party holders of debt, equity securities or other obligations, issued by VIEs that Citi consolidates.

Benefit obligation: Refers to the projected benefit obligation for pension plans and the accumulated postretirement benefit obligation for OPEB plans.

BHC: Bank holding company

Board: Citigroup's Board of Directors

Book value per share*: EOP common equity divided by EOP common shares outstanding.

Bps: Basis points. One basis point equals 1/100th of one percent.

Branded cards: Citi's branded cards business with a portfolio of proprietary cards (Double Cash, Custom Cash, ThankYou and Value cards) and co-branded cards (including, among others, American Airlines and Costco).

Build: A net increase in ACL through the provision for credit losses.

Cards: Citi's credit cards' businesses or activities.

CCAR: Comprehensive Capital Analysis and Review

CCO: Chief Compliance Officer

CDS: Credit default swaps

CECL: Current expected credit losses

CEO: Chief Executive Officer

CET1 Capital: Common Equity Tier 1 Capital. See "Capital Resources—Components of Citigroup Capital" above for the components of CET1.

CET1 Capital ratio*: Common Equity Tier 1 Capital ratio. A primary regulatory capital ratio representing end-of-period CET1 Capital divided by total risk-weighted assets.

CFO: Chief Financial Officer

CFTC: Commodity Futures Trading Commission

CGMHI: Citigroup Global Markets Holdings Inc.

Citi: Citigroup Inc.

Citibank or CBNA: Citibank, N.A. (National Association)

Classifiably managed: Loans primarily evaluated for credit risk based on internal risk rating classification.

Client assets: Represent assets under management as well as custody, brokerage, administration and deposit accounts.

CLO: Collateralized loan obligations

Coincident NCL coverage ratio: A credit metric, representing the ACLL at period end divided by (the most recent quarter's NCLs divided by 3). This ratio is expressed in months of coverage.

Collateral dependent: A loan is considered collateral dependent when repayment of the loan is expected to be provided substantially through the operation or sale of the collateral when the borrower is experiencing financial difficulty, including when foreclosure is deemed probable based on borrower delinquency.

Commercial cards: Provides a wide range of payment services to corporate and public sector clients worldwide through commercial card products. Services include procurement, corporate travel and entertainment, expense management services and business-to-business payment solutions.

Consent orders: In October 2020, Citigroup and Citibank entered into consent orders with the Federal Reserve and OCC that require Citigroup and Citibank to make improvements in various aspects of enterprise-wide risk management, compliance, data quality management and governance and internal controls.

CRE: Commercial real estate

Credit card spend volume*: Dollar amount of card customers' gross purchases. Also known as purchase sales.

Credit cycle: A period of time over which credit quality improves, deteriorates and then improves again (or vice versa). The duration of a credit cycle can vary from a couple of years to several years.

Credit derivatives: Financial instruments whose value is derived from the credit risk associated with the debt of a third-party issuer (the reference entity), which allow one party (the protection purchaser) to transfer that risk to another party (the protection seller).

Critical Audit Matters: Audit matters communicated by KPMG to Citi's Audit Committee of the Board of Directors, relating to accounts or disclosures that are material to the Consolidated Financial Statements and involved especially challenging, subjective or complex judgments. See "Report of Independent Registered Public Accounting Firm" in Citi's annual reports on Form 10-K.

Criticized: Criticized loans, lending-related commitments and derivative receivables that are classified as special mention, substandard and doubtful categories for regulatory purposes.

CRO: Chief Risk Officer

CTA: Cumulative translation adjustment (also known as currency translation adjustment). A separate component of equity within *AOCI* reported net of tax. For Citi, represents the impact of translating non-USD balance sheet items into USD each period. The CTA amount in EOP *AOCI* is a cumulative balance, net of tax.

CVA: Credit valuation adjustment

Delinquency managed: Loans primarily evaluated for credit risk based on delinquencies, FICO scores and the value of underlying collateral.

Divestiture-related impacts: Citi's results excluding divestiture-related impacts represent as reported, or GAAP, financial results adjusted for items that are incurred and recognized, which are wholly and necessarily a consequence of actions taken to sell (including through a public offering), dispose of or wind down business activities associated with Citi's announced 14 exit markets.

Dividend payout ratio*: Represents dividends declared per common share as a percentage of net income per diluted share.

Dodd-Frank Act: Wall Street Reform and Consumer Protection Act

DPD: Days past due

DSA: Deferred stock awards

DTA: Deferred tax asset

DVA: Debt valuation adjustment

EC: European Commission

Efficiency ratio*: A ratio signifying how much of a dollar in expenses (as a percentage) it takes to generate one dollar in revenue. Represents total operating expenses divided by total revenues, net.

EMEA: Europe, Middle East and Africa

EOP: End-of-period

EPS*: Earnings per share

ERISA: Employee Retirement Income Security Act of 1974

ESG: Environmental, Social and Governance

ETR: Effective tax rate

EU: European Union

Fannie Mae: Federal National Mortgage Association

FASB: Financial Accounting Standards Board

FCA: Financial Conduct Authority

FDIC: Federal Deposit Insurance Corporation

Federal Reserve: The Board of the Governors of the Federal Reserve System

FFIEC: Federal Financial Institutions Examination Council

FHA: Federal Housing Administration

FHLB: Federal Home Loan Bank

FICO: Fair Issac Corporation

FICO score: A measure of consumer credit risk provided by credit bureaus, typically produced from statistical models by Fair Isaac Corporation utilizing data collected by the credit bureaus.

FINRA: Financial Industry Regulatory Authority

Firm: Citigroup Inc.

FRB: Federal Reserve Board

FRBNY: Federal Reserve Bank of New York

Freddie Mac: Federal Home Loan Mortgage Corporation

FTCs: Foreign tax credit carry-forwards

FVA: Funding valuation adjustment

FX: Foreign exchange

FX translation: The impact of converting non-U.S.-dollar currencies into U.S. dollars.

G7: Group of Seven nations. Countries in the G7 are Canada, France, Germany, Italy, Japan, the U.K. and the U.S.

GAAP or U.S. GAAP: Generally accepted accounting principles in the United States of America.

Ginnie Mae: Government National Mortgage Association

Global Wealth: Global Wealth Management

GSIB: Global systemically important banks

HELOC: Home equity line of credit

HFI loans: Loans that are held-for-investment (i.e., excludes loans held-for-sale).

HFS: Held-for-sale

HQLA: High-quality liquid assets. Consist of cash and certain high-quality liquid securities as defined in the LCR rule.

HTM: Held-to-maturity

Hyperinflation: Extreme economic inflation with prices rising at a very high rate in a very short time. Under U.S. GAAP, entities operating in a hyperinflationary economy need to change their functional currency to the U.S. dollar. Once the change is made, the CTA balance is frozen.

IBOR: Interbank Offered Rate

ICG: Institutional Clients Group

ICRM: Independent Compliance Risk Management

IPO: Initial public offering

ISDA: International Swaps and Derivatives Association

KM: Key financial and non-financial metric used by management when evaluating consolidated and/or individual business results.

KPMG LLP: Citi's Independent Registered Public Accounting Firm.

LATAM: Latin America, which for Citi, includes Mexico.

LCR: Liquidity coverage ratio. Represents HQLA divided by net outflows in the period.

LDA: Loss Distribution Approach

LF: Legacy Franchises

LGD: Loss given default

LIBOR: London Interbank Offered Rate

LLC: Limited Liability Company

LTD: Long-term debt

LTV: Loan-to-value. For residential real estate loans, the relationship, expressed as a percentage, between the principal amount of a loan and the appraised value of the collateral (i.e., residential real estate) securing the loan.

Master netting agreement: A single agreement with a counterparty that permits multiple transactions governed by that agreement to be terminated or accelerated and settled through a single payment in a single currency in the event of a default (e.g., bankruptcy, failure to make a required payment or securities transfer or deliver collateral or margin when due).

MBS: Mortgage-backed securities

MCA: Manager's control assessment

MD&A: Management's discussion and analysis

Measurement alternative: Measures equity securities without readily determinable fair values at cost less impairment (if any), plus or minus observable price changes from an identical or similar investment of the same issuer.

Mexico Consumer: Mexico Consumer Banking

Mexico Consumer/SBMM: Mexico Consumer Banking and Small Business and Middle-Market Banking

Mexico SBMM: Mexico Small Business and Middle-Market Banking

Moody's: Moody's Investors Service

MSRs: Mortgage servicing rights

N/A: Data is not applicable or available for the period presented.

NAA: Non-accrual assets. Consists of non-accrual loans and OREO.

NAL: Non-accrual loans. Loans for which interest income is not recognized on an accrual basis. Loans (other than credit card loans and certain consumer loans insured by U.S. government-sponsored agencies) are placed on non-accrual status when full payment of principal and interest is not expected, regardless of delinquency status, or when principal and interest have been in default for a period of 90 days or more unless the loan is both well secured and in the process of collection. Collateral-dependent loans are typically maintained on non-accrual status.

NAV: Net asset value

NCL(s): Net credit losses. Represents gross credit losses, less gross credit recoveries.

NCL ratio*: Represents net credit losses (recoveries) (annualized), divided by average loans for the reporting period.

Net capital rule: Rule 15c3-1 under the Securities Exchange Act of 1934.

Net interchange income: Includes the following components:

- Interchange revenue: Fees earned from merchants based on Citi's credit and debit card customers' sales transactions.

- Reward costs: The cost to Citi for points earned by cardholders enrolled in credit card rewards programs generally tied to sales transactions.
- Partner payments: Payments to co-brand credit card partners based on the cost of loyalty program rewards earned by cardholders on credit card transactions.

NII: Net interest income. Represents total interest revenue less total interest expenses.

NIM*: Net interest margin expressed as a yield percentage, calculated as annualized net interest income divided by average interest-earning assets for the period.

NIR: Non-interest revenues

NM: Not meaningful

Noncontrolling interests: The portion of an investment that has been consolidated by Citi that is not 100% owned by Citi.

Non-GAAP financial measure: Management uses these financial measures because it believes they provide information to enable investors to understand the underlying operational performance and trends of Citi and its businesses.

NSFR: Net stable funding ratio

O/S: Outstanding

OCC: Office of the Comptroller of the Currency

OCI: Other comprehensive income (loss)

OREO: Other real estate owned

OTTI: Other-than-temporary impairment

Over-the-counter cleared (OTC-cleared) derivatives: Derivative contracts that are negotiated and executed bilaterally, but subsequently settled via a central clearing house, such that each derivative counterparty is only exposed to the default of that clearing house.

Over-the-counter (OTC) derivatives: Derivative contracts that are negotiated, executed and settled bilaterally between two derivative counterparties, where one or both counterparties is a derivatives dealer.

Parent company: Citigroup Inc.

Participating securities: Represents unvested share-based compensation awards containing nonforfeitable rights to dividends or dividend equivalents (collectively, "dividends"), which are included in the earnings per share calculation using the two-class method. Citi grants RSUs to certain employees under its share-based compensation programs, which entitle the recipients to receive non-forfeitable dividends during the vesting period on a basis equivalent to the dividends paid to holders of common stock. These unvested awards meet the definition of participating securities. Under the two-class method for calculating EPS, all earnings (distributed and undistributed) are allocated to each class of common stock and participating securities, based on their respective rights to receive dividends.

PBWM: Personal Banking and Wealth Management

PD: Probability of default

Principal transactions revenue: Primarily trading-related revenues predominantly generated by the *ICG* businesses. See Note 6.

Provision for credit losses: Composed of the provision for credit losses on loans, provision for credit losses on HTM investments, provision for credit losses on other assets and provision for credit losses on unfunded lending commitments.

Provisions: Provisions for credit losses and for benefits and claims.

PSUs: Performance share units

Purchased credit-deteriorated: Purchased credit-deteriorated assets are financial assets that as of the date of acquisition have experienced a more-than-insignificant deterioration in credit quality since origination, as determined by the Company.

R&S forecast period: Reasonable and supportable period over which Citi forecasts future macroeconomic conditions for CECL purposes.

Real GDP: Real gross domestic product is the inflation-adjusted value of the goods and services produced by labor and property located in a country.

Regulatory VAR: Daily aggregated VAR calculated in accordance with regulatory rules.

REITs: Real estate investment trusts

Release: A net decrease in ACL through the provision for credit losses.

Reported basis: Financial statements prepared under U.S. GAAP.

Results of operations that exclude certain impacts from gains or losses on sale, or one-time charges*: Represents GAAP items, excluding the impact of gains or losses on sales, or one-time charges (e.g., the loss on sale related to the sale of Citi's consumer banking business in Australia).

Results of operations that exclude the impact of FX translation*: Represents GAAP items, excluding the impact of FX translation, whereby the prior periods' foreign currency balances are translated into U.S. dollars at the current period's conversion rates (also known as constant dollar). GAAP measures excluding the impact of FX translation are non-GAAP financial measures.

Retail services: Citi's U.S. retail services cards business with a portfolio of co-brand and private label relationships (including, among others, The Home Depot, Best Buy, Sears and Macy's).

RMI: A non-partisan, non-profit organization that works to transform global energy systems across the real economy. Citi joined the RMI Center for Climate-Aligned Finance in 2021.

ROA*: Return on assets. Represents net income (annualized), divided by average assets for the period.

ROCE*: Return on Common Equity. Represents net income less preferred dividends (both annualized), divided by average common equity for the period.

ROE: Return on equity. Represents net income less preferred dividends (both annualized), divided by average Citigroup equity for the period.

RoTCE*: Return on tangible common equity. Represents net income less preferred dividends (both annualized), divided by average tangible common equity for the period.

RSU(s): Restricted stock units

RWA: Risk-weighted assets. Basel III establishes two comprehensive approaches for calculating RWA (the Standardized Approach and the Advanced Approaches), which include capital requirements for credit risk, market risk and operational risk for Advanced Approaches. Key differences in the calculation of credit risk RWA between the Standardized and Advanced Approaches are that for Advanced, credit risk RWA is based on risk-sensitive approaches that largely rely on the use of internal credit models and parameters, whereas for Standardized, credit risk RWA is generally based on supervisory risk-weightings, which vary primarily by counterparty type and asset class. Market risk RWA is calculated on a generally consistent basis between Basel III Standardized Approach and Basel III Advanced Approaches.

S&P: Standard and Poor's Global Ratings

SCB: Stress Capital Buffer

SCF: Subscription credit facility. SCFs are revolving credit facilities provided to private equity funds that are secured against the fund's investors' capital commitments.

SEC: The U.S. Securities and Exchange Commission

Securities financing agreements: Include resale, repurchase, securities borrowed and securities loaned agreements.

SLR: Supplementary Leverage ratio. Represents Tier 1 Capital divided by total leverage exposure.

SOFR: Secured Overnight Financing Rate

SPEs: Special purpose entities

Standardized Approach: Established through Basel III, the Standardized Approach aligns regulatory capital requirements more closely with the key elements of banking risk by introducing a wider differentiation of risk weights and a wider recognition of credit risk mitigation techniques, while avoiding excessive complexity. Accordingly, the Standardized Approach produces capital ratios more in line with the actual economic risks that banks are facing.

Structured notes: Financial instruments whose cash flows are linked to the movement in one or more indexes, interest rates, foreign exchange rates, commodities prices, prepayment rates or other market variables. The notes typically contain embedded (but not separable or detachable) derivatives. Contractual cash flows for principal, interest or both can vary in amount and timing throughout the life of the note based on non-traditional indexes or non-traditional uses of traditional interest rates or indexes.

Tangible book value per share (TBVPS)*: Represents tangible common equity divided by EOP common shares outstanding.

Tangible common equity (TCE): Represents common stockholders' equity less goodwill and identifiable intangible assets, other than MSRs.

Taxable equivalent basis: Represents the total revenue, net of interest expense for the business, adjusted for revenue from investments that receive tax credits and the impact of tax-exempt securities. This metric presents results on a level comparable to taxable investments and securities. GAAP measures on taxable equivalent basis, including the metrics derived from these measures, are non-GAAP financial measures.

TDR: Troubled debt restructuring. Prior to January 1, 2023, a TDR was deemed to occur when the Company modified the original terms of a loan agreement by granting a concession to a borrower that was experiencing financial difficulty. Loans with short-term and other insignificant modifications that are not considered concessions were not TDRs. The accounting guidance for TDRs was eliminated with the adoption of ASU 2022-02. See Note 1 for more information.

TLAC: Total loss-absorbing capacity

Total ACL: Allowance for credit losses, which comprises the allowance for credit losses on loans (ACLL), allowance for credit losses on unfunded lending commitments (ACLUC), allowance for credit losses on HTM securities and allowance for credit losses on other assets.

Total payout ratio*: Represents total common dividends declared plus common share repurchases as a percentage of net income available to common shareholders.

Transformation: Citi has embarked on a multiyear transformation, with the target outcome to change Citi's business and operating models such that they simultaneously strengthen risk and controls and improve Citi's value to customers, clients and shareholders.

Unaudited: Financial statements and information that have not been subjected to auditing procedures sufficient to permit an independent certified public accountant to express an opinion.

U.S. government agencies: U.S. government agencies include, but are not limited to, agencies such as Ginnie Mae and FHA, and do not include Fannie Mae and Freddie Mac, which are U.S. government-sponsored enterprises (U.S. GSEs). In general, obligations of U.S. government agencies are fully and explicitly guaranteed as to the timely payment of principal and interest by the full faith and credit of the U.S. government in the event of a default.

U.S. Treasury: U.S. Department of the Treasury

VAR: Value at risk. A measure of the dollar amount of potential loss from adverse market moves in an ordinary market environment.

VIEs: Variable interest entities

Wallet: Proportion of fee revenue based on estimates of investment banking fees generated across the industry (i.e., the revenue wallet) from investment banking transactions in M&A, equity and debt underwriting, and loan syndications.

EXHIBIT INDEX

Exhibit Number		Description of Exhibit
3.01		Restated Certificate of Incorporation of Citigroup, as amended, as in effect on the date hereof, incorporated by reference to Exhibit 3.01 to Citigroup's Quarterly Report on Form 10-Q for the quarterly period ended March 31, 2023, filed May 5, 2023 (File No. 001-09924).
22		Subsidiary Issuers of Guaranteed Securities
31.01+		Certification of principal executive officer pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
31.02+		Certification of principal financial officer pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
32.01+		Certification pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
99.01+		List of Securities Registered Pursuant to Section 12(b) of the Securities Exchange Act of 1934, formatted in Inline XBRL.
101.01+		Financial statements from the Quarterly Report on Form 10-Q of Citigroup for the quarterly period ended June 30, 2023, filed on August 4, 2023, formatted in Inline XBRL: (i) the Consolidated Statement of Income, (ii) the Consolidated Balance Sheet, (iii) the Consolidated Statement of Changes in Stockholders' Equity, (iv) the Consolidated Statement of Cash Flows and (v) the Notes to the Consolidated Financial Statements.
104		See the cover page of this Quarterly Report on Form 10-Q, formatted in Inline XBRL.

The total amount of securities authorized pursuant to any instrument defining rights of holders of long-term debt of the Company does not exceed 10% of the total assets of the Company and its consolidated subsidiaries. The Company will furnish copies of any such instrument to the SEC upon request.

+ Filed herewith.

Board of Governors of the Federal Reserve System OMB Number: 7100-0036
Federal Deposit Insurance Corporation OMB Number: 3064-0052
Office of the Comptroller of the Currency OMB Number: 1557-0081
Approval expires August 31, 2026

Federal Financial Institutions Examination Council

Consolidated Reports of Condition and Income for a Bank with Domestic and Foreign Offices—FFIEC 031

Report at the close of business September 30, 2023

(20230930)
(RCON 9999)

This report is required by law: 12 U.S.C. § 324 (State member banks); 12 U.S.C. § 1817 (State nonmember banks); 12 U.S.C. § 161 (National banks); and 12 U.S.C. § 1464 (Savings associations). Unless the context indicates otherwise, the term "bank" in this report form refers to both banks and savings associations. This report form is to be filed by (1) banks with branches and consolidated subsidiaries in U.S. territories and possessions, Edge or Agreement subsidiaries, foreign branches, consolidated foreign subsidiaries, or International Banking Facilities, (2) banks with domestic offices only and total consolidated assets of $100 billion or more, and (3) banks that are advanced approaches institutions for regulatory capital purposes.

NOTE: Each bank's board of directors and senior management are responsible for establishing and maintaining an effective system of internal control, including controls over the Reports of Condition and Income. The Reports of Condition and Income are to be prepared in accordance with federal regulatory authority instructions. The Reports of Condition and Income must be signed by the Chief Financial Officer (CFO) of the reporting bank (or by the individual performing an equivalent function) and attested to by not less than two directors (trustees) for state nonmember banks and three directors for state member banks, national banks, and savings associations.

I, the undersigned CFO (or equivalent) of the named bank, attest that the Reports of Condition and Income (including the supporting schedules) for this report date have been prepared in conformance with the instructions issued by the appropriate Federal regulatory authority and are true and correct to the best of my knowledge and belief.

Signature of Chief Financial Officer (or Equivalent)

November 3rd, 2023
Date of Signature

We, the undersigned directors (trustees), attest to the correctness of the Reports of Condition and Income (including the supporting schedules) for this report date and declare that the Reports of Condition and Income have been examined by us and to the best of our knowledge and belief have been prepared in conformance with the instructions issued by the appropriate Federal regulatory authority and are true and correct.

Director (Trustee)

Director (Trustee)

Director (Trustee)

Submission of Reports

Each bank must file its Reports of Condition and Income (Call Report) data by either:

(a) Using computer software to prepare its Call Report and then submitting the report data directly to the FFIEC's Central Data Repository (CDR), an Internet-based system for data collection (https://cdr.ffiec.gov/cdr/), or
(b) Completing its Call Report in paper form and arranging with a software vendor or another party to convert the data into the electronic format that can be processed by the CDR. The software vendor or other party then must electronically submit the bank's data file to the CDR.

For technical assistance with submissions to the CDR, please contact the CDR Help Desk by telephone at (888) CDR-3111, by fax at (703) 774-3946, or by e-mail at cdr.help@cdr.ffiec.gov.

To fulfill the signature and attestation requirement for the Reports of Condition and Income for this report date, attach your bank's completed signature page (or a photocopy or a computer generated version of this page) to the hard-copy record of the data file submitted to the CDR that your bank must place in its files.

The appearance of your bank's hard-copy record of the submitted data file need not match exactly the appearance of the FFIEC's sample report forms, but should show at least the caption of each Call Report item and the reported amount.

Citibank, N.A.
Legal Title of Bank (RSSD 9017)

Sioux Falls
City (RSSD 9130)

FDIC Certificate Number 0 7 2 1 3
(RSSD 9050)

SD
State Abbrev. (RSSD 9200)

57108
ZIP Code (RSSD 9220)

Legal Entity Identifier (LEI) E57ODZWZ7FF32TWEFA76
(Report only if your institution already has an LEI.) (RCON 9224)

The estimated average burden associated with this information collection is 84.53 hours per respondent and is expected to vary by institution, depending on individual circumstances. Burden estimates include the time for reviewing instructions, gathering and maintaining data in the required form, and completing the information collection, but exclude the time for compiling and maintaining business records in the normal course of a respondent's activities. A Federal agency may not conduct or sponsor, and an organization (or a person) is not required to respond to a collection of information, unless it displays a currently valid OMB control number. Comments concerning the accuracy of this burden estimate and suggestions for reducing this burden should be directed to the Office of Information and Regulatory Affairs, Office of Management and Budget, Washington, DC 20503, and to one of the following: Secretary, Board of Governors of the Federal Reserve System, 20th and C Streets, NW, Washington, DC 20551; Legislative and Regulatory Analysis Division, Office of the Comptroller of the Currency, Washington, DC 20219; Assistant Executive Secretary, Federal Deposit Insurance Corporation, Washington, DC 20429.

Consolidated Reports of Condition and Income for a Bank with Domestic and Foreign Offices

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For information or assistance, national banks, state nonmember banks, and savings associations should contact the FDIC's Data Collection and Analysis Section, 550 17th Street, NW, Washington, DC 20429, toll free on (800) 688-FDIC(3342), Monday through Friday between 8:00 a.m. and 5:00 p.m., Eastern Time. State member banks should contact their Federal Reserve District Bank.

Contact Information for the Reports of Condition and Income

To facilitate communication between the Agencies and the bank concerning the Reports of Condition and Income, please provide contact information for (1) the Chief Financial Officer (or equivalent) of the bank signing the reports for this quarter, and (2) the person at the bank —other than the Chief Financial Officer (or equivalent)— to whom questions about the reports should be directed. If the Chief Financial Officer (or equivalent) is the primary contact for questions about the reports, please provide contact information for another person at the bank who will serve as a secondary contact for communications between the Agencies and the bank concerning the Reports of Condition and Income. Enter "none" for the contact's e-mail address or fax number if not available. Contact information for the Reports of Condition and Income is for the confidential use of the Agencies and will not be released to the public.

Chief Financial Officer (or Equivalent) Signing the Reports

CONF
Name (TEXT C490)

CONF
Title (TEXT C491)

CONF
E-mail Address (TEXT C492)

CONF
Telephone: Area code/phone number/extension (TEXT C493)

CONF
FAX: Area code/phone number (TEXT C494)

Other Person to Whom Questions about the Reports Should be Directed

CONF
Name (TEXT C495)

CONF
Title (TEXT C496)

CONF
E-mail Address (TEXT 4086)

CONF
Telephone: Area code/phone number/extension (TEXT 8902)

CONF
FAX: Area code/phone number (TEXT 9116)

Chief Executive Officer Contact Information

This information is being requested so the Agencies can distribute notifications about policy initiatives, deposit insurance assessments, and other matters directly to the Chief Executive Officers of reporting institutions. Notifications about other matters may include emergency notifications that may or may not also be sent to the institution's emergency contacts listed below. Please provide contact information for the Chief Executive Officer of the reporting institution. Enter "none" for the Chief Executive Officer's e-mail address or fax number if not available. Chief Executive Officer contact information is for the confidential use of the Agencies and will not be released to the public.

Chief Executive Officer

CONF
Name (TEXT FT42)

CONF
E-mail Address (TEXT FT44)

CONF
Telephone: Area code/phone number/extension (TEXT FT43)

CONF
Fax: Area code/phone number (TEXT FT45)

Emergency Contact Information

This information is being requested so the Agencies can distribute critical, time sensitive information to emergency contacts at banks. Please provide primary contact information for a senior official of the bank who has decision-making authority. Also provide information for a secondary contact if available. Enter "none" for the contact's e-mail address or fax number if not available. Emergency contact information is for the confidential use of the Agencies and will not be released to the public.

Primary Contact

CONF
Name (TEXT C366)

CONF
Title (TEXT C367)

CONF
E-mail Address (TEXT C368)

CONF
Telephone: Area code/phone number/extension (TEXT C369)

CONF
FAX: Area code/phone number (TEXT C370)

Secondary Contact

CONF
Name (TEXT C371)

CONF
Title (TEXT C372)

CONF
E-mail Address (TEXT C373)

CONF
Telephone: Area code/phone number/extension (TEXT C374)

CONF
FAX: Area code/phone number (TEXT C375)

USA PATRIOT Act Section 314(a) Anti-Money Laundering Contact Information

This information is being requested to identify points-of-contact who are in charge of your bank's USA PATRIOT Act Section 314(a) information requests. Bank personnel listed could be contacted by law enforcement officers or the Financial Crimes Enforcement Network (FinCEN) for additional information related to specific Section 314(a) search requests or other anti-terrorist financing and anti-money laundering matters. Communications sent by FinCEN to the bank for purposes other than Section 314(a) notifications will state the intended purpose and should be directed to the appropriate bank personnel for review. Any disclosure of customer records to law enforcement officers or FinCEN must be done in compliance with applicable law, including the Right to Financial Privacy Act (12 U.S.C. 3401 et seq.).

Please provide information for a primary and secondary contact. Information for a third and fourth contact may be provided at the bank's option. Enter "none" for the contact's e-mail address if not available. This contact information is for the confidential use of the Agencies, FinCEN, and law enforcement officers and will not be released to the public.

Primary Contact

CONF
Name (TEXT C437)

CONF
Title (TEXT C438)

CONF
E-mail Address (TEXT C439)

CONF
Telephone: Area code/phone number/extension (TEXT C440)

Secondary Contact

CONF
Name (TEXT C442)

CONF
Title (TEXT C443)

CONF
E-mail Address (TEXT C444)

CONF
Telephone: Area code/phone number/extension (TEXT C445)

Third Contact

CONF
Name (TEXT C870)

CONF
Title (TEXT C871)

CONF
E-mail Address (TEXT C872)

CONF
Telephone: Area code/phone number/extension (TEXT C873)

Fourth Contact

CONF
Name (TEXT C875)

CONF
Title (TEXT C876)

CONF
E-mail Address (TEXT C877)

CONF
Telephone: Area code/phone number/extension (TEXT C878)

Consolidated Report of Income
For the period January 1, 2023 — September 30, 2023

All Report of Income schedules are to be reported on a calendar year-to-date basis in thousands of dollars.

Schedule RI—Income Statement

Dollar Amounts in Thousands	RIAD	Amount	
1. Interest income:			
a. Interest and fee income on loans:			
(1) In domestic offices:			
a. Loans secured by real estate:			
(1) Loans secured by 1-4 family residential properties	4435	2,811,000	1.a.1.a.1
(2) All other loans secured by real estate	4436	1,952,000	1.a.1.a.2
b. Loans to finance agricultural production and other loans to farmers	4024	3,000	1.a.1.b.
c. Commercial and industrial loans	4012	4,482,000	1.a.1.c.
d. Loans to individuals for household, family, and other personal expenditures:			
(1) Credit cards	B485	17,056,000	1.a.1.d.1
(2) Other (includes revolving credit plans other than credit cards, automobile loans, and other consumer loans)	B486	335,000	1.a.1.d.2
e. Loans to foreign governments and official institutions	4056	20,000	1.a.1.e.
f. All other loans in domestic offices	B487	929,000	1.a.1.f.
(2) In foreign offices, Edge and Agreement subsidiaries, and IBFs	4059	11,288,000	1.a.2.
(3) Total interest and fee income on loans (sum of items 1.a.(1)(a) through 1.a.(2))	4010	38,876,000	1.a.3.
b. Income from lease financing receivables	4065	8,000	1.b.
c. Interest income on balances due from depository institutions (1)	4115	8,212,000	1.c.
d. Interest and dividend income on securities:			
(1) U.S. Treasury securities and U.S. Government agency obligations (excluding mortgage-backed securities)	B488	3,196,000	1.d.1.
(2) Mortgage-backed securities	B489	2,260,000	1.d.2.
(3) All other securities			
(includes securities issued by states and political subdivisions in the U.S.)	4060	5,792,000	1.d.3.
e. Interest income from trading assets	4069	4,761,000	1.e.
f. Interest income on federal funds sold and securities purchased under agreements to resell	4020	4,676,000	1.f.
g. Other interest income	4518	231,000	1.g.
h. Total interest income (sum of items 1.a.(3) through 1.g)	4107	68,012,000	1.h.
2. Interest expense:			
a. Interest on deposits:			
(1) Interest on deposits in domestic offices:			
(a) Transaction accounts (interest-bearing demand deposits, NOW accounts, ATS accounts, and telephone and preauthorized transfer accounts)	4508	10,678,000	2.a.1.a.
(b) Nontransaction accounts:			
(1) Savings deposits (includes MMDAs)	0093	2,539,000	2.a.1.b.1
(2) Time deposits of $250,000 or less	HK03	1,223,000	2.a.1.b.2
(3) Time deposits of more than $250,000	HK04	1,928,000	2.a.1.b.3
(2) Interest on deposits in foreign offices, Edge and Agreement subsidiaries, and IBFs	4172	10,537,000	2.a.2.
b. Expense of federal funds purchased and securities sold under agreements to repurchase	4180	676,000	2.b.
c. Interest on trading liabilities and other borrowed money	4185	4,910,000	2.c.

1 Includes interest income on time certificates of deposit not held for trading.

Schedule RI—Continued

		Dollar Amounts in Thousands		Year-to-date	
2. Interest expense (continued):			RIAD	Amount	
d. Interest on subordinated notes and debentures			4200	519,000	2.d.
e. Total interest expense (sum of items 2.a through 2.d)			4073	33,010,000	2.e.
3. Net interest income (item 1.h minus 2.e)	4074	35,002,000			3.
4. Provision for loan and lease losses (1)	JJ33	5,073,000			4.
5. Noninterest income:					
a. Income from fiduciary activities (2)			4070	1,837,000	5.a.
b. Service charges on deposit accounts			4080	829,000	5.b.
c. Trading revenue (3)			A220	6,597,000	5.c.
d. Income from securities-related and insurance activities:					
(1) Fees and commissions from securities brokerage			C886	443,000	5.d.1.
(2) Investment banking, advisory, and underwriting fees and commissions			C888	270,000	5.d.2.
(3) Fees and commissions from annuity sales			C887	5,000	5.d.3.
(4) Underwriting income from insurance and reinsurance activities			C386	0	5.d.4.
(5) Income from other insurance activities			C387	225,000	5.d.5.
e. Venture capital revenue			B491	0	5.e.
f. Net servicing fees			B492	133,000	5.f.
g. Net securitization income			B493	37,000	5.g.
h. Not applicable					
i. Net gains (losses) on sales of loans and leases			5416	(93,000)	5.i.
j. Net gains (losses) on sales of other real estate owned			5415	2,000	5.j.
k. Net gains (losses) on sales of other assets (4)			B496	1,816,000	5.k.
l. Other noninterest income*			B497	1,950,000	5.l.
m. Total noninterest income (sum of items 5.a through 5.l)	4079	14,051,000			5.m.
6. a. Realized gains (losses) on held-to-maturity securities	3521	0			6.a.
b. Realized gains (losses) on available-for-sale debt securities	3196	(21,000)			6.b.
7. Noninterest expense:					
a. Salaries and employee benefits			4135	16,324,000	7.a.
b. Expenses of premises and fixed assets (net of rental income)					
(excluding salaries and employee benefits and mortgage interest)			4217	1,316,000	7.b.
c. (1) Goodwill impairment losses			C216	0	7.c.1.
(2) Amortization expense and impairment losses for other intangible assets			C232	270,000	7.c.2.
d. Other noninterest expense*			4092	9,857,000	7.d.
e. Total noninterest expense (sum of items 7.a through 7.d)	4093	27,767,000			7.e.
8. a. Income (loss) before change in net unrealized holding gains (losses) on equity securities not held for trading, applicable income taxes, and discontinued operations (item 3 plus or minus items 4, 5.m, 6.a, 6.b, and 7.e)	HT69	16,192,000			8.a.
b. Change in net unrealized holding gains (losses) on equity securities not held for trading (5)	HT70	17,000			8.b.
c. Income (loss) before applicable income taxes and discontinued operations (sum of items 8.a and 8.b)	4301	16,209,000			8.c.
9. Applicable income taxes (on item 8.c)	4302	4,376,000			9.
10. Income (loss) before discontinued operations (item 8.c minus item 9)	4300	11,833,000			10.
11. Discontinued operations, net of applicable income taxes*	FT28	0			11.
12. Net income (loss) attributable to bank and noncontrolling (minority) interests (sum of items 10 and 11)	G104	11,833,000			12.

* Describe on Schedule RI-E - Explanations

1 Institutions that have adopted ASU 2016-13 should report in item 4 the provisions for credit losses on all financial assets and off-balance-sheet credit exposures that fall within the scope of the standard.

2 For banks required to complete Schedule RC-T, items 14 through 22, income from fiduciary activities reported in Schedule RI, item 5.a, must equal the amount reported in Schedule RC-T, item 22.

3 For banks required to complete Schedule RI, Memorandum item 8, trading revenue reported in Schedule RI, item 5.c, must equal the sum of Memorandum items 8.a through 8.e.

4 Exclude net gains (losses) on sales of trading assets and held-to-maturity and available-for-sale debt securities.

5 Item 8.b is to be completed by all institutions. See the instructions for this item and the Glossary entry for "Securities Activities" for further detail on accounting for investments in equity securities.

Schedule RI—Continued

Dollar Amounts in Thousands			Year-to-date RIAD	Year-to-date Amount	
13. LESS: Net income (loss) attributable to noncontrolling (minority) interests (if net income, report as a positive value; if net loss, report as a negative value)	G103	117,000			13.
14. Net income (loss) attributable to bank (item 12 minus item 13)	4340	11,716,000			14.

Memoranda

Dollar Amounts in Thousands		Year-to-date	
1. Interest expense incurred to carry tax-exempt securities, loans, and leases acquired after August 7, 1986, that is not deductible for federal income tax purposes	4513	386,000	M.1.
Memorandum item 2 is to be completed by banks with $1 billion or more in total assets.[1]			
2. Income from the sale and servicing of mutual funds and annuities in domestic offices (included in Schedule RI, item 8)	8431	25,000	M.2.
3. Income on tax-exempt loans and leases to states and political subdivisions in the U.S. (included in Schedule RI, items 1.a and 1.b)	4313	27,000	M.3.
4. Income on tax-exempt securities issued by states and political subdivisions in the U.S. (included in Schedule RI, item 1.d.(3))	4507	227,000	M.4.
5. Number of full-time equivalent employees at end of current period (round to the nearest whole number)	4150	188,389	M.5.
6. Not applicable			
7. If the reporting institution has applied push down accounting this calendar year, report the date of the institution's acquisition (see instructions) (2)	9106	00000000	M.7.
8. Trading revenue (from cash instruments and derivative instruments) (sum of Memorandum items 8.a through 8.e must equal Schedule RI, item 5.c):			
Memorandum items 8.a through 8.e are to be completed by banks that reported total trading assets of $10 million or more for any quarter of the preceding calendar year.			
	RIAD	Amount	
a. Interest rate exposures	8757	3,292,000	M.8.a.
b. Foreign exchange exposures	8758	4,008,000	M.8.b.
c. Equity security and index exposures	8759	(1,077,000)	M.8.c.
d. Commodity and other exposures	8760	600,000	M.8.d.
e. Credit exposures	F186	(226,000)	M.8.e.
Memorandum items 8.f through 8.h are to be completed by banks with $100 billion or more in total assets that are required to complete Schedule RI, Memorandum items 8.a through 8.e, above.[1]			
f. Impact on trading revenue of changes in the creditworthiness of the bank's derivatives counterparties on the bank's derivative assets (year-to-date changes) (included in Memorandum items 8.a through 8.e above):			
(1) Gross credit valuation adjustment (CVA)	FT36	129,000	M.8.f.(1)
(2) CVA hedge	FT37	(151,000)	M.8.f.(2)
g. Impact on trading revenue of changes in the creditworthiness of the bank on the bank's derivative liabilities (year-to-date changes) (included in Memorandum items 8.a through 8.e above):			
(1) Gross debit valuation adjustment (DVA)	FT38	(33,000)	M.8.g.(1)
(2) DVA hedge	FT39	(3,000)	M.8.g.(2)
h. Gross trading revenue, before including positive or negative net CVA and net DVA	FT40	6,655,000	M.8.h.

1 The asset-size tests are based on the total assets reported on the June 30, 2022, Report of Condition.

2 Report the date in YYYYMMDD format. For example, a bank acquired on March 1, 2023, would report 20230301.

Schedule RI—Continued

Memoranda—Continued

Dollar Amounts in Thousands	RIAD	Year-to-date Amount	
Memorandum items 9.a and 9.b are to be completed by banks with $10 billion or more in total assets.[1]			
9. Net gains (losses) recognized in earnings on credit derivatives that economically hedge credit exposures held outside the trading account:			
a. Net gains (losses) on credit derivatives held for trading	C889	0	M.9.a.
b. Net gains (losses) on credit derivatives held for purposes other than trading	C890	(673,000)	M.9.b.
10. Credit losses on derivatives (see instructions)	A251	(5,000)	M.10.
11. Does the reporting bank have a Subchapter S election in effect for federal income tax purposes for the current tax year?	RIAD A530	YES / NO NO	M.11.
12. Not applicable			
Memorandum item 13 is to be completed by banks that have elected to account for assets and liabilities under a fair value option.			
13. Net gains (losses) recognized in earnings on assets and liabilities that are reported at fair value under a fair value option:	RIAD	Amount	
a. Net gains (losses) on assets	F551	1,821,000	M.13.a.
(1) Estimated net gains (losses) on loans attributable to changes in instrument-specific credit risk	F552	(5,000)	M.13.a.1.
b. Net gains (losses) on liabilities	F553	(164,000)	M.13.b.
(1) Estimated net gains (losses) on liabilities attributable to changes in instrument-specific credit risk	F554	0	M.13.b.1.
14. Other-than-temporary impairment losses on held-to-maturity and available-for-sale debt securities recognized in earnings (included in Schedule RI, items 6.a and 6.b) (2)	J321	NR	M.14.
Memorandum item 15 is to be completed by institutions with $1 billion or more in total assets[1] *that answered "Yes" to Schedule RC-E, Memorandum item 5.*			
15. Components of service charges on deposit accounts in domestic offices (sum of Memorandum items 15.a through 15.d must equal Schedule RI, item 5.b):			
a. Consumer overdraft-related service charges levied on those transaction account and nontransaction savings account deposit products intended primarily for individuals for personal, household, or family use	H032	1,000	M.15.a.
b. Consumer account periodic maintenance charges levied on those transaction account and nontransaction savings account deposit products intended primarily for individuals for personal, household, or family use	H033	98,000	M.15.b.
c. Consumer customer automated teller machine (ATM) fees levied on those transaction account and nontransaction savings account deposit products intended primarily for individuals for personal, household, or family use	H034	13,000	M.15.c.
d. All other service charges on deposit accounts	H035	717,000	M.15.d.

1 The asset-size tests are based on the total assets reported on the June 30, 2022, Report of Condition.

2 Memorandum item 14 is to be completed only by institutions that have not adopted ASU 2016-13.

Schedule RI-A—Changes in Bank Equity Capital

Dollar Amounts in Thousands	RIAD	Amount	
1. Total bank equity capital most recently reported for the December 31, 2022, Reports of Condition and Income (i.e., after adjustments from amended Reports of Income)	3217	164,337,000	1.
2. Cumulative effect of changes in accounting principles and corrections of material accounting errors*	B507	274,000	2.
3. Balance end of previous calendar year as restated (sum of items 1 and 2)	B508	164,611,000	3.
4. Net income (loss) attributable to bank (must equal Schedule RI, item 14)	4340	11,716,000	4.
5. Sale, conversion, acquisition, or retirement of capital stock, net (excluding treasury stock transactions)	B509	(2,000)	5.
6. Treasury stock transactions, net	B510	0	6.
7. Changes incident to business combinations, net	4356	0	7.
8. LESS: Cash dividends declared on preferred stock	4470	95,000	8.
9. LESS: Cash dividends declared on common stock	4460	11,342,000	9.
10. Other comprehensive income (1)	B511	1,170,000	10.
11. Other transactions with stockholders (including a parent holding company)* (not included in items 5, 6, 8, or 9 above)	4415	185,000	11.
12. Total bank equity capital end of current period (sum of items 3 through 11) (must equal Schedule RC, item 27.a)	3210	166,243,000	12.

* Describe on Schedule RI-E—Explanations.

1 Includes, but is not limited to, changes in net unrealized holding gains (losses) on available-for-sale debt securities, changes in accumulated net gains (losses) on cash flow hedges, foreign currency translation adjustments, and pension and other postretirement plan-related changes other than net periodic benefit cost.

Schedule RI-B—Charge-offs and Recoveries on Loans and Leases and Changes in Allowances for Credit Losses

Part I. Charge-offs and Recoveries on Loans and Leases

Part I includes charge-offs and recoveries through the allocated transfer risk reserve.

Dollar Amounts in Thousands	(Column A) Charge-offs[1] Calendar year-to-date RIAD	Amount	(Column B) Recoveries Calendar year-to-date RIAD	Amount	
1. Loans secured by real estate:					
a. Construction, land development, and other land loans in domestic offices:					
(1) 1-4 family residential construction loans	C891	0	C892	0	1.a.1.
(2) Other construction loans and all land development and other land loans	C893	0	C894	0	1.a.2.
b. Secured by farmland in domestic offices	3584	0	3585	0	1.b.
c. Secured by 1-4 family residential properties in domestic offices:					
(1) Revolving, open-end loans secured by 1-4 family residential properties and extended under lines of credit	5411	6,000	5412	6,000	1.c.1.
(2) Closed-end loans secured by 1-4 family residential properties:					
(a) Secured by first liens	C234	4,000	C217	7,000	1.c.2.a.
(b) Secured by junior liens	C235	2,000	C218	8,000	1.c.2.b.
d. Secured by multifamily (5 or more) residential properties in domestic offices	3588	1,000	3589	1,000	1.d.
e. Secured by nonfarm nonresidential properties in domestic offices:					
(1) Loans secured by owner-occupied nonfarm nonresidential properties	C895	0	C896	0	1.e.1.
(2) Loans secured by other nonfarm nonresidential properties	C897	0	C898	0	1.e.2.
f. In foreign offices	B512	4,000	B513	2,000	1.f.

1 Include write-downs arising from transfers of loans to a held-for-sale account.

Schedule RI-B—Continued

Part I—Continued

Dollar Amounts in Thousands	(Column A) Charge-offs[1] Calendar year-to-date RIAD	Amount	(Column B) Recoveries Calendar year-to-date RIAD	Amount	
2. Not applicable					
3. Loans to finance agricultural production and other loans to farmers	4655	0	4665	0	3.
4. Commercial and industrial loans:					
a. To U.S. addressees (domicile)	4645	141,000	4617	37,000	4.a.
b. To non-U.S. addressees (domicile)	4646	75,000	4618	12,000	4.b.
5. Loans to individuals for household, family, and other personal expenditures:					
a. Credit cards	B514	4,309,000	B515	826,000	5.a.
b. Automobile loans	K129	0	K133	0	5.b.
c. Other (includes revolving credit plans other than credit cards and other consumer loans)	K205	214,000	K206	67,000	5.c.
6. Loans to foreign governments and official institutions	4643	1,000	4627	0	6.
7. All other loans	4644	128,000	4628	12,000	7.
8. Lease financing receivables:					
a. Leases to individuals for household, family, and other personal expenditures	F185	0	F187	0	8.a.
b. All other leases	C880	0	F188	0	8.b.
9. Total (sum of items 1 through 8)	4635	4,885,000	4605	978,000	9.

Memoranda

Dollar Amounts in Thousands	(Column A) Charge-offs[1] Calendar year-to-date RIAD	Amount	(Column B) Recoveries Calendar year-to-date RIAD	Amount	
1. Loans to finance commercial real estate, construction, and land development activities (not secured by real estate) included in Schedule RI-B, Part I, items 4 and 7, above	5409	0	5410	0	M.1.
2. Loans secured by real estate to non-U.S. addressees (domicile) (included in Schedule RI-B, Part I, item 1, above)	4652	4,000	4662	4,000	M.2.
3. Not applicable					

Memorandum item 4 is to be completed by banks that (1) together with affiliated institutions, have outstanding credit card receivables (as defined in the instructions) that exceed $500 million as of the report date or (2) are credit card specialty banks as defined for Uniform Bank Performance Report purposes.

	Calendar Year-to-date RIAD	Amount	
4. Uncollectible retail credit card fees and finance charges reversed against income (i.e., not included in charge-offs against the allowance for loan and lease losses) (2)	C388	1,056,000	M.4.

1 Include write-downs arising from transfers of loans to a held-for-sale account.

2 Institutions that have adopted ASU 2016-13 should report in Memorandum item 4 uncollectible retail credit card fees and finance charges reversed against income (i.e., not included in charge-offs against the allowance for credit losses on loans and leases).

Schedule RI-B—Continued

Part II. Changes in Allowances for Credit Losses[1]

Dollar Amounts in Thousands	(Column A) Loans and Leases Held for Investment RIAD	Amount	(Column B) Held-to-Maturity Debt Securities[2] RIAD	Amount	(Column C) Available-for-Sale Debt Securities[2] RIAD	Amount	
1. Balance most recently reported for the December 31, 2022, Reports of Condition and Income (i.e., after adjustments from amended Reports of Income)	B522	15,474,000	JH88	108,000	JH94	0	1.
2. Recoveries (column A must equal Part I, item 9, column B, above)	4605	978,000	JH89	0	JH95	0	2.
3. LESS: Charge-offs (column A must equal Part I, item 9, column A, above less Schedule RI-B, Part II, item 4, column A)	C079	4,847,000	JH92	2,000	JH98	0	3.
4. LESS: Write-downs arising from transfers of financial assets (3)	5523	38,000	JJ00	0	JJ01	0	4.
5. Provisions for credit losses (4,5)	4230	4,778,000	JH90	(23,000)	JH96	0	5.
6. Adjustments* (see instructions for this schedule)	C233	(339,000)	JH91	0	JH97	0	6.
7. Balance end of current period (sum of items 1, 2, 5, and 6, less items 3 and 4) (column A must equal Schedule RC, item 4.c)	3123	16,006,000	JH93	83,000	JH99	0	7.

* Describe on Schedule RI-E - Explanations.

1 Institutions that have not yet adopted ASU 2016-13 should report changes in the allowance for loan and lease losses in column A.

2 Columns B and C are to be completed only by institutions that have adopted ASU 2016-13.

3 Institutions that have not yet adopted ASU 2016-13 should report write-downs arising from transfers of loans to a held-for-sale account in item 4, column A.

4 Institutions that have not yet adopted ASU 2016-13 should report the provision for loan and lease losses in item 5, column A, and the amount reported must equal Schedule RI, item 4.

5 For institutions that have adopted ASU 2016-13, the sum of item 5, columns A through C, plus Schedule RI-B, Part II, Memorandum items 5 and 7, below, must equal Schedule RI, item 4.

Memoranda

Dollar Amounts in Thousands	RIAD	Amount	
1. Allocated transfer risk reserve included in Schedule RI-B, Part II, item 7, column A, above	C435	1,000	M.1.
Memorandum items 2 and 3 are to be completed by banks that (1) together with affiliated institutions, have outstanding credit card receivables (as defined in the instructions) that exceed $500 million as of the report date, or (2) are credit card specialty banks as defined for Uniform Bank Performance Report purposes.			
2. Separate valuation allowance for uncollectible retail credit card fees and finance charges	C389	0	M.2.
3. Amount of allowance for loan and lease losses attributable to retail credit card fees and finance charges (1)	C390	527,000	M.3.
4. Amount of allowance for post-acquisition credit losses on purchased credit-impaired loans accounted for in accordance with FASB ASC 310-30 (former AICPA Statement of Position 03-3) (included in Schedule RI-B, Part II, item 7, column A, above) (2)	C781	NR	M.4.
5. Provisions for credit losses on other financial assets measured at amortized cost (not included in item 5, above) (3)	JJ02	613,000	M.5.
6. Allowance for credit losses on other financial assets measured at amortized cost (not included in item 7, above) (3)	RCFD		
	JJ03	681,000	M.6.
	RIAD		
7. Provisions for credit losses on off-balance-sheet credit exposures (3)	MG93	(295,000)	M.7.
8. Estimated amount of expected recoveries of amounts previously written off included within the allowance for credit losses on loans and leases held for investment (included in item 7, column A, "Balance end of current period," above) (3)	MG94	708,000	M.8.

1 Institutions that have adopted ASU 2016-13 should report in Memorandum item 3 the amount of allowance for credit losses on loans and leases attributable to retail credit fees and finance charges.

2 Memorandum item 4 is to be completed only by institutions that have not yet adopted ASU 2016-13.

3 Memorandum items 5, 6, 7, and 8 are to be completed only by institutions that have adopted ASU 2016-13.

Schedule RI-C—Disaggregated Data on the Allowance for Loan and Lease Losses

Part I. Disaggregated Data on the Allowance for Loan and Lease Losses[1]

Schedule RI-C, Part I, is to be completed by institutions with $1 billion or more in total assets.[2]

Dollar Amounts in Thousands	(Column A) Recorded Investment: Individually Evaluated for Impairment and Determined to be Impaired (ASC 310-10-35)		(Column B) Allowance Balance: Individually Evaluated for Impairment and Determined to be Impaired (ASC 310-10-35)		(Column C) Recorded Investment: Collectively Evaluated for Impairment (ASC 450-20)		(Column D) Allowance Balance: Collectively Evaluated for Impairment (ASC 450-20)		(Column E) Recorded Investment: Purchased Credit-Impaired Loans (ASC 310-30)		(Column F) Allowance Balance: Purchased Credit-Impaired Loans (ASC 310-30)		
	RCFD	Amount	RCFD	Amount	RCFD	Amount	RCFD	Amount	RCFD	Amount	RCFD	Amount	
1. Real estate loans:													
a. Construction loans	M708	NR	M709	NR	M710	NR	M711	NR	M712	NR	M713	NR	1.a.
b. Commercial real estate loans	M714	NR	M715	NR	M716	NR	M717	NR	M719	NR	M720	NR	1.b.
c. Residential real estate loans	M721	NR	M722	NR	M723	NR	M724	NR	M725	NR	M726	NR	1.c.
2. Commercial loans (3)	M727	NR	M728	NR	M729	NR	M730	NR	M731	NR	M732	NR	2.
3. Credit cards	M733	NR	M734	NR	M735	NR	M736	NR	M737	NR	M738	NR	3.
4. Other consumer loans	M739	NR	M740	NR	M741	NR	M742	NR	M743	NR	M744	NR	4.
5. Unallocated, if any							M745	NR					5.
6. Total (for each column sum of 1.a through 5) (4)	M746	NR	M747	NR	M748	NR	M749	NR	M750	NR	M751	NR	6.

1 Only institutions that have not yet adopted ASU 2016-13 are to complete Schedule RI-C, Part I.

2 The $1 billion asset-size test is based on the total assets reported on the June 30, 2022, Report of Condition.

3 Include all loans and leases not reported as real estate loans, credit cards, or other consumer loans in items 1, 3, or 4 of Schedule RI-C.

4 The sum of item 6, columns B, D, and F, must equal Schedule RC, item 4.c. Item 6, column E, must equal Schedule RC-C, Part I, Memorandum item 7.b. Item 6, column F, must equal Schedule RI-B, Part II, Memorandum item 4.

Schedule RI-C—Continued

Part II. Disaggregated Data on the Allowances for Credit Losses[1]

Schedule RI-C, Part II, is to be completed by institutions with $1 billion or more in total assets.[2]

Dollar Amounts in Thousands	(Column A) Amortized Cost RCFD	Amount	(Column B) Allowance Balance RCFD	Amount	
Loans and Leases Held for Investment:					
1. Real estate loans:					
a. Construction loans	JJ04	6,568,000	JJ12	52,000	1.a.
b. Commercial real estate loans	JJ05	26,613,000	JJ13	423,000	1.b.
c. Residential real estate loans	JJ06	132,668,000	JJ14	411,000	1.c.
2. Commercial loans (3)	JJ07	290,194,000	JJ15	2,473,000	2.
3. Credit cards	JJ08	156,183,000	JJ16	12,247,000	3.
4. Other consumer loans	JJ09	9,951,000	JJ17	400,000	4.
5. Unallocated, if any			JJ18	0	5.
6. Total (sum of items 1.a through 5) (4)	JJ11	622,177,000	JJ19	16,006,000	6.

Dollar Amounts in Thousands	Allowance Balance RCFD	Amount	
Held-to-Maturity Securities:			
7. Securities issued by states and political subdivisions in the U.S.	JJ20	76,000	7.
8. Mortgage-backed securities (MBS) (including CMOs, REMICs, and stripped MBS)	JJ21	7,000	8.
9. Asset-backed securities and structured financial products	JJ23	0	9.
10. Other debt securities	JJ24	0	10.
11. Total (sum of items 7 through 10) (5)	JJ25	83,000	11.

1 Only institutions that have adopted ASU 2016-13 are to complete Schedule RI-C, Part II.

2 The $1 billion asset-size test is based on the total assets reported on the June 30, 2022, Report of Condition.

3 Include all loans and leases not reported as real estate loans, credit cards, or other consumer loans in items 1, 3, or 4 of Schedule RI-C, Part II.

4 Item 6, column B, must equal Schedule RC, item 4.c.

5 Item 11 must equal Schedule RI-B, Part II, item 7, column B.

Schedule RI-D—Income from Foreign Offices

For all banks with foreign offices (including Edge or Agreement subsidiaries and IBFs) and total foreign office assets of $10 billion or more where foreign office revenues, assets, or net income exceed 10 percent of consolidated total revenues, total assets, or net income.

Dollar Amounts in Thousands	RIAD	Year-to-date Amount	
1. Total interest income in foreign offices	C899	25,807,000	1.
2. Total interest expense in foreign offices	C900	12,078,000	2.
3. Provision for loan and lease losses in foreign offices (1)	KW02	(395,000)	3.
4. Noninterest income in foreign offices:			
a. Trading revenue	C902	5,603,000	4.a.
b. Investment banking, advisory, brokerage, and underwriting fees and commissions	C903	188,000	4.b.
c. Net securitization income	C904	0	4.c.
d. Other noninterest income	C905	10,525,000	4.d.
5. Realized gains (losses) on held-to-maturity and available-for-sale debt securities and change in net unrealized holding gains (losses) on equity securities not held for trading in foreign offices	JA28	(25,000)	5.
6. Total noninterest expense in foreign offices	C907	11,448,000	6.
7. Adjustments to pretax income in foreign offices for internal allocations to foreign offices to reflect the effects of equity capital on overall bank funding costs	C908	0	7.
8. Applicable income taxes (on items 1 through 7)	C909	4,217,000	8.
9. Discontinued operations, net of applicable income taxes, in foreign offices	GW64	0	9.
10. Net income attributable to foreign offices before eliminations arising from consolidation (item 1 plus or minus items 2 through 9)	C911	14,750,000	10.
11. Not applicable			
12. Eliminations arising from the consolidation of foreign offices with domestic offices	C913	(14,195,000)	11.
13. Consolidated net income attributable to foreign offices (sum of items 10 and 12)	C914	555,000	12.

1 Institutions that have adopted ASU 2016-13 should report the provisions for credit losses in foreign offices for all financial assets and off-balance-sheet credit exposures that fall within the scope of the standard in item 3.

Schedule RI-E—Explanations

Schedule RI-E is to be completed each quarter on a calendar year-to-date basis.

Detail all adjustments in Schedule RI-A and RI-B, all discontinued operations in Schedule RI, and all significant items of other noninterest income and other noninterest expense in Schedule RI (See instructions for details.)

Dollar Amounts in Thousands	RIAD	Year-to-date Amount	
1. Other noninterest income (from Schedule RI, item 5.l)			
Itemize and describe amounts greater than $100,000 that exceed 7% of Schedule RI, item 5.l:			
a. Income and fees from the printing and sale of checks	C013	NR	1.a.
b. Earnings on/increase in value of cash surrender value of life insurance	C014	NR	1.b.
c. Income and fees from automated teller machines (ATMs)	C016	NR	1.c.
d. Rent and other income from other real estate owned	4042	NR	1.d.
e. Safe deposit box rent	C015	NR	1.e.
f. Bank card and credit card interchange fees	F555	(530,000)	1.f.
g. Income and fees from wire transfers not reportable as service charges on deposit accounts	T047	NR	1.g.
h. TEXT 4461 Operating income from affiliates	4461	NR	1.h.
i. TEXT 4462 Other banking related fees	4462	1,200,000	1.i.
j. TEXT 4463 Letters-of-credit commitment fees	4463	397,000	1.j.
2. Other noninterest expense (from Schedule RI, item 7.d)			
Itemize and describe amounts greater than $100,000 that exceed 7% of Schedule RI, item 7.d:			
a. Data processing expenses	C017	4,725,000	2.a.
b. Advertising and marketing expenses	0497	837,000	2.b.
c. Directors' fees	4136	NR	2.c.
d. Printing, stationery, and supplies	C018	NR	2.d.
e. Postage	8403	NR	2.e.
f. Legal fees and expenses	4141	NR	2.f.
g. FDIC deposit insurance assessments	4146	CONF	2.g.
h. Accounting and auditing expenses	F556	NR	2.h.
i. Consulting and advisory expenses	F557	NR	2.i.
j. Automated teller machine (ATM) and interchange expenses	F558	NR	2.j.
k. Telecommunications expenses	F559	NR	2.k.
l. Other real estate owned expenses	Y923	NR	2.l.
m. Insurance expenses (not included in employee expenses, premises and fixed asset expenses, and other real estate owned expenses)	Y924	NR	2.m.
n. TEXT 4464 Expense paid to affiliates	4464	(894,000)	2.n.
o. TEXT 4467 Contract service provider fees	4467	NR	2.o.
p. TEXT 4468 Operational risk losses	4468	NR	2.p.
3. Discontinued operations and applicable income tax effect (from Schedule RI, item 11) (itemize and describe each discontinued operation):			
a. (1) TEXT FT29 Discontinued operations	FT29	0	3.a.1.
(2) Applicable income tax effect — FT30: 0			3.a.2.
b. (1) TEXT FT31 NR	FT31	0	3.b.1.
(2) Applicable income tax effect — FT32: 0			3.b.2.

Schedule RI-E—Continued

Dollar Amounts in Thousands	RIAD	Year-to-date Amount	
4. Cumulative effect of changes in accounting principles and corrections of material accounting errors (from Schedule RI-A, item 2) (itemize and describe all such effects):			
a. Effect of adoption of current expected credit losses methodology – ASU 2016-13 (1,2)	JJ26	NR	4.a.
b. **Not applicable**			
c. TEXT B526 ASU 2022-02	B526	274,000	4.c.
d. TEXT B527 NR	B527	0	4.d.
5. Other transactions with stockholders (including a parent holding company) (from Schedule RI-A, item 11) (itemize and describe all such transactions):			
a. TEXT 4498 Primarily due to Capital Contributions.	4498	185,000	5.a.
b. TEXT 4499 NR	4499	0	5.b.
6. Adjustments to allowances for credit losses (3) (from Schedule RI-B, Part II, item 6) (itemize and describe all adjustments):			
a. Initial allowances for credit losses recognized upon the acquisition of purchased credit-deteriorated assets on or after the effective date of ASU 2016-13 (1)	JJ27	NR	6.a.
b. Effect of adoption of current expected credit losses methodology on allowances for credit losses (1,2)	JJ28	NR	6.b.
c. TEXT 4521 FX translation adjustments	4521	(20,000)	6.c.
d. TEXT 4522 ASU 2022-02	4522	(319,000)	6.d.

7. Other explanations (the space below is provided for the bank to briefly describe, at its option, any other significant items affecting the Report of Income):

	RIAD	YES / NO	
Comments?	4769	YES	7.

Other explanations (please type or print clearly):
(TEXT 4769)

Other noninterest income (from schedule RI, item 5.l): Itemize and describe amounts greater than $100,000 that exceed 7% of Schedule RI, item 5.l: 1.k Marked-to-market on hedging transactions -$634,000M; 1.m Other translation -$1,285,000M; 1.n Earnings of minority owned affiliates $353,000M; 1r Net change in the fair values of financial instruments accounted for under a fair value option $1,703,000M
Other noninterest expense (from Schedule RI, item 7.d): Itemize and describe amounts greater than $100,000 that exceed 7% of Schedule RI item 7.d: None

1 Only institutions that have adopted ASU 2016-13 should report amounts in items 4.a, 6.a, and 6.b, if applicable.
2 An institution should complete item 4.a and item 6.b in the quarter that it adopts ASU 2016-13 and in the quarter-end Call Reports for the remainder of that calendar year only.
3 Institutions that have not adopted ASU 2016-13 should report adjustments to the allowance for loan and lease losses in items 6.c and 6.d, if applicable.

Consolidated Report of Condition for Insured Banks and Savings Associations for September 30, 2023

All schedules are to be reported in thousands of dollars. Unless otherwise indicated, report the amount outstanding as of the last business day of the quarter.

Schedule RC—Balance Sheet

Dollar Amounts in Thousands				RCFD	Amount	
Assets						
1. Cash and balances due from depository institutions (from Schedule RC-A):						
a. Noninterest-bearing balances and currency and coin (1)				0081	23,824,000	1.a.
b. Interest-bearing balances (2)				0071	221,153,000	1.b.
2. Securities:						
a. Held-to-maturity securities (from Schedule RC-B, column A) (3)				JJ34	253,338,000	2.a.
b. Available-for-sale debt securities (from Schedule RC-B, column D)				1773	208,003,000	2.b.
c. Equity securities with readily determinable fair values not held for trading (4)				JA22	70,000	2.c.
3. Federal funds sold and securities purchased under agreements to resell:						
a. Federal funds sold			RCON	B987	0	3.a.
b. Securities purchased under agreements to resell (5,6)			RCFD	B989	82,740,000	3.b.
4. Loans and lease financing receivables (from Schedule RC-C):				RCFD		
a. Loans and leases held for sale				5369	3,688,000	4.a.
b. Loans and leases held for investment	B528	628,146,000				4.b.
c. LESS: Allowance for loan and lease losses (7)	3123	16,006,000				4.c.
d. Loans and leases held for investment, net of allowance (item 4.b minus 4.c)				B529	612,140,000	4.d.
5. Trading assets (from Schedule RC-D)				3545	133,214,000	5.
6. Premises and fixed assets (including capitalized leases)				2145	11,877,000	6.
7. Other real estate owned (from Schedule RC-M)				2150	26,000	7.
8. Investments in unconsolidated subsidiaries and associated companies				2130	5,226,000	8.
9. Direct and indirect investments in real estate ventures				3656	0	9.
10. Intangible assets (from Schedule RC-M)				2143	13,589,000	10.
11. Other assets (from Schedule RC-F) (6)				2160	88,484,000	11.
12. Total assets (sum of items 1 through 11)				2170	1,657,372,000	12.
Liabilities						
13. Deposits:				RCON		
a. In domestic offices (sum of totals of columns A and C from Schedule RC-E, Part I)				2200	721,253,000	13.a.
(1) Noninterest-bearing (8)	RCON	6631	105,823,000			13.a.1.
(2) Interest-bearing	RCON	6636	615,430,000			13.a.2.
b. In foreign offices, Edge and Agreement subsidiaries, and IBFs				RCFN		
(from Schedule RC-E, Part II)				2200	564,851,000	13.b.
(1) Noninterest-bearing	RCFN	6631	59,311,000			13.b.1.
(2) Interest-bearing	RCFN	6636	505,540,000			13.b.2.
14. Federal funds purchased and securities sold under agreements to repurchase:						
a. Federal funds purchased in domestic offices (9)			RCON	B993	0	14.a.
b. Securities sold under agreements to repurchase (10)			RCFD	B995	13,783,000	14.b.
15. Trading liabilities (from Schedule RC-D)			RCFD	3548	56,186,000	15.
16. Other borrowed money (includes mortgage indebtedness) (from Schedule RC-M)			RCFD	3190	60,157,000	16.

1 Includes cash items in process of collection and unposted debits.

2 Includes time certificates of deposit not held for trading.

3 Institutions that have adopted ASU 2016-13 should report in item 2.a amounts net of any applicable allowance for credit losses, and item 2.a should equal Schedule RC-B, item 8, column A, less Schedule RI-B, Part II, item 7, column B.

4 Item 2.c is to be completed by all institutions. See the instructions for this item and the Glossary entry for "Securities Activities" for further detail on accounting for investments in equity securities.

5 Includes all securities resale agreements, regardless of maturity.

6 Institutions that have adopted ASU 2016-13 should report in items 3.b and 11 amounts net of any applicable allowance for credit losses.

7 Institutions that have adopted ASU 2016-13 should report in item 4.c the allowance for credit losses on loans and leases.

8 Includes noninterest-bearing, demand, time, and savings deposits.

9 Report overnight Federal Home Loan Bank advances in Schedule RC, item 16, "Other borrowed money."

10 Includes all securities repurchase agreements, regardless of maturity.

Schedule RC—Continued

Dollar Amounts in Thousands	RCFD	Amount	
Liabilities - continued			
17. and 18. Not applicable			
19. Subordinated notes and debentures (1)	3200	10,500,000	19.
20. Other liabilities (from Schedule RC-G)	2930	63,739,000	20.
21. Total liabilities (sum of items 13 through 20)	2948	1,490,469,000	21.
22. Not applicable			
Equity Capital			
Bank Equity Capital			
23. Perpetual preferred stock and related surplus	3838	2,100,000	23.
24. Common stock	3230	751,000	24.
25. Surplus (excludes all surplus related to preferred stock)	3839	147,793,000	25.
26. a. Retained earnings	3632	44,372,000	26.a.
b. Accumulated other comprehensive income (2)	B530	(28,773,000)	26.b.
c. Other equity capital components (3)	A130	0	26.c.
27. a. Total bank equity capital (sum of items 23 through 26.c)	3210	166,243,000	27.a.
b. Noncontrolling (minority) interests in consolidated subsidiaries	3000	660,000	27.b.
28. Total equity capital (sum of items 27.a and 27.b)	G105	166,903,000	28.
29. Total liabilities and equity capital (sum of items 21 and 28)	3300	1,657,372,000	29.

Memoranda

To be reported with the March Report of Condition.

	RCFD	Number	
1. Indicate in the box at the right the number of the statement below that best describes the most comprehensive level of auditing work performed for the bank by independent external auditors as of any date during 2022	6724	NR	M.1.

1a = An integrated audit of the reporting institution's financial statements and its internal control over financial reporting conducted in accordance with the standards of the American Institute of Certified Public Accountants (AICPA) or the Public Company Accounting Oversight Board (PCAOB) by an independent publicaccountant that submits a report on the institution

1b = An audit of the reporting institution's financial statements only conducted in accordance with the auditing standards of the AICPA or the PCAOB by an independent public accountant that submits a report on the institution

2a = An integrated audit of the reporting institution's parent holding company's consolidated financial statements and its internal control over financial reporting conducted in accordance with the standards of the AICPA or the PCAOB by an independent public accountant that submits a report on the consolidated holding company (but not on the institution separately)

2b = An audit of the reporting institution's parent holding company's consolidated financial statements only conducted in accordance with the auditing standards of the AICPA or the PCAOB by an independent public accountant that submits a report on the consolidated holding company (but not on the institution separately)

3 = This number is not to be used

4 = Directors' examination of the bank conducted in accordance with generally accepted auditing standards by a certified public accounting firm (may be required by state-chartering authority)

5 = Directors' examination of the bank performed by other external auditors (may be required by state-chartering authority)

6 = Review of the bank's financial statements by external auditors

7 = Compilation of the bank's financial statements by external auditors

8 = Other audit procedures (excluding tax preparation work)

9 = No external audit work

To be reported with the March Report of Condition.

	RCON	Date	
2. Bank's fiscal year-end date (report the date in MMDD format)	8678	NR	M.2.

1 Includes limited-life preferred stock and related surplus.

2 Includes, but is not limited to, net unrealized holding gains (losses) on available-for-sale securities, accumulated net gains (losses) on cash flow hedges, cumulative foreign currency translation adjustments, and accumulated defined benefit pension and other postretirement plan adjustments.

3 Includes treasury stock and unearned Employee Stock Ownership Plan shares.

Schedule RC-A—Cash and Balances Due From Depository Institutions

Exclude assets held for trading.

	(Column A) Consolidated Bank		(Column B) Domestic Offices		
	RCFD	Amount	RCON	Amount	
1. Cash items in process of collection, unposted debits, and currency and coin	0022	6,466,000			
a. Cash items in process of collection and unposted debits			0020	3,769,000	1.a.
b. Currency and coin			0080	994,000	1.b.
2. Balances due from depository institutions in the U.S	0082	355,000	0082	161,000	2.
3. Balances due from banks in foreign countries and foreign central banks	0070	161,245,000	0070	89,000	3.
4. Balances due from Federal Reserve Banks	0090	76,911,000	0090	76,911,000	4.
5. Total (sum of items 1 through 4) (must equal Schedule RC, sum of items 1.a and 1.b)	0010	244,977,000	0010	81,924,000	5.

Schedule RC-B—Securities

Exclude assets held for trading.

	Held-to-maturity				Available-for-sale				
	(Column A) Amortized Cost		(Column B) Fair Value		(Column C) Amortized Cost		(Column D) Fair Value		
Dollar Amounts in Thousands	RCFD	Amount	RCFD	Amount	RCFD	Amount	RCFD	Amount	
1. U.S. Treasury securities	0211	134,935,000	0213	121,523,000	1286	79,069,000	1287	77,358,000	1.
2. U.S. Government agency and sponsored agency obligations (exclude mortgage-backed securities) (1)	HT50	0	HT51	0	HT52	0	HT53	0	2.
3. Securities issued by states and political subdivisions in the U.S	8496	8,882,000	8497	7,707,000	8498	1,887,000	8499	1,722,000	3.

1 Includes Small Business Administration “Guaranteed Loan Pool Certificates,” U.S. Maritime Administration obligations", Export –Import Bank participation certificates", and obligations (other than mortgage-backed securities) issued by the Farm Credit System, the Federal Home Loan Bank System, the Federal Home Loan Mortgage Corporation, the Federal National Mortgage Association, the Resolution Funding Corporation, the Student Loan Marketing Association, and the Tennessee Valley Authority.

Schedule RC-B—Continued

Dollar Amounts in Thousands	Held-to-maturity				Available-for-sale				
	(Column A) Amortized Cost		(Column B) Fair Value		(Column C) Amortized Cost		(Column D) Fair Value		
	RCFD	Amount	RCFD	Amount	RCFD	Amount	RCFD	Amount	
4. Mortgage-backed securities (MBS):									
a. Residential mortgage pass-through securities:									
(1) Guaranteed by GNMA	G300	6,663,000	G301	6,055,000	G302	9,987,000	G303	9,744,000	4.a.1.
(2) Issued by FNMA and FHLMC	G304	69,665,000	G305	57,454,000	G306	6,890,000	G307	6,109,000	4.a.2.
(3) Other pass-through securities	G308	0	G309	0	G310	263,000	G311	263,000	4.a.3.
b. Other residential mortgage-backed securities (include CMOs, REMICs, and stripped MBS):									
(1) Issued or guaranteed by U.S. Government agencies or sponsored agencies (1)	G312	674,000	G313	600,000	G314	1,603,000	G315	1,510,000	4.b.1.
(2) Collateralized by MBS issued or guaranteed by U.S. Government agencies or sponsored agencies (1)	G316	0	G317	0	G318	0	G319	0	4.b.2.
(3) All other residential MBS	G320	330,000	G321	330,000	G322	26,000	G323	24,000	4.b.3.
c. Commercial MBS:									
(1) Commercial mortgage pass-through securities:									
(a) Issued or guaranteed by FNMA, FHLMC, or GNMA	K142	1,239,000	K143	1,147,000	K144	724,000	K145	650,000	4.c.1.a.
(b) Other pass-through securities	K146	0	K147	0	K148	0	K149	0	4.c.1.b.

1 U.S. Government agencies include, but are not limited to, such agencies as the Government National Mortgage Association (GNMA), the Federal Deposit Insurance Corporation (FDIC), and the National Credit Union Administration (NCUA). U.S. Government-sponsored agencies include, but are not limited to, such agencies as the Federal Home Loan Mortgage Corporation (FHLMC) and the Federal National Mortgage Association (FNMA).

Schedule RC-B—Continued

Dollar Amounts in Thousands	Held-to-maturity				Available-for-sale				
	(Column A) Amortized Cost		(Column B) Fair Value		(Column C) Amortized Cost		(Column D) Fair Value		
	RCFD	Amount	RCFD	Amount	RCFD	Amount	RCFD	Amount	
4. c.(2) Other commercial MBS:									
(a) Issued or guaranteed by U.S. Government agencies or sponsored agencies (1)	K150	185,000	K151	178,000	K152	83,000	K153	75,000	4.c.2.a.
(b) All other commercial MBS	K154	945,000	K155	801,000	K156	0	K157	0	4.c.2.b.
5. Asset-backed securities and structured financial products:									
a. Asset-backed securities (ABS)	C026	0	C988	0	C989	259,000	C027	257,000	5.a.
b. Structured financial products	HT58	29,903,000	HT59	29,674,000	HT60	493,000	HT61	496,000	5.b.
6. Other debt securities:									
a. Other domestic debt securities	1737	0	1738	0	1739	0	1741	0	6.a.
b. Other foreign debt securities	1742	0	1743	0	1744	111,222,000	1746	109,795,000	6.b.
7. Unallocated portfolio layer fair value hedge basis adjustments (2)					MG95	(469,000)			7.
8. Total (sum of items 1 through 7) (3)	1754	253,421,000	1771	225,469,000	1772	212,037,000	1773	208,003,000	8.

1 U.S. Government agencies include, but are not limited to, such agencies as the Government National Mortgage Association (GNMA), the Federal Deposit Insurance Corporation (FDIC), and the National Credit Union Administration (NCUA). U.S. Government-sponsored agencies include, but are not limited to, such agencies as the Federal Home Loan Mortgage Corporation (FHLMC) and the Federal National Mortgage Association (FNMA).

2 This item is to be completed by institutions that have adopted ASU 2022-01, as applicable.

3 For institutions that have adopted ASU 2016-13, the total reported in column A must equal Schedule RC, item 2.a, plus Schedule RI-B, Part II, item 7, column B. For institutions that have not adopted ASU 2016-13, the total reported in column A must equal Schedule RC, item 2.a. For all institutions, the total reported in column D must equal Schedule RC, item 2.b.

Schedule RC-B—Continued

Memoranda

Dollar Amounts in Thousands	RCFD	Amount	
1. Pledged securities (1)	0416	220,938,000	M.1.
2. Maturity and repricing data for debt securities (excluding those in nonaccrual status):			
a. Securities issued by the U.S. Treasury, U.S. Government agencies, and states and political subdivisions in the U.S.; other non-mortgage debt securities; and mortgage pass-through securities other than those backed by closed-end first lien 1-4 family residential mortgages with a remaining maturity or next repricing date of: (2,3)			
(1) Three months or less	A549	70,380,000	M.2.a.1.
(2) Over three months through 12 months	A550	54,393,000	M.2.a.2.
(3) Over one year through three years	A551	138,169,000	M.2.a.3.
(4) Over three years through five years	A552	84,964,000	M.2.a.4.
(5) Over five years through 15 years	A553	12,580,000	M.2.a.5.
(6) Over 15 years	A554	4,751,000	M.2.a.6.
b. Mortgage pass-through securities backed by closed-end first lien 1-4 family residential mortgages with a remaining maturity or next repricing date of: (2,4)			
(1) Three months or less	A555	283,000	M.2.b.1.
(2) Over three months through 12 months	A556	99,000	M.2.b.2.
(3) Over one year through three years	A557	5,000	M.2.b.3.
(4) Over three years through five years	A558	0	M.2.b.4.
(5) Over five years through 15 years	A559	2,298,000	M.2.b.5.
(6) Over 15 years	A560	89,759,000	M.2.b.6.
c. Other mortgage-backed securities (include CMOs, REMICs, and stripped MBS; exclude mortgage pass-through securities) with an expected average life of: (5)			
(1) Three years or less	A561	811,000	M.2.c.1.
(2) Over three years	A562	2,932,000	M.2.c.2.
d. Debt securities with a REMAINING MATURITY of one year or less (included in Memorandum items 2.a through 2.c above)	A248	88,856,000	M.2.d.
Memorandum item 3 is to be completed semiannually in the June and December reports only.			
3. Amortized cost of held-to-maturity securities sold or transferred to available-for-sale or trading securities during the calendar year-to-date (report the amortized cost at date of sale or transfer)	1778	NR	M.3.
4. Structured notes (included in the held-to-maturity and available-for-sale accounts in Schedule RC-B, items 2, 3, 5, and 6):			
a. Amortized cost	8782	0	M.4.a.
b. Fair value	8783	0	M.4.b.

1 Includes held-to-maturity securities at amortized cost, available-for-sale debt securities at fair value, and equity securities with readily determinable fair values not held for trading (reported in Schedule RC, item 2.c) at fair value.

2 Report fixed rate debt securities by remaining maturity and floating rate debt securities by next repricing date.

3 Sum of Memorandum items 2.a.(1) through 2.a.(6) plus any nonaccrual debt securities in the categories of debt securities reported in Memorandum item 2.a that are included in Schedule RC-N, item 10, column C, must equal Schedule RC-B, sum of items 1, 2, 3, 4.c.(1), 5, and 6, columns A and D, plus residential mortgage pass-through securities other than those backed by closed-end first lien 1 –4 family residential mortgages included in Schedule RC-B, item 4.a, columns A and D.

4 Sum of Memorandum items 2.b.(1) through 2.b.(6) plus any nonaccrual mortgage pass-through securities backed by closed-end first lien 1 –4 family residential mortgages included in Schedule RC-N, item 10, column C, must equal Schedule RC-B, item 4.a, sum of columns A and D, less the amount of residential mortgage pass-through securities other than those backed by closed-end first lien 1 –4 family residential mortgages included in Schedule RC-B, item 4.a, columns A and D.

5 Sum of Memorandum items 2.c.(1) and 2.c.(2) plus any nonaccrual "Other mortgage-backed securities" included in Schedule RC-N, item 10, column C, must equal Schedule RC-B, sum of items 4.b and 4.c.(2), columns A and D.

Schedule RC-B—Continued

Memoranda—Continued

Dollar Amounts in Thousands	Held-to-maturity (Column A) Amortized Cost RCFD	Amount	Held-to-maturity (Column B) Fair Value RCFD	Amount	Available-for-sale (Column C) Amortized Cost RCFD	Amount	Available-for-sale (Column D) Fair Value RCFD	Amount	
Memorandum items 5.a through 5.f and 6.a through 6.g are to be completed by banks with $10 billion or more in total assets.[1]									
5. Asset-backed securities (ABS) (for each column, sum of Memorandum items 5.a through 5.f must equal Schedule RC-B, item 5.a):									
a. Credit card receivables	B838	0	B839	0	B840	0	B841	0	M.5.a.
b. Home equity lines	B842	0	B843	0	B844	0	B845	0	M.5.b.
c. Automobile loans	B846	0	B847	0	B848	259,000	B849	257,000	M.5.c.
d. Other consumer loans	B850	0	B851	0	B852	0	B853	0	M.5.d.
e. Commercial and industrial loans	B854	0	B855	0	B856	0	B857	0	M.5.e.
f. Other	B858	0	B859	0	B860	0	B861	0	M.5.f.
6. Structured financial products by by underlying collateral or reference assets (for each column, sum of Memorandum items 6.a through 6.g must equal Schedule RC-B, item 5.b):									
a. Trust preferred securities issued by financial institutions	G348	0	G349	0	G350	0	G351	0	M.6.a.
b. Trust preferred securities issued by real estate investment trusts	G352	0	G353	0	G354	0	G355	0	M.6.b.
c. Corporate and similar loans	G356	29,519,000	G357	29,343,000	G358	0	G359	0	M.6.c.
d. 1-4 family residential MBS issued or guaranteed by U.S. government-sponsored enterprises (GSEs)	G360	0	G361	0	G362	0	G363	0	M.6.d.
e. 1-4 family residential MBS not issued or guaranteed by GSEs	G364	0	G365	0	G366	0	G367	0	M.6.e.
f. Diversified (mixed) pools of structured financial products	G368	0	G369	0	G370	0	G371	0	M.6.f.
g. Other collateral or reference assets	G372	384,000	G373	331,000	G374	493,000	G375	496,000	M.6.g.

[1] The $10 billion asset-size test is based on the total assets reported on the June 30, 2022, Report of Condition.

Schedule RC-C—Loans and Lease Financing Receivables

Part I. Loans and Leases

Do not deduct the allowance for loan and lease losses or the allocated transfer risk reserve from amounts reported in this schedule.[1]
Report (1) loans and leases held for sale at the lower of cost or fair value, (2) loans and leases held for investment, net of unearned income, and (3) loans and leases accounted for at fair value under a fair value option. Exclude assets held for trading and commercial paper.

Dollar Amounts in Thousands	(Column A) Consolidated Bank RCFD	Amount	(Column B) Domestic Offices RCON	Amount	
1. Loans secured by real estate: (2)	1410	NR			1.
a. Construction, land development, and other land loans:					
(1) 1-4 family residential construction loans	F158	161,000	F158	15,000	1.a.1.
(2) Other construction loans and all land development and other land loans	F159	6,408,000	F159	6,408,000	1.a.2.
b. Secured by farmland (including farm residential and other improvements)	1420	28,000	1420	27,000	1.b.
c. Secured by 1-4 family residential properties:					
(1) Revolving, open-end loans secured by 1-4 family residential properties and extended under lines of credit	1797	4,226,000	1797	3,471,000	1.c.1.
(2) Closed-end loans secured by 1-4 family residential properties:					
(a) Secured by first liens	5367	127,310,000	5367	105,731,000	1.c.2.a.
(b) Secured by junior liens	5368	2,444,000	5368	1,534,000	1.c.2.b.
d. Secured by multifamily (5 or more) residential properties	1460	9,197,000	1460	8,520,000	1.d.
e. Secured by nonfarm nonresidential properties:					
(1) Loans secured by owner-occupied nonfarm nonresidential properties	F160	1,888,000	F160	1,055,000	1.e.1.
(2) Loans secured by other nonfarm nonresidential properties	F161	16,187,000	F161	10,102,000	1.e.2.
2. Loans to depository institutions and acceptances of other banks:					
a. To commercial banks in the U.S.			B531	278,000	2.a.
(1) To foreign branches of other U.S. banks	B532	276,000			
(2) To other commercial banks in the U.S.	B533	34,000			
b. To other depository institutions in the U.S.	B534	0	B534	0	2.b.
c. To banks in foreign countries			B535	3,196,000	2.c.
(1) To U.S. branches and agencies of foreign banks	B536	44,000			
(2) To other banks in foreign countries	B537	8,981,000			
3. Loans to finance agricultural production and other loans to farmers	1590	287,000	1590	81,000	3.
4. Commercial and industrial loans:					
a. To U.S. addressees (domicile)	1763	57,894,000	1763	55,603,000	4.a.
b. To non-U.S. addressees (domicile)	1764	90,888,000	1764	10,024,000	4.b.
5. Not applicable					
6. Loans to individuals for household, family, and other personal expenditures (i.e., consumer loans) (includes purchased paper):					
a. Credit cards	B538	156,526,000	B538	148,936,000	6.a.
b. Other revolving credit plans	B539	3,349,000	B539	968,000	6.b.
c. Automobile loans	K137	1,000	K137	0	6.c.
d. Other consumer loans (includes single payment and installment loans other than automobile loans and all student loans)	K207	6,792,000	K207	3,441,000	6.d.
7. Loans to foreign governments and official institutions (including foreign central banks)	2081	1,604,000	2081	256,000	7.
8. Obligations (other than securities and leases) of states and political subdivisions in the U.S.	2107	379,000	2107	378,000	8.

1 Institutions that have adopted ASU 2016-13 should not deduct the allowance for credit losses on loans and leases or the allocated transfer risk reserve from amounts reported on this schedule.

2 When reporting "Loans secured by real estate," "large institutions" and "highly complex institutions," as defined for deposit insurance assessment purposes in FDIC regulations, should complete items 1.a.(1) through 1.e.(2) in columns A and B (but not item 1 in column A); all other institutions should complete item 1 in column A and items 1.a.(1) through 1.e.(2) in column B (but not items 1.a.(1) through 1.e.(2) in column A).

Schedule RC-C—Continued

Part I. Continued

Dollar Amounts in Thousands	(Column A) Consolidated Bank RCFD	Amount	(Column B) Domestic Offices RCON	Amount	
9. Loans to nondepository financial institutions and other loans:	1563	136,872,000			9.
a. Loans to nondepository financial institutions			J454	58,207,000	9.a.
b. Other loans:					
(1) Loans for purchasing or carrying securities (secured and unsecured)			1545	564,000	9.b.1.
(2) All other loans (exclude consumer loans)			J451	14,614,000	9.b.2.
10. Lease financing receivables (net of unearned income):			2165	225,000	10.
a. Leases to individuals for household, family, and other personal expenditures (i.e., consumer leases)	F162	0			10.a.
b. All other leases	F163	229,000			10.b.
11. LESS: Any unearned income on loans reflected in items 1-9 above	2123	171,000	2123	171,000	11.
12. Total loans and leases held for investment and held for sale (1) (item 12, column A must equal Schedule RC, sum of items 4.a and 4.b)	2122	631,834,000	2122	433,463,000	12.

Memoranda

Dollar Amounts in Thousands	RCON	Amount	
1. Loans restructured in troubled debt restructurings that are in compliance with their modified terms (included in Schedule RC-C, Part I, and not reported as past due or nonaccrual in Schedule RC-N, Memorandum item 1):			
a. Construction, land development, and other land loans in domestic offices:			
(1) 1-4 family residential construction loans	K158	0	M.1.a.1.
(2) Other construction loans and all land development and other land loans	K159	47,000	M.1.a.2.
b. Loans secured by 1-4 family residential properties in domestic offices	F576	40,000	M.1.b.
c. Secured by multifamily (5 or more) residential properties in domestic offices	K160	0	M.1.c.
d. Secured by nonfarm nonresidential properties in domestic offices:			
(1) Loans secured by owner-occupied nonfarm nonresidential properties	K161	0	M.1.d.1.
(2) Loans secured by other nonfarm nonresidential properties	K162	0	M.1.d.2.
e. Commercial and industrial loans:	RCFD		
(1) To U.S. addressees (domicile)	K163	31,000	M.1.e.1.
(2) To non-U.S. addressees (domicile)	K164	19,000	M.1.e.2.
f. All other loans (include loans to individuals for household, family, and other personal expenditures)	K165	879,000	M.1.f.
Itemize loan categories included in Memorandum item 1.f, above that exceed 10% of total loans restructured in troubled debt restructurings that are in compliance with their modified terms (sum of Memorandum items 1.a through 1.f):	RCON		
(1) Loans secured by farmland in domestic offices	K166	0	M.1.f.1.
(2) Not applicable	RCFD		
(3) Loans to finance agricultural production and other loans to farmers	K168	0	M.1.f.3.
(4) Loans to individuals for household, family, and other personal expenditures:			
(a) Credit card	K098	552,000	M.1.f.4.a.
(b) Automobile loans	K203	0	M.1.f.4.b.
(c) Other (includes revolving credit plans other than credit cards, and other consumer loans)	K204	0	M.1.f.4.c.
g. Total loans restructured in troubled debt restructurings that are in compliance with their modified terms (sum of Memorandum items 1.a.(1) through 1.f)	HK25	1,016,000	M.1.g.

1 For "large institutions" and "highly complex institutions," as defined for deposit insurance assessment purposes in FDIC regulations, item 12, column A, must equal the sum of items 1.a.(1) through 10.b, column A, less item 11, column A. For all other institutions, item 12, column A, must equal the sum of item 1 and items 2.a.(1) through 10.b, column A, less item 11, column A. For all institutions, item 12, column B, must equal the sum of items 1.a.(1) through 10, column B, less item 11, column B.

Schedule RC-C—Continued

Part I—Continued

Memoranda—Continued

Dollar Amounts in Thousands	RCON	Amount	
2. Maturity and repricing data for loans and leases (excluding those in nonaccrual status):			
a. Closed-end loans secured by first liens on 1-4 family residential properties in domestic offices (reported in Schedule RC-C, Part I, item 1.c.(2)(a), column B) with a remaining maturity or next repricing date of: (1,2)			
(1) Three months or less	A564	1,234,000	M.2.a.1.
(2) Over three months through 12 months	A565	1,892,000	M.2.a.2.
(3) Over one year through three years	A566	3,051,000	M.2.a.3.
(4) Over three years through five years	A567	4,744,000	M.2.a.4.
(5) Over five years through 15 years	A568	30,983,000	M.2.a.5.
(6) Over 15 years	A569	63,354,000	M.2.a.6.
b. All loans and leases (reported in Schedule RC-C, Part I, items 1 through 10, column A) EXCLUDING closed-end loans secured by first liens on 1-4 family residential properties in in domestic offices (reported in Schedule RC-C, Part I, item 1.c.(2)(a), column B) with a remaining maturity or next repricing date of: (1,3)	RCFD		
(1) Three months or less	A570	404,424,000	M.2.b.1.
(2) Over three months through 12 months	A571	35,373,000	M.2.b.2.
(3) Over one year through three years	A572	69,435,000	M.2.b.3.
(4) Over three years through five years	A573	5,430,000	M.2.b.4.
(5) Over five years through 15 years	A574	6,727,000	M.2.b.5.
(6) Over 15 years	A575	2,884,000	M.2.b.6.
c. Loans and leases (reported in Schedule RC-C, Part I, items 1 through 10, column A) with a REMAINING MATURITY of one year or less (excluding those in nonaccrual status)	A247	309,449,000	M.2.c.
3. Loans to finance commercial real estate, construction, and land development activities (not secured by real estate) included in Schedule RC-C, Part I, items 4 and 9, column A (4)	2746	12,066,000	M.3.
4. Adjustable rate closed-end loans secured by first liens on 1-4 family residential properties in domestic offices (included in Schedule RC-C, Part I, item 1.c.(2)(a), column B)	RCON 5370	38,791,000	M.4.
5. Loans secured by real estate to non-U.S. addressees (domicile) (included in Schedule RC-C, Part I, item 1, column A or Schedule RC-C, Part I, items 1.a.(1) through 1.e.(2), column A, as appropriate)	RCFD B837	33,850,000	M.5.
Memorandum item 6 is to be completed by banks that (1) together with affiliated institutions, have outstanding credit card receivables (as defined in the instructions) that exceed $500 million as of the report date or (2) are credit card specialty banks as defined for Uniform Bank Performance Report purposes.			
6. Outstanding credit card fees and finance charges included in Schedule RC-C, Part I, item 6.a, column A	C391	4,572,000	M.6.
Memorandum items 7.a and 7.b are to be completed by all banks semiannually in the June and December reports only. (5)			
7. Purchased credit-impaired loans held for investment accounted for in accordance with FASB ASC 310-30 (former AICPA Statement of Position 03-3) (exclude loans held for sale):			
a. Outstanding balance	C779	NR	M.7.a.
b. Amount included in Schedule RC-C, Part I, items 1 through 9	C780	NR	M.7.b.

1 Report fixed rate loans and leases by remaining maturity and floating rate loans by next repricing date.

2 Sum of Memorandum items 2.a.(1) through 2.a.(6), plus total nonaccrual closed-end loans secured by first liens on 1 –4 family residential properties in domestic offices included in Schedule RC-N, item 1.c.(2)(a), column C, must equal total closed-end loans secured by first liens on 1–4 family residential properties from Schedule RC-C, Part I, item 1.c.(2)(a), column B.

3 Sum of Memorandum items 2.b.(1) through 2.b.(6), plus total nonaccrual loans and leases from Schedule RC-N, item 9, column C, minus nonaccrual closed-end loans secured by first liens on 1 –4 family residential properties in domestic offices included in Schedule RC-N, item 1.c.(2)(a), column C, must equal total loans and leases from Schedule RC-C, Part I, sum of items 1 through 10, column A, minus total closed-end loans secured by first liens on 1–4 family residential properties in domestic offices from Schedule RC-C, Part I, item 1.c.(2)(a), column B.

4 Exclude loans secured by real estate that are included in Schedule RC-C, Part I, item 1, column A.

5 Memorandum item 7 is to be completed only by institutions that have not yet adopted ASU 2016-13.

Schedule RC-C—Continued

Part I—Continued

Memoranda—Continued

Dollar Amounts in Thousands	RCON	Amount	
Memorandum item 8.a is to be completed by all banks semiannually in the June and December reports only.			
8. Closed-end loans with negative amortization features secured by 1-4 family residential properties in domestic offices:			
a. Total amount of closed-end loans with negative amortization features secured by 1-4 family residential properties (included in Schedule RC-C, Part I, items 1.c.(2)(a) and (b))	F230	NR	M.8.a.
Memorandum items 8.b and 8.c are to be completed semiannually in the June and December reports only by banks that had closed-end loans with negative amortization features secured by 1–4 family residential properties (as reported in Schedule RC-C, Part I, Memorandum item 8.a) as of the preceding December 31 report date, that exceeded the lesser of $100 million or 5 percent of total loans and leases held for investment and held for sale in domestic offices (as reported in Schedule RC-C, Part I, item 12, column B).			
b. Total maximum remaining amount of negative amortization contractually permitted on closed-end loans secured by 1-4 family residential properties	F231	NR	M.8.b.
c. Total amount of negative amortization on closed-end loans secured by 1-4 family residential properties included in the amount reported in Memorandum item 8.a above	F232	NR	M.8.c.
9. Loans secured by 1-4 family residential properties in domestic offices in process of foreclosure (included in Schedule RC-C, Part I, items 1.c.(1), 1.c.(2)(a), and 1.c.(2)(b))	F577	233,000	M.9.
10. and 11. Not applicable			

Dollar Amounts in Thousands	(Column A) Fair Value of Acquired Loans and Leases at Acquisition Date		(Column B) Gross Contractual Amounts Receivable at Acquisition Date		(Column C) Best Estimate at Acquisition Date of Contractual Cash Flows Not Expected to be Collected		
	RCFD	Amount	RCFD	Amount	RCFD	Amount	
Memorandum items 12.a, 12.b, 12.c, and 12.d are to be completed semiannually in the June and December reports only.							
12. Loans (not subject to the requirements of FASB ASC 310-30 (former AICPA Statement of Position 03-3)) and leases held for investment that were acquired in business combinations with acquisition dates in the current calendar year: (1)							
a. Loans secured by real estate	G091	NR	G092	NR	G093	NR	M.12.a.
b. Commercial and industrial loans	G094	NR	G095	NR	G096	NR	M.12.b.
c. Loans to individuals for household, family, and other personal expenditures	G097	NR	G098	NR	G099	NR	M.12.c.
d. All other loans and all leases	G100	NR	G101	NR	G102	NR	M.12.d.

1 Institutions that have adopted ASU 2016-13 should report only loans held for investment not considered purchased credit-deteriorated in Memorandum item 12.

Schedule RC-C—Continued

Part I—Continued

Memoranda—Continued

Dollar Amounts in Thousands	RCON	Amount	
Memorandum item 13 is to be completed by banks that had construction, land development, and other land loans in domestic offices (as reported in Schedule RC-C, Part I, item 1.a., column B) that exceeded the sum of tier 1 capital (as reported in Schedule RC-R, Part I, item 26) plus the allowance for loan and lease losses or the allowance for credit losses on loans and leases, as applicable (as reported in Schedule RC, item 4.c) as of the preceding December 31 report date.			
13. Construction, land development, and other land loans in domestic offices with interest reserves:			
a. Amount of loans that provide for the use of interest reserves (included in Schedule RC-C, Part I, item 1.a, column B)	G376	NR	M.13.a.
b. Amount of interest capitalized from interest reserves on construction, land development, and other land loans that is included in interest and fee income on loans during the quarter (included in Schedule RI, item 1.a.(1)(b))	RIAD G377	NR	M.13.b.
Memorandum item 14 is to be completed by all banks.			
14. Pledged loans and leases	RCFD G378	281,257,000	M.14.
Memorandum item 15 is to be completed for the December report only.			
15. Reverse mortgages in domestic offices:			
a. Reverse mortgages outstanding that are held for investment (included in Schedule RC-C, item 1.c, above)	RCON PR04	NR	M.15.a.
b. Estimated number of reverse mortgage loan referrals to other lenders during the year year from whom compensation has been received for services performed in connection with the origination of the reverse mortgages	PR05	Number NR	M.15.b.
c. Principal amount of reverse mortgage originations that have been sold during the year	PR06	Amount NR	M.15.c.
Memorandum item 16 is to be completed by all banks.			
16. Revolving, open-end loans secured by 1-4 family residential properties and extended under lines of credit in domestic offices that have converted to non-revolving closed-end status (included in item 1.c.(1) above)	LE75	201,000	M.16.
Amounts reported in Memorandum items 17.a and 17.b will not be made available to the public on an individual institution basis.			
17. Eligible loan modifications under Section 4013, Temporary Relief from Troubled Debt Restructurings, of the 2020 Coronavirus Aid, Relief, and Economic Security Act:		Number	
a. Number of Section 4013 loans outstanding	LG24	CONF	M.17.a.
b. Outstanding balance of Section 4013 loans	LG25	Amount CONF	M.17.b.

Schedule RC-C—Continued

Part II. Loans to Small Businesses and Small Farms

Report the number and amount currently outstanding as of the report date of business loans with "original amounts" of $1,000,000 or less and farm loans with "original amounts" of $500,000 or less. The following guidelines should be used to determine the "original amount" of a loan:
(1) For loans drawn down under lines of credit or loan commitments, the "original amount" of the loan is the size of the line of credit or loan commitment when the line of credit or loan commitment was most recently approved, extended, or renewed prior to the report date. However, if the amount currently outstanding as of the report date exceeds this size, the "original amount" is the amount currently outstanding on the report date.
(2) For loan participations and syndications, the "original amount" of the loan participation or syndication is the entire amount of the credit originated by the lead lender.
(3) For all other loans, the "original amount" is the total amount of the loan at origination or the amount currently outstanding as of the report date, whichever is larger.

Loans to Small Businesses

1. and 2. Not applicable

Dollar Amounts in Thousands	(Column A) Number of Loans		(Column B) Amount Currently Outstanding		
	RCON	Number	RCON	Amount	
3. Number and amount currently outstanding of "Loans secured by nonfarm nonresidential properties" in domestic offices reported in Schedule RC-C, Part I, items 1.e.(1) and 1.e.(2) (sum of items 3.a through 3.c must be less than or equal to Schedule RC-C, Part I, sum of items 1.e.(1) and 1.e.(2), column B):					
a. With original amounts of $100,000 or less	5564	12	5565	1,000	3.a.
b. With original amounts of more than $100,000 through $250,000	5566	63	5567	12,000	3.b.
c. With original amounts of more than $250,000 through $1,000,000	5568	602	5569	244,000	3.c.
4. Number and amount currently outstanding of "Commercial and industrial loans to U.S. addressees" in domestic offices reported in Schedule RC-C, Part I, item 4.a, column B (sum of items 4.a through 4.c must be less than or equal to Schedule RC-C, Part I, item 4.a, column B):					
a. With original amounts of $100,000 or less	5570	2,594,655	5571	6,893,000	4.a.
b. With original amounts of more than $100,000 through $250,000	5572	1,811	5573	174,000	4.b.
c. With original amounts of more than $250,000 through $1,000,000	5574	1,073	5575	467,000	4.c.

Schedule RC-C—Continued

Part II—Continued

Agricultural Loans to Small Farms

5. and 6. Not applicable

Dollar Amounts in Thousands	(Column A) Number of Loans		(Column B) Amount Currently Outstanding		
7. Number and amount currently outstanding of "Loans secured by farmland (including farm residential and other improvements)" in domestic offices reported in Schedule RC-C, Part I, item 1.b, column B (sum of items 7.a through 7.c must be less than or equal to Schedule RC-C, Part I, item 1.b, column B):	RCON	Number	RCON	Amount	
a. With original amounts of $100,000 or less	5578	0	5579	0	7.a.
b. With original amounts of more than $100,000 through $250,000	5580	0	5581	0	7.b.
c. With original amounts of more than $250,000 through $500,000	5582	0	5583	0	7.c.
8. Number and amount currently outstanding of "Loans to finance agricultural production and other loans to farmers" in domestic offices reported in Schedule RC-C, Part I, item 3, column B (sum of items 8.a through 8.c must be less than or equal to Schedule RC-C, Part I, item 3, column B):					
a. With original amounts of $100,000 or less	5584	1,688	5585	9,000	8.a.
b. With original amounts of more than $100,000 through $250,000	5586	0	5587	0	8.b.
c. With original amounts of more than $250,000 through $500,000	5588	0	5589	0	8.c.

Schedule RC-D—Trading Assets and Liabilities

Schedule RC-D is to be completed by banks that (1) reported total trading assets of $10 million or more in any of the four preceding calendar quarters, or (2) meet the FDIC's definition of a large or highly complex institution for deposit insurance assessment purposes.

Dollar Amounts in Thousands	Consolidated Bank RCFD	Amount	
Assets			
1. U.S. Treasury securities	3531	24,857,000	1.
2. U.S. Government agency obligations (exclude mortgage-backed securities)	3532	0	2.
3. Securities issued by states and political subdivisions in the U.S.	3533	144,000	3.
4. Mortgage-backed securities (MBS):			
a. Residential mortgage pass-through securities issued or guaranteed by FNMA, FHLMC, or GNMA	G379	1,000	4.a.
b. Other residential MBS issued or guaranteed by U.S. Government agencies or sponsored agencies (1) (include CMOs, REMICs, and stripped MBS)	G380	0	4.b.
c. All other residential MBS	G381	0	4.c.
d. Commercial MBS issued or guaranteed by U.S. Government agencies or sponsored agencies (1)	K197	0	4.d.
e. All other commercial MBS	K198	0	4.e.
5. Other debt securities:			
a. Structured financial products	HT62	10,000	5.a.
b. All other debt securities	G386	46,802,000	5.b.
6. Loans:			
a. Loans secured by real estate:			
(1) Loans secured by 1-4 family residential properties	HT63	0	6.a.1.
(2) All other loans secured by real estate	HT64	0	6.a.2.
b. Commercial and industrial loans	F614	2,182,000	6.b.
c. Loans to individuals for household, family, and other personal expenditures (i.e., consumer loans) (includes purchased paper)	HT65	0	6.c.
d. Other loans	F618	1,022,000	6.d.
7. and 8. Not applicable			
9. Other trading assets	3541	16,888,000	9.
10. Not applicable			
11. Derivatives with a positive fair value	3543	41,308,000	11.
12. Total trading assets (sum of items 1 through 11) (must equal Schedule RC, item 5)	3545	133,214,000	12.
Liabilities			
13. a. Liability for short positions	3546	20,675,000	13.a.
b. Other trading liabilities	F624	39,000	13.b.
14. Derivatives with a negative fair value	3547	35,472,000	14.
15. Total trading liabilities (sum of items 13.a through 14) (must equal Schedule RC, item 15)	3548	56,186,000	15.

1 U.S. Government agencies include, but are not limited to, such agencies as the Government National Mortgage Association (GNMA), the Federal Deposit Insurance Corporation (FDIC), and the National Credit Union Administration (NCUA). U.S. Government-sponsored agencies include, but are not limited to, such agencies as the Federal Home Loan Mortgage Corporation (FHLMC) and the Federal National Mortgage Association (FNMA).

Schedule RC-D—Trading Assets and Liabilities

Memoranda

Dollar Amounts in Thousands		Consolidated Bank RCFD	Amount	
1. Unpaid principal balance of loans measured at fair value (reported in Schedule RC-D, items 6.a.(1) through 6.d):				
a. Loans secured by real estate:				
(1) Loans secured by 1-4 family residential properties		HT66	0	M.1.a.1.
(2) All other loans secured by real estate		HT67	0	M.1.a.2.
b. Commercial and industrial loans		F632	2,270,000	M.1.b.
c. Loans to individuals for household, family, and other personal expenditures (i.e., consumer loans) (includes purchased paper)		HT68	0	M.1.c.
d. Other loans		F636	1,053,000	M.1.d.
Memorandum items 2 through 10 are to be completed by banks with $10 billion or more in total trading assets.				
2. Loans measured at fair value that are past due 90 days or more:				
a. Fair value		F639	6,000	M.2.a.
b. Unpaid principal balance		F640	6,000	M.2.b.
3. Structured financial products by underlying collateral or reference assets (for each column, sum of Memorandum items 3.a through 3.g must equal Schedule RC-D, sum of items 5.a.(1) through (3)):				
a. Trust preferred securities issued by financial institutions		G299	0	M.3.a.
b. Trust preferred securities issued by real estate investment trusts		G332	0	M.3.b.
c. Corporate and similar loans		G333	0	M.3.c.
d. 1–4 family residential MBS issued or guaranteed by U.S. government-sponsored enterprises (GSEs)		G334	0	M.3.d.
e. 1–4 family residential MBS not issued or guaranteed by GSEs		G335	0	M.3.e.
f. Diversified (mixed) pools of structured financial products		G651	0	M.3.f.
g. Other collateral or reference assets		G652	10,000	M.3.g.
4. Pledged trading assets:				
a. Pledged securities		G387	1,501,000	M.4.a.
b. Pledged loans		G388	0	M.4.b.
5. Asset-backed securities:				
a. Credit card receivables		F643	0	M.5.a.
b. Home equity lines		F644	0	M.5.b.
c. Automobile loans		F645	0	M.5.c.
d. Other consumer loans		F646	0	M.5.d.
e. Commercial and industrial loans		F647	0	M.5.e.
f. Other		F648	0	M.5.f.
6. Not applicable				
7. Equity securities (included in Schedule RC-D, item 9, above):				
a. Readily determinable fair values		F652	8,885,000	M.7.a.
b. Other		F653	98,000	M.7.b.
8. Loans pending securitization		F654	0	M.8.
9. Other trading assets (itemize and describe amounts included in Schedule RC-D, item 9, that are greater than $1,000,000 and exceed 25 percent of the item): (2)				
a.	TEXT F655 Fair Value of Physical Commodities	F655	6,680,000	M.9.a.
b.	TEXT F656 NR	F656	NR	M.9.b.
c.	TEXT F657 NR	F657	NR	M.9.c.
10. Other trading liabilities (itemize and describe amounts included in Schedule RC-D, item 13.b, that are greater than $1,000,000 and exceed 25 percent of the item):				
a.	TEXT F658 Revaluation Losses on Foreign Exchange Spot Contracts	F658	39,000	M.10.a.
b.	TEXT F659 NR	F659	NR	M.10.b.
c.	TEXT F660 NR	F660	NR	M.10.c.

1 The $10 billion asset-size test is based on the total assets reported on the June 30, 2022, Report of Condition.

2 Exclude equity securities.

Schedule RC-E—Deposit Liabilities

Part I. Deposits in Domestic Offices

Dollar Amounts in Thousands	Transaction Accounts (Column A) Total Transaction Accounts (Including Total Demand Deposits) RCON	Amount	Transaction Accounts (Column B) Memo: Total Demand Deposits[1] (Included in Column A) RCON	Amount	Nontransaction Accounts (Column C) Total Nontransaction Accounts (Including MMDAs) RCON	Amount	
Deposits of:							
1. Individuals, partnerships, and corporations	B549	363,175,000			B550	265,063,000	1.
2. U.S. Government	2202	88,000			2520	0	2.
3. States and political subdivisions in the U.S.	2203	1,979,000			2530	1,308,000	3.
4. Commercial banks and other depository institutions in the U.S.	B551	10,396,000			B552	1,305,000	4.
5. Banks in foreign countries	2213	50,188,000			2236	271,000	5.
6. Foreign governments and official institutions (including foreign central banks)	2216	27,431,000			2377	49,000	6.
7. Total (sum of items 1 through 6) (sum of columns A and C must equal Schedule RC, item 13.a)	2215	453,257,000	2210	417,434,000	2385	267,996,000	7.

Memoranda

Dollar Amounts in Thousands	RCON	Amount	
1. Selected components of total deposits (i.e., sum of item 7, columns A and C):			
a. Total Individual Retirement Accounts (IRAs) and Keogh Plan accounts	6835	14,234,000	M.1.a.
b. Total brokered deposits	2365	72,896,000	M.1.b.
c. Brokered deposits of $250,000 or less (fully insured brokered deposits) (2)	HK05	42,243,000	M.1.c.
d. Maturity data for brokered deposits:			
(1) Brokered deposits of $250,000 or less with a remaining maturity of one year or less (included in Memorandum item 1.c above)	HK06	41,426,000	M.1.d.1.
(2) Not applicable			
(3) Brokered deposits of more than $250,000 with a remaining maturity of one year or less (included in Memorandum item 1.b. above)	K220	30,653,000	M.1.d.3.
e. Preferred deposits (uninsured deposits of states and political subdivisions in the U.S. reported in item 3 above which are secured or collateralized as required under state law) (to be completed for the December report only)	5590	NR	M.1.e.
f. Estimated amount of deposits obtained through the use of deposit listing services that are not brokered deposits	K223	0	M.1.f.
g. Total reciprocal deposits	JH83	0	M.1.g.
Memorandum items 1.h.(1)(a), 1.h.(2)(a), 1.h.(3)(a), and 1.h.(4)(a) are to be completed by institutions with $100 billion or more in total assets.[3]			
h. Sweep deposits:			
(1) Fully insured, affiliate sweep deposits	MT87	1,582,000	M.1.h.1.
(a) Fully insured, affiliate, retail sweep deposits	MT88	1,430,000	M.1.h.1.a.
(2) Not fully insured, affiliate sweep deposits	MT89	93,000	M.1.h.2.
(a) Not fully insured, affiliate, retail sweep deposits	MT90	43,000	M.1.h.2.a.
(3) Fully insured, non-affiliate sweep deposits	MT91	48,217,000	M.1.h.3.
(a) Fully insured, non-affiliate, retail sweep deposits	MT92	45,002,000	M.1.h.3.a.
(4) Not fully insured, non-affiliate sweep deposits	MT93	1,271,000	M.1.h.4.
(a) Not fully insured, non-affiliate, retail sweep deposits	MT94	677,000	M.1.h.4.a.
i. Total sweep deposits that are not brokered deposits	MT95	13,037,000	M.1.i.

1 Includes interest-bearing and noninterest-bearing demand deposits.

2 The dollar amount used as the basis for reporting in Memorandum item 1.c reflects the deposit insurance limit in effect on the report date.

3 The $100 billion asset-size test is based on the total assets reported on the June 30, 2022, Report of Condition.

Schedule RC-E—Continued

Part I—Continued

Memoranda—Continued

Dollar Amounts in Thousands	RCON	Amount	
2. Components of total nontransaction accounts (sum of Memorandum items 2.a through 2.d must equal item 7, column C above):			
a. Savings deposits:			
(1) Money market deposit accounts (MMDAs)	6810	146,265,000	M.2.a.1.
(2) Other savings deposits (excludes MMDAs)	0352	1,479,000	M.2.a.2.
b. Total time deposits of less than $100,000	6648	17,296,000	M.2.b.
c. Total time deposits of $100,000 through $250,000	J473	26,150,000	M.2.c.
d. Total time deposits of more than $250,000 (sum of Memoranda items 4.a.(1) through 4.a.(4) below)	J474	76,806,000	M.2.d.
e. Individual Retirement Accounts (IRAs) and Keogh Plan accounts of $100,000 or more included in Memorandum items 2.c and 2.d above	F233	406,000	M.2.e.
3. Maturity and repricing data for time deposits of $250,000 or less:			
a. Time deposits of $250,000 or less with a remaining maturity or next repricing date of: (1,2)			
(1) Three months or less	HK07	13,576,000	M.3.a.1.
(2) Over three months through 12 months	HK08	28,152,000	M.3.a.2.
(3) Over one year through three years	HK09	1,445,000	M.3.a.3.
(4) Over three years	HK10	273,000	M.3.a.4.
b. Time deposits of $250,000 or less with a REMAINING MATURITY of one year or less (included in Memorandum items 3.a.(1) and 3.a.(2) above) (3)	HK11	41,728,000	M.3.b.
4. Maturity and repricing data for time deposits of more than $250,000:			
a. Time deposits of more than $250,000 with a remaining maturity or next repricing date of: (1,4)			
(1) Three months or less	HK12	42,010,000	M.4.a.1.
(2) Over three months through 12 months	HK13	33,711,000	M.4.a.2.
(3) Over one year through three years	HK14	694,000	M.4.a.3.
(4) Over three years	HK15	391,000	M.4.a.4.
b. Time deposits of more than $250,000 with a REMAINING MATURITY of one year or less (included in Memorandum items 4.a.1 and 4.a.2 above) (3)	K222	75,721,000	M.4.b.

	RCON	YES / NO	
5. Does your institution offer one or more consumer deposit account products, i.e., transaction account or nontransaction savings account deposit products intended primarily for individuals for personal, household, or family use?	P752	YES	M.5.

Memorandum items 6 and 7 are to be completed by institutions with $1 billion or more in total assets (5) that answered "Yes" to Memorandum item 5 above.

Dollar Amounts in Thousands	RCON	Amount	
6. Components of total transaction account deposits of individuals, partnerships, and corporations (sum of Memorandum items 6.a and 6.b must be less than or equal to item 1, column A, above):			
a. Total deposits in those noninterest-bearing transaction account deposit products intended primarily for individuals for personal, household, or family use	P753	28,934,000	M.6.a.
b. Total deposits in those interest-bearing transaction account deposit products intended primarily for individuals for personal, household, or family use	P754	29,369,000	M.6.b.

1 Report fixed rate time deposits by remaining maturity and floating rate time deposits by next repricing date.

2 Sum of Memorandum items 3.a.(1) through 3.a.(4) must equal Schedule RC-E, sum of Memorandum items 2.b and 2.c.

3 Report both fixed-and floating-rate time deposits by remaining maturity. Exclude floating-rate time deposits with a next repricing date of one year or less that have a remaining maturity of over one year.

4 Sum of Memorandum items 4.a.(1) through 4.a.(4) must equal Schedule RC-E, Memorandum item 2.d.

5 The $1 billion asset-size test is based on the total assets reported on the June 30, 2022, Report of Condition.

Schedule RC-E—Continued

Part I—Continued

Memoranda—Continued

Dollar Amounts in Thousands	RCON	Amount	
7. Components of total nontransaction account deposits of individuals, partnerships, and corporations (sum of Memorandum items 7.a.(1), 7.a.(2), 7.b.(1), and 7.b.(2) plus all time deposits of individuals, partnerships, and corporations must equal item 1, column C, above):			
a. Money market deposit accounts (MMDAs) of individuals, partnerships, and corporations (sum of Memorandum items 7.a.(1) and 7.a.(2) must be less than or equal to Memorandum item 2.a.(1) above):			
(1) Total deposits in those MMDA deposit products intended primarily for individuals for personal, household, or family use	P756	49,435,000	M.7.a.1.
(2) Deposits in all other MMDAs of individuals, partnerships, and corporations	P757	95,646,000	M.7.a.2.
b. Other savings deposit accounts of individuals, partnerships, and corporations (sum of Memorandum items 7.b.(1) and 7.b.(2) must be less than or equal to Memorandum item 2.a.(2) above):			
(1) Total deposits in those other savings deposit account deposit products intended primarily for individuals for personal, household, or family use	P758	0	M.7.b.1.
(2) Deposits in all other savings deposit accounts of individuals, partnerships, and corporations	P759	1,477,000	M.7.b.2.

Part II. Deposits in Foreign Offices (including Edge and Agreement subsidiaries and IBFs)

Items 1 through 6 are to be completed by banks with $10 billion or more in total assets.[1]

Dollar Amounts in Thousands	RCFN	Amount	
Deposits of:			
1. Individuals, partnerships, and corporations (include all certified and official checks)	B553	526,264,000	1.
2. U.S. banks (including IBFs and foreign branches of U.S. banks) and other U.S. depository institutions	B554	4,374,000	2.
3. Foreign banks (including U.S. branches and agencies of foreign banks, including their IBFs)	2625	14,618,000	3.
4. Foreign governments and official institutions (including foreign central banks)	2650	18,712,000	4.
5. U.S. Government and states and political subdivisions in the U.S.	B555	883,000	5.
6. Total (sum of items 1 through 5) (must equal Schedule RC, item 13.b)	2200	564,851,000	6.

Memorandum

Memorandum item 1 is to be completed by all banks.

Dollar Amounts in Thousands	RCFN	Amount	
1. Time deposits with a remaining maturity of one year or less (included in Schedule RC, item 13.b)	A245	164,476,000	M.1.

1 The $10 billion asset-size test is based on the total assets reported on the June 30, 2022, Report of Condition.

Schedule RC-F—Other Assets[1]

Dollar Amounts in Thousands			RCFD	Amount	
1. Accrued interest receivable (2)			B556	6,472,000	1.
2. Net deferred tax assets (3)			2148	15,678,000	2.
3. Interest-only strips receivable (not in the form of a security) (4)			HT80	0	3.
4. Equity investments without readily determinable fair values (5)			1752	5,667,000	4.
5. Life insurance assets:					
a. General account life insurance assets			K201	45,000	5.a.
b. Separate account life insurance assets			K202	5,265,000	5.b.
c. Hybrid account life insurance assets			K270	0	5.c.
6. All other assets (itemize and describe amounts greater than $100,000 that exceed 25% of this item)			2168	55,357,000	6.
a. Prepaid expenses	2166	NR			6.a.
b. Repossessed personal property (including vehicles)	1578	NR			6.b.
c. Derivatives with a positive fair value held for purposes other than trading	C010	NR			6.c.
d. Not applicable					
e. Computer software	FT33	NR			6.e.
f. Accounts receivable	FT34	NR			6.f.
g. Receivables from foreclosed government-guaranteed mortgage loans	FT35	NR			6.g.
h. TEXT 3549 Brokerage Receivable	3549	19,298,000			6.h.
i. TEXT 3550 NR	3550	NR			6.i.
j. TEXT 3551 NR	3551	NR			6.j.
7. Total (sum of items 1 through 6) (must equal Schedule RC, item 11)			2160	88,484,000	7.

Schedule RC-G—Other Liabilities

Dollar Amounts in Thousands			RCON	Amount	
1. a. Interest accrued and unpaid on deposits in domestic offices (6)			3645	1,467,000	1.a.
			RCFD		
b. Other expenses accrued and unpaid (includes accrued income taxes payable)			3646	14,501,000	1.b.
2. Net deferred tax liabilities (3)			3049	433,000	2.
3. Allowance for credit losses on off-balance sheet credit exposures (7)			B557	1,723,000	3.
4. All other liabilities (itemize and describe amounts greater than $100,000 that exceed 25% of this item)			2938	45,615,000	4.
a. Accounts payable	3066	11,976,000			4.a.
b. Deferred compensation liabilities	C011	0			4.b.
c. Dividends declared but not yet payable	2932	0			4.c.
d. Derivatives with a negative fair value held for purposes other than trading	C012	0			4.d.
e. Operating lease liabilities	LB56	0			4.e.
f. TEXT 3552 NR	3552	0			4.f.
g. TEXT 3553 NR	3553	0			4.g.
h. TEXT 3554 NR	3554	0			4.h.
5. Total (sum of items 1 through 4) (must equal Schedule RC, item 20)			2930	63,739,000	5.

1 Institutions that have adopted ASU 2016-13 should report asset amounts in Schedule RC-F net of any applicable allowance for credit losses.
2 Includes accrued interest receivable on loans, leases, debt securities, and other interest-bearing assets. Exclude accrued interest receivable on interest-bearing assets that is reported elsewhere on the balance sheet.
3 See discussion of deferred income taxes in Glossary entry on "income taxes."
4 Report interest-only strips receivable in the form of a security as available-for-sale securities in Schedule RC, item 2.b, or as trading assets in Schedule RC, item 5, as appropriate.
5 Includes Federal Reserve stock, Federal Home Loan Bank stock, and bankers' bank stock.
6 For savings banks, include "dividends" accrued and unpaid on deposits.
7 Institutions that have adopted ASU 2016-13 should report in Schedule RC-G, item 3, the allowance for credit losses on those off-balance sheet credit exposures that fall within the scope of the standard.

Schedule RC-H—Selected Balance Sheet Items for Domestic Offices

To be completed only by banks with foreign offices.

Dollar Amounts in Thousands	Domestic Offices RCON	Amount	
1. and 2. Not applicable			
3. Securities purchased under agreements to resell	B989	19,688,000	3.
4. Securities sold under agreements to repurchase (1)	B995	6,337,000	4.
5. Other borrowed money	3190	55,559,000	5.
EITHER			
6. Net due from own foreign offices, Edge and agreement subsidiaries, and IBFs	2163	51,115,000	6.
OR			
7. Net due to own foreign offices, Edge and agreement subsidiaries, and IBFs	2941	0	7.
8. Total assets (excludes net due from foreign offices, Edge and agreement subsidiaries, and IBFs)	2192	962,890,000	8.
9. Total liabilities (excludes net due to foreign offices, Edge and agreement subsidiaries, and IBFs)	3129	847,102,000	9.

Dollar Amounts in Thousands	(Column A) Amortized Cost of Held-to-Maturity Securities[2] RCON	Amount	(Column B) Fair Value of Available-for-Sale Securities RCON	Amount	
10. U.S. Treasury securities	0211	134,935,000	1287	58,681,000	10.
11. U.S. Government agency obligations (exclude mortgage-backed securities)	8492	0	8495	0	11.
12. Securities issued by states and political subdivisions in the U.S.	8496	8,882,000	8499	1,722,000	12.
13. Mortgage-backed securities (MBS):					
a. Mortgage pass-through securities:					
(1) Issued or guaranteed by FNMA, FHLMC, or GNMA	G389	77,567,000	G390	16,503,000	13.a.1.
(2) Other mortgage pass-through securities	1709	0	1713	0	13.a.2.
b. Other mortgage-backed securities (include CMOs, REMICs, and stripped MBS):					
(1) Issued or guaranteed by U.S. Government agencies or sponsored agencies (3)	G393	859,000	G394	1,585,000	13.b.1
(2) All other mortgage-backed securities	1733	1,073,000	1736	0	13.b.2
14. Other domestic debt securities (include domestic structured financial products and domestic asset-backed securities)	G397	384,000	G398	78,000	14.
15. Other foreign debt securities (include foreign structured financial products and foreign asset-backed securities)	G399	360,000	G400	18,002,000	15.
16. Not applicable					
17. Total held-to-maturity and available-for-sale debt securities (sum of items 10 through 15)	1754	224,060,000	1773	96,571,000	17.

	RCON	Amount	
18. Equity investments not held for trading:			
a. Equity securities with readily determinable fair values (4)	JA22	31,000	18.a.
b. Equity investments without readily determinable fair values	1752	5,400,000	18.b.

1 Institutions that have adopted ASU 2016-13 should report in item 4 amounts net of any applicable allowance for credit losses.

2 For institutions that have adopted ASU 2016-13, allowances for credit losses should not be deducted from the amortized cost amounts reported in items 10 through 17, column A.

3 U.S. Government agencies include, but are not limited to, such agencies as the Government National Mortgage Association (GNMA), the Federal Deposit Insurance Corporation (FDIC), and the National Credit Union Administration (NCUA). U.S. Government-sponsored agencies include, but are not limited to, such agencies as the Federal Home Loan Mortgage Corporation (FHLMC) and the Federal National Mortgage Association (FNMA).

4 Item 18.a is to be completed by all institutions. See the instructions for this item and the Glossary entry for "Securities Activities" for further detail on accounting for investments in equity securities.

Schedule RC-H—Continued

Dollar Amounts in Thousands	Domestic Offices RCON	Amount	
Items 19, 20, and 21 are to be completed by (1) banks that reported total trading assets of $10 million or more in any of the four preceding calendar quarters and (2) all banks meeting the FDIC's definition of a large or highly complex institution for deposit insurance assessment purposes.			
19. Total trading assets	3545	47,449,000	19.
20. Total trading liabilities	3548	25,454,000	20.
21. Total loans held for trading	HT71	2,505,000	21.
Item 22 is to be completed by banks that: (1) have elected to report financial instruments or servicing assets and liabilities at fair value under a fair value option with changes in fair value recognized in earnings, or (2) are required to completed Schedule RC-D, Trading Assets and Liabilities.			
22. Total amount of fair value option loans held for investment and held for sale	JF75	4,378,000	22.

Schedule RC-I—Assets and Liabilities of IBFs

To be completed only by banks with IBFs and other "foreign" offices.

Dollar Amounts in Thousands	RCFN	Amount	
1. Total IBF assets of the consolidated bank (component of Schedule RC, item 12)	2133	2,373,000	1.
2. Total IBF liabilities (component of Schedule RC, item 21)	2898	2,649,000	2.

Schedule RC-K—Quarterly Averages[1]

Dollar Amounts in Thousands		RCFD	Amount	
Assets				
1. Interest-bearing balances due from depository institutions		3381	255,390,000	1.
2. U.S. Treasury securities and U.S. Government agency obligations (2) (excluding mortgage-backed securities)		B558	216,396,000	2.
3. Mortgage-backed securities (2)		B559	96,979,000	3.
4. All other debt securities (2) and equity securities with readily determinable fair values not held for trading purposes (3)		B560	155,211,000	4.
5. Federal funds sold and securities purchased under agreements to resell		3365	85,602,000	5.
6. Loans:				
a. Loans in domestic offices:		RCON		
(1) Total loans		3360	431,865,000	6.a.1.
(2) Loans secured by real estate:				
(a) Loans secured by 1–4 family residential properties		3465	109,778,000	6.a.2.a.
(b) All other loans secured by real estate		3466	26,297,000	6.a.2.b.
(3) Loans to finance agricultural production and other loans to farmers		3386	100,000	6.a.3.
(4) Commercial and industrial loans		3387	66,256,000	6.a.4.
(5) Loans to individuals for household, family, and other personal expenditures:				
(a) Credit cards		B561	146,642,000	6.a.5.a.
(b) Other (includes revolving credit plans other than credit cards, automobile loans, and other consumer loans)		B562	4,367,000	6.a.5.b.
b. Total loans in foreign offices, Edge and agreement subsidiaries, and IBFs	RCFN	3360	199,260,000	6.b.
Item 7 is to be completed by (1) banks that reported total trading assets of $10 million or more in any of the four preceding calendar quarters and (2) all banks meeting the FDIC's definition of a large or highly complex institution for deposit insurance assessment purposes.				
7. Trading assets	RCFD	3401	127,376,000	7.
8. Lease financing receivables (net of unearned income)	RCFD	3484	230,000	8.
9. Total assets (4)	RCFD	3368	1,685,239,000	9.
Liabilities				
10. Interest-bearing transaction accounts in domestic offices (interest-bearing demand deposits, NOW accounts, ATS accounts, and telephone and preauthorized transfer accounts)		RCON		
		3485	363,002,000	10.
11. Nontransaction accounts in domestic offices:				
a. Savings deposits (includes MMDAs)		B563	151,813,000	11.a.
b. Time deposits of $250,000 or less		HK16	42,530,000	11.b.
c. Time deposits of more than $250,000		HK17	72,077,000	11.c.
12. Interest-bearing deposits in foreign offices, Edge and agreement subsidiaries, and IBFs	RCFN	3404	531,304,000	12.
13. Federal funds purchased and securities sold under agreements to repurchase	RCFD	3353	13,612,000	13.
14. Other borrowed money (includes mortgage indebtedness)	RCFD	3355	56,798,000	14.

1 For all items, banks have the option of reporting either (1) an average of DAILY figures for the quarter, or (2) an average of WEEKLY figures (i.e., the Wednesday of each week of the quarter).

2 Quarterly averages for all debt securities should be based on amortized cost.

3 Quarterly averages for equity securities with readily determinable fair values should be based on fair value.

4 The quarterly average for total assets should reflect securities not held for trading as follows:

a) Debt securities at amortized cost.

b) Equity securities with readily determinable fair values at fair value.

c) Equity investments without readily determinable fair values at their balance sheet carrying values (i.e., fair value or, if elected, cost minus impairment, if any, plus or minus changes resulting from observable price changes).

Schedule RC-L—Derivatives and Off-Balance Sheet Items

Please read carefully the instructions for the preparation of Schedule RC-L. Some of the amounts reported in Schedule RC-L are regarded as volume indicators and not necessarily as measures of risk.

Dollar Amounts in Thousands	RCFD	Amount	
1. Unused commitments:			
a. Revolving, open-end lines secured by 1-4 family residential properties, e.g., home equity lines	3814	5,578,000	1.a.
Item 1.a.(1) is to be completed for the December report only.			
(1) Unused commitments for reverse mortgages outstanding that are held for investment in domestic offices (included in item 1.a. above)	RCON HT72	NR	1.a.1.
b. Credit card lines	RCFD 3815	660,604,000	1.b.
Items 1.b.(1) and 1.b.(2) are to be completed semiannually in the June and December reports only by banks with either $300 million or more in total assets or $300 million or more in credit card lines[1] (sum of items 1.b.(1) and 1.b.(2) must equal item 1.b).			
(1) Unused consumer credit card lines	J455	NR	1.b.1.
(2) Other unused credit card lines	J456	NR	1.b.2.
c. Commitments to fund commercial real estate, construction, and land development loans:			
(1) Secured by real estate:			
(a) 1-4 family residential construction loan commitments	F164	3,000	1.c.1.a.
(b) Commercial real estate, other construction loan, and land development loan commitments	F165	5,538,000	1.c.1.b.
(2) NOT secured by real estate	6550	9,708,000	1.c.2.
d. Securities underwriting	3817	0	1.d.
e. Other unused commitments:			
(1) Commercial and industrial loans	J457	197,506,000	1.e.1.
(2) Loans to financial institutions	J458	62,560,000	1.e.2.
(3) All other unused commitments	J459	55,656,000	1.e.3.
2. Financial standby letters of credit	3819	82,629,000	2.
Item 2.a is to be completed by banks with $1 billion or more in total assets.[1]			
a. Amount of financial standby letters of credit conveyed to others	3820	21,240,000	2.a.
3. Performance standby letters of credit	3821	9,709,000	3.
Item 3.a is to be completed by banks with $1 billion or more in total assets.[1]			
a. Amount of performance standby letters of credit conveyed to others	3822	897,000	3.a.
4. Commercial and similar letters of credit	3411	5,194,000	4.
5. Not applicable			
6. Securities lent and borrowed:			
a. Securities lent (including customers' securities lent where the customer is indemnified against loss by the reporting bank)	3433	113,224,000	6.a.
b. Securities borrowed	3432	0	6.b.

7. Credit derivatives:	(Column A) Sold Protection RCFD	Amount	(Column B) Purchased Protection RCFD	Amount	
a. Notional amounts:					
(1) Credit default swaps	C968	668,887,000	C969	707,814,000	7.a.1.
(2) Total return swaps	C970	7,661,000	C971	21,880,000	7.a.2.
(3) Credit options	C972	40,047,000	C973	39,408,000	7.a.3.
(4) Other credit derivatives	C974	0	C975	0	7.a.4.

1 The asset-size tests and the $300 million credit card lines test are based on the total assets and credit card lines reported on the June 30, 2022, Report of Condition.

Schedule RC-L—Continued

Dollar Amounts in Thousands	(Column A) Sold Protection RCFD	Amount	(Column B) Purchased Protection RCFD	Amount	
7. b. Gross fair values:					
(1) Gross positive fair value	C219	8,637,000	C221	3,810,000	7.b.1.
(2) Gross negative fair value	C220	2,601,000	C222	9,141,000	7.b.2.

	RCFD	Amount	
7. c. Notional amounts by regulatory capital treatment: [1]			
(1) Positions covered under the Market Risk Rule:			
(a) Sold protection	G401	716,125,000	7.c.1.a.
(b) Purchased protection	G402	738,292,000	7.c.1.b.
(2) All other positions:			
(a) Sold protection	G403	470,000	7.c.2.a.
(b) Purchased protection that is recognized as a guarantee for regulatory capital purposes	G404	30,605,000	7.c.2.b.
(c) Purchased protection that is not recognized as a guarantee for regulatory capital purposes	G405	205,000	7.c.2.c.

Dollar Amounts in Thousands	Remaining Maturity of: (Column A) One Year or Less RCFD	Amount	(Column B) Over One Year Through Five Years RCFD	Amount	(Column C) Over Five Years RCFD	Amount	
7. d. Notional amounts by remaining maturity:							
(1) Sold credit protection: [2]							
(a) Investment grade	G406	98,638,000	G407	425,786,000	G408	44,976,000	7.d.1.a.
(b) Subinvestment grade	G409	25,842,000	G410	113,577,000	G411	7,776,000	7.d.1.b.
(2) Purchased credit protection: [3]							
(a) Investment grade	G412	105,441,000	G413	446,439,000	G414	50,279,000	7.d.2.a.
(b) Subinvestment grade	G415	32,527,000	G416	124,091,000	G417	10,325,000	7.d.2.b.

	RCFD	Amount	
8. Spot foreign exchange contracts	8765	464,348,000	8.
9. All other off-balance sheet liabilities (exclude derivatives) (itemize and describe each component of this item over 25% of Schedule RC, item 27.a, "Total bank equity capital")	3430	18,533,000	9.
a. Not applicable			
b. Commitments to purchase when-issued securities	3434	0	9.b.
c. Standby letters of credit issued by another party (e.g., a Federal Home Loan Bank) on the bank's behalf	C978	0	9.c.
d. TEXT 3555 NR	3555	0	9.d.
e. TEXT 3556 NR	3556	0	9.e.
f. TEXT 3557 NR	3557	0	9.f.
10. All other off-balance sheet assets (exclude derivatives) (itemize and describe each component of this item over 25% of Schedule RC, item 27.a, "Total bank equity capital")	5591	0	10.
a. Commitments to sell when-issued securities	3435	0	10.a.
b. TEXT 5592 NR	5592	0	10.b.
c. TEXT 5593 NR	5593	0	10.c.
d. TEXT 5594 NR	5594	0	10.d.
e. TEXT 5595 NR	5595	0	10.e.

1 Sum of items 7.c.(1)(a) and 7.c.(2)(a) must equal sum of items 7.a.(1) through (4), column A. Sum of items 7.c.(1)(b), 7.c.(2)(b), and 7.c.(2)(c) must equal sum of items 7.a.(1) through (4), column B.

2 Sum of items 7.d.(1)(a) and (b), columns A through C, must equal sum of items 7.a.(1) through (4), column A.

3 Sum of items 7.d.(2)(a) and (b), columns A through C, must equal sum of items 7.a.(1) through (4), column B.

Schedule RC-L—Continued

Dollar Amounts in Thousands	RCFD	Amount	
Items 11.a and 11.b are to be completed semiannually in the June and December reports only.			
11. Year-to-date merchant credit card sales volume:			
a. Sales for which the reporting bank is the acquiring bank	C223	NR	11.a.
b. Sales for which the reporting bank is the agent bank with risk	C224	NR	11.b.

Dollar Amounts in Thousands	(Column A) Interest Rate Contracts Amount	(Column B) Foreign Exchange Contracts Amount	(Column C) Equity Derivative Contracts Amount	(Column D) Commodity and Other Contracts Amount	
Derivatives Position Indicators					
12. Gross amounts (e.g., notional amounts) (for each column, sum of items 12.a through 12.e must equal sum of items 13 and 14):	RCFD 8693	RCFD 8694	RCFD 8695	RCFD 8696	
a. Futures contracts	424,041,000	13,375,000	5,169,000	48,086,000	12.a.
	RCFD 8697	RCFD 8698	RCFD 8699	RCFD 8700	
b. Forward contracts	1,834,467,000	3,769,912,000	115,000	70,277,000	12.b.
c. Exchange-traded option contracts:	RCFD 8701	RCFD 8702	RCFD 8703	RCFD 8704	
(1) Written options	237,968,000	0	178,280,000	53,744,000	12.c.1.
	RCFD 8705	RCFD 8706	RCFD 8707	RCFD 8708	
(2) Purchased options	242,026,000	94,000	169,440,000	51,220,000	12.c.2.
d. Over-the-counter option contracts:	RCFD 8709	RCFD 8710	RCFD 8711	RCFD 8712	
(1) Written options	2,669,739,000	838,016,000	533,020,000	32,162,000	12.d.1.
	RCFD 8713	RCFD 8714	RCFD 8715	RCFD 8716	
(2) Purchased options	2,525,865,000	830,823,000	416,912,000	31,396,000	12.d.2.
	RCFD 3450	RCFD 3826	RCFD 8719	RCFD 8720	
e. Swaps	26,570,756,000	7,837,241,000	359,264,000	77,903,000	12.e.
13. Total gross notional amount of derivative contracts held for trading	RCFD A126	RCFD A127	RCFD 8723	RCFD 8724	
	34,471,743,000	13,224,168,000	1,662,200,000	364,788,000	13.
14. Total gross notional amount of derivative contracts held for purposes other than trading	RCFD 8725	RCFD 8726	RCFD 8727	RCFD 8728	
	33,119,000	65,293,000	0	0	14.
a. Interest rate swaps where the bank has agreed to pay a fixed rate	RCFD A589				
	14,621,000				14.a.
15. Gross fair values of derivative contracts:					
a. Contracts held for trading:	RCFD 8733	RCFD 8734	RCFD 8735	RCFD 8736	
(1) Gross positive fair value	271,148,000	180,540,000	31,325,000	8,278,000	15.a.1.
	RCFD 8737	RCFD 8738	RCFD 8739	RCFD 8740	
(2) Gross negative fair value	259,799,000	169,558,000	33,464,000	7,333,000	15.a.2.
b. Contracts held for purposes other than trading:	RCFD 8741	RCFD 8742	RCFD 8743	RCFD 8744	
(1) Gross positive fair value	945,000	1,593,000	0	0	15.b.1.
	RCFD 8745	RCFD 8746	RCFD 8747	RCFD 8748	
(2) Gross negative fair value	595,000	1,277,000	0	0	15.b.2.

Schedule RC-L—Continued

Item 16 is to be completed only by banks with total assets of $10 billion or more.[1]

Dollar Amounts in Thousands	(Column A) Banks and Securities Firms		(Column B) Not applicable	(Column C) Hedge Funds		(Column D) Sovereign Governments		(Column E) Corporations and All Other Counterparties		
	RCFD	Amount		RCFD	Amount	RCFD	Amount	RCFD	Amount	
16. Over-the counter derivatives:										
a. Net current credit exposure	G418	26,712,000		G420	790,000	G421	9,236,000	G422	43,389,000	16.a.
b. Fair value of collateral:										
(1) Cash—U.S. dollar	G423	18,822,000		G425	4,495,000	G426	1,299,000	G427	27,860,000	16.b.1.
(2) Cash—Other currencies	G428	7,355,000		G430	83,000	G431	3,979,000	G432	5,338,000	16.b.2.
(3) U.S. Treasury securities	G433	2,002,000		G435	1,718,000	G436	0	G437	6,397,000	16.b.3.
(4) U.S. Government agency and U.S. Government-sponsored agency debt securities	G438	239,000		G440	0	G441	0	G442	81,000	
(5) Corporate bonds	G443	1,497,000		G445	0	G446	11,000	G447	2,206,000	
(6) Equity securities	G448	920,000		G450	291,000	G451	0	G452	2,997,000	
(7) All other collateral	G453	5,848,000		G455	317,000	G456	103,000	G457	6,536,000	16.b.7.
(8) Total fair value of collateral (sum of items 16.b.(1) through (7))	G458	36,683,000		G460	6,904,000	G461	5,392,000	G462	51,415,000	16.b.8.

1 The $10 billion asset-size test is based on the total assets reported on the June 30, 2022, Report of Condition.

Schedule RC-M—Memoranda

Dollar Amounts in Thousands			RCFD	Amount	
1. Extensions of credit by the reporting bank to its executive officers, directors, principal shareholders, and their related interests as of the report date:					
a. Aggregate amount of all extensions of credit to all executive officers, directors, principal shareholders, and their related interests			6164	32,000	1.a.
b. Number of executive officers, directors, and principal shareholders to whom the amount of all extensions of credit by the reporting bank (including extensions of credit to related interests) equals or exceeds the lesser of $500,000 or 5 percent of total capital as defined for this purpose in agency regulations	6165	Number 9			1.b.
2. Intangible assets:					
a. Mortgage servicing assets			3164	729,000	2.a.
(1) Estimated fair value of mortgage servicing assets	A590	729,000			2.a.1.
b. Goodwill			3163	9,339,000	2.b.
c. All other intangible assets			JF76	3,521,000	2.c.
d. Total (sum of items 2.a, 2.b, and 2.c) (must equal Schedule RC, item 10)			2143	13,589,000	2.d.
3. Other real estate owned:			RCON		
a. Construction, land development, and other land in domestic offices			5508	14,000	3.a.
b. Farmland in domestic offices			5509	0	3.b.
c. 1-4 family residential properties in domestic offices			5510	8,000	3.c.
d. Multifamily (5 or more) residential properties in domestic offices			5511	0	3.d.
e. Nonfarm nonresidential properties in domestic offices			5512	0	3.e.
			RCFN		
f. In foreign offices			5513	4,000	3.f.
			RCFD		
g. Total (sum of items 3.a through 3.e) (must equal Schedule RC, item 7)			2150	26,000	3.g.
4. Cost of equity securities with readily determinable fair values not held for trading (the fair value of which is reported in Schedule RC, item 2.c) (1)			JA29	36,000	4.
5. Other borrowed money:					
a. Federal Home Loan Bank advances:					
(1) Advances with a remaining maturity or next repricing date of: (2)					
(a) One year or less			F055	17,500,000	5.a.1.a.
(b) Over one year through three years			F056	0	5.a.1.b.
(c) Over three years through five years			F057	0	5.a.1.c.
(d) Over five years			F058	0	5.a.1.d.
(2) Advances with a REMAINING MATURITY of one year or less (included in item 5.a.(1)(a) above) (3)			2651	13,000,000	5.a.2.
(3) Structured advances (included in items 5.a.(1)(a) - (d) above)			F059	0	5.a.3.
b. Other borrowings:					
(1) Other borrowings with a remaining maturity or next repricing date of: (4)					
(a) One year or less			F060	29,498,000	5.b.1.a.
(b) Over one year through three years			F061	2,157,000	5.b.1.b.
(c) Over three years through five years			F062	2,658,000	5.b.1.c.
(d) Over five years			F063	8,344,000	5.b.1.d.
(2) Other borrowings with a REMAINING MATURITY of one year or less (included in item 5.b.(1)(a) above) (5)			B571	18,997,000	5.b.2.
c. Total (sum of items 5.a.(1)(a)–(d) and items 5.b.(1)(a)–(d)) (must equal Schedule RC, item 16)			3190	60,157,000	5.c.

1 Item 4 is to be completed only by insured state banks that have been approved by the FDIC to hold grandfathered equity investments. See instructions for this item and the Glossary entry for "Securities Activities" for further detail on accounting for investments in equity securities.

2 Report fixed rate advances by remaining maturity and floating-rate advances by next repricing date.

3 Report both fixed and floating-rate advances by remaining maturity. Exclude floating-rate advances with a next repricing date of one year or less that have a remaining maturity of over one year.

4 Report fixed rate other borrowings by remaining maturity and floating-rate other borrowings by next repricing date.

5 Report both fixed and floating-rate other borrowings by remaining maturity. Exclude floating-rate other borrowings with a next repricing date of one year or less that have a remaining maturity of over one year.

Schedule RC-M—Continued

Dollar Amounts in Thousands	RCFD	YES / NO	
6. Does the reporting bank sell private label or third-party mutual funds and annuities?	B569	YES	6.

	RCFD	Amount	
7. Assets under the reporting bank's management in proprietary mutual funds and annuities	B570	0	7.

8. Internet Website addresses and physical office trade names:

a. Uniform Resource Locator (URL) of the reporting institution's primary Internet Web site (home page), if any (Example: www.examplebank.com):

TEXT 4087	http:// www.citibank.com	8.a.

b. URLs of all other public-facing Internet websites that the reporting institution uses to accept or solicit deposits from the public, if any (Example: www.examplebank.biz): [1]

(1)	TE01 N528	http:// NR	8.b.1.
(2)	TE02 N528	http:// NR	8.b.2.
(3)	TE03 N528	http:// NR	8.b.3.
(4)	TE04 N528	http:// NR	8.b.4.
(5)	TE05 N528	http:// NR	8.b.5.
(6)	TE06 N528	http:// NR	8.b.6.
(7)	TE07 N528	http:// NR	8.b.7.
(8)	TE08 N528	http:// NR	8.b.8.
(9)	TE09 N528	http:// NR	8.b.9.
(10)	TE10 N528	http:// NR	8.b.10.

c. Trade names other than the reporting institution's legal title used to identify one or more of the institution's physical offices at which deposits are accepted or solicited from the public, if any:

(1)	TE01 N529	NR	8.c.1.
(2)	TE02 N529	NR	8.c.2.
(3)	TE03 N529	NR	8.c.3.
(4)	TE04 N529	NR	8.c.4.
(5)	TE05 N529	NR	8.c.5.
(6)	TE06 N529	NR	8.c.6.

Item 9 is to be completed annually in the December report only.

	RCFD	YES / NO	
9. Do any of the bank's Internet websites have transactional capability, i.e., allow the bank's customers to execute transactions on their accounts through the website?	4088	NR	9.

10. Secured liabilities:

	RCON	Amount	
a. Amount of "Federal funds purchased in domestic offices" that are secured (included in Schedule RC, item 14.a)	F064	0	10.a.
	RCFD		
b. Amount of "Other borrowings" that are secured (included in Schedule RC-M, items 5.b.(1)(a) - (d))	F065	17,480,000	10.b.

	RCON	YES / NO	
11. Does the bank act as trustee or custodian for Individual Retirement Accounts, Health Savings Accounts, and other similar accounts?	G463	YES	11.
12. Does the bank provide custody, safekeeping, or other services involving the acceptance of orders for the sale or purchase of securities?	G464	YES	12.

[1] Report only highest level URLs (for example, report www.examplebank.biz, but do not also report www.examplebank.biz/checking). Report each top level domain name used (for example, report both www.examplebank.biz and www.examplebank.net).

Schedule RC-M—Continued

Dollar Amounts in Thousands	RCFD	Amount	
13. Portion of covered other real estate owned that is protected by FDIC loss-sharing agreements (included in Schedule RC, item 7)	K192	0	13.
Items 14.a and 14.b are to be completed annually in the December report only.			
14. Captive insurance and reinsurance subsidiaries:			
a. Total assets of captive insurance subsidiaries (1)	K193	NR	14.a.
b. Total assets of captive reinsurance subsidiaries (1)	K194	NR	14.b.
Item 15 is to be completed by institutions that are required or have elected to be treated as a Qualified Thrift Lender.			
15. Qualified Thrift Lender (QTL) test:			
a. Does the institution use the Home Owners' Loan Act (HOLA) QTL test or the Internal Revenue Service Domestic Building and Loan Association (IRS DBLA) test to determine its	RCON	Number	
QTL compliance? (for the HOLA QTL test, enter 1; for the IRS DBLA test, enter 2)	L133	NR	15.a.
b. Has the institution been in compliance with the HOLA QTL test as of each month end during		YES / NO	
the quarter or the IRS DBLA test for its most recent taxable year, as applicable?	L135	NR	15.b.
Item 16.a and, if appropriate, items 16.b.(1) through 16.b.(3) are to be completed annually in the December report only.			
16. International remittance transfers offered to consumers:[2]			
a. Estimated number of international remittance transfers provided by your institution during the calendar year ending on the report date	N523	NR	16.a.
Items 16.b.(1) through 16.b.(3) are to be completed by institutions that reported 501 or more international remittance transfers in item 16.a in either or both of the current report or the most recent prior report in which item 16.a was required to be completed.			
b. Estimated dollar value of remittance transfers provided by your institution and usage of regulatory exceptions during the calendar year ending on the report date:		Amount	
(1) Estimated dollar value of international remittance transfers	N524	NR	16.b.1.
(2) Estimated number of international remittance transfers for which your institution		Number	
applied the permanent exchange rate exception	MM07	NR	16.b.2.
(3) Estimated number of international remittance transfers for which your institution			
applied the permanent covered third-party fee exception	MQ52	NR	16.b.3.
17. U.S. Small Business Administration Paycheck Protection Program (PPP) loans[3] and the Federal Reserve PPP Liquidity Facility (PPPLF):			
a. Number of PPP loans outstanding	LG26	1,662	17.a.
		Amount	
b. Outstanding balance of PPP loans	LG27	42,000	17.b.
c. Outstanding balance of PPP loans pledged to the PPPLF	LG28	0	17.c.
d. Outstanding balance of borrowings from Federal Reserve Banks under the PPPLF with a remaining maturity of:			
(1) One year or less	LL59	0	17.d.1.
(2) More than one year	LL60	0	17.d.2.
e. Quarterly average amount of PPP loans pledged to the PPPLF and excluded from "Total assets for the leverage ratio" reported in Schedule RC-R, Part I, item 30	LL57	0	17.e.

1 Report total assets before eliminating intercompany transactions between the consolidated insurance or reinsurance subsidiary and other offices or consolidated subsidiaries of the reporting bank.

2 Report information about international electronic transfers of funds offered to consumers in the United States that:
(a) are "remittance transfers" as defined by subpart B of Regulation E (12 CFR § 1005.30(e)), or
(b) would qualify as "remittance transfers" under subpart B of Regulation E (12 CFR § 1005.30(e)) but are excluded from that definition only because the provider is not providing those transfers in the normal course of its business. See 12 CFR § 1005.30(f).
For purposes of this item 16, such transfers are referred to as international remittance transfers.

Exclude transfers sent by your institution as a correspondent bank for other providers. Report information only about transfers for which the reporting institution is the provider.

3 Paycheck Protection Program (PPP) covered loans as defined in sections 7(a)(36) and 7(a)(37) of the Small Business Act (15 U.S.C. 636(a)(36) and (37)).

Schedule RC-N—Past Due and Nonaccrual Loans, Leases, and Other Assets

Dollar Amounts in Thousands	(Column A) Past due 30 through 89 days and still accruing RCON	Amount	(Column B) Past due 90 days or more and still accruing RCON	Amount	(Column C) Nonaccrual RCON	Amount	
1. Loans secured by real estate:							
a. Construction, land development, and other land loans in domestic offices:							
(1) 1-4 family residential construction loans	F172	0	F174	0	F176	0	1.a.1.
(2) Other construction loans and all land development and other land loans	F173	0	F175	0	F177	23,000	1.a.2.
b. Secured by farmland in domestic offices	3493	0	3494	0	3495	0	1.b.
c. Secured by 1-4 family residential properties in domestic offices:							
(1) Revolving, open-end loans secured by 1-4 family residential properties and extended under lines of credit	5398	21,000	5399	0	5400	164,000	1.c.1.
(2) Closed-end loans secured by 1-4 family residential properties:							
(a)Secured by first liens	C236	426,000	C237	123,000	C229	473,000	1.c.2.a.
(b) Secured by junior liens	C238	3,000	C239	0	C230	25,000	1.c.2.b.
d. Secured by multifamily (5 or more) residential properties in domestic offices	3499	18,000	3500	98,000	3501	43,000	1.d.
e. Secured by nonfarm nonresidential properties in domestic offices:							
(1) Loans secured by owner-occupied nonfarm nonresidential properties	F178	0	F180	0	F182	2,000	1.e.1.
(2) Loans secured by other nonfarm nonresidential properties	F179	79,000	F181	0	F183	591,000	1.e.2.
	RCFN		RCFN		RCFN		
f. In foreign offices	B572	28,000	B573	0	B574	122,000	1.f.
2. Loans to depository institutions and acceptances of other banks:	RCFD		RCFD		RCFD		
a. To U.S. banks and other U.S. depository institutions	5377	0	5378	0	5379	0	2.a.
b. To foreign banks	5380	0	5381	1,000	5382	35,000	2.b.
3. Loans to finance agricultural production and other loans to farmers	1594	0	1597	0	1583	0	3.
4. Commercial and industrial loans:							
a. To U.S. addressees (domicile)	1251	349,000	1252	94,000	1253	150,000	4.a.
b. To non-U.S. addressees (domicile)	1254	119,000	1255	129,000	1256	555,000	4.b.
5. Loans to individuals for household, family, and other personal expenditures:							
a. Credit cards	B575	2,070,000	B576	2,046,000	B577	0	5.a.
b. Automobile loans	K213	0	K214	0	K215	0	5.b.
c. Other (includes revolving credit plans other than credit cards and other consumer loans)	K216	101,000	K217	9,000	K218	38,000	5.c.
6. Loans to foreign governments and official institutions	5389	0	5390	0	5391	0	6.
7. All other loans	5459	441,000	5460	52,000	5461	253,000	7.

Schedule RC-N—Continued

Amounts reported by loan and lease category in Schedule RC-N, items 1 through 8, include guaranteed and unguaranteed portions of past due and nonaccrual loans and leases. Report in items 11 and 12 below certain guaranteed loans and leases that have already been included in the amounts reported in items 1 through 8.

Dollar Amounts in Thousands	(Column A) Past due 30 through 89 days and still accruing RCFD	Amount	(Column B) Past due 90 days or more and still accruing RCFD	Amount	(Column C) Nonaccrual RCFD	Amount	
8. Lease financing receivables							
a. Leases to individuals for household, family, and other personal expenditures	F166	0	F167	0	F168	0	8.a.
b. All other leases	F169	0	F170	0	F171	0	8.b.
9. Total loans and leases (sum of items 1 through 8)	1406	3,655,000	1407	2,552,000	1403	2,474,000	9.
10. Debt securities and other assets (exclude other real estate owned and other repossessed assets)	3505	0	3506	0	3507	0	10.
11. Loans and leases reported in items 1 through 8 above that are wholly or partially guaranteed by the U.S. Government, excluding loans and leases covered by loss-sharing agreements with the FDIC	K036	125,000	K037	138,000	K038	29,000	11.
a. Guaranteed portion of loans and leases included in item 11 above, excluding rebooked "GNMA loans"	K039	41,000	K040	29,000	K041	0	11.a.
b. Rebooked "GNMA loans" that have been repurchased or are eligible for repurchase included in item 11 above	K042	66,000	K043	87,000	K044	29,000	11.b.
12. Portion of covered loans and leases reported in item 9 above that is protected by FDIC loss-sharing agreements	K102	0	K103	0	K104	0	12.

Schedule RC-N—Continued

Memoranda

Dollar Amounts in Thousands	(Column A) Past due 30 through 89 days and still accruing RCON	Amount	(Column B) Past due 90 days or more and still accruing RCON	Amount	(Column C) Nonaccrual RCON	Amount	
1. Loans restructured in troubled debt restructurings included in Schedule RC-N, items 1 through 7, above (and not reported in Schedule RC-C, Part I, Memorandum item 1):							
a. Construction, land development, and other land loans in domestic offices:							
(1) 1-4 family residential construction loans	K105	0	K106	0	K107	0	M.1.a.1.
(2) Other construction loans and all land development and other land loans	K108	0	K109	0	K110	0	M.1.a.2.
b. Loans secured by 1-4 family residential properties in domestic offices	F661	16,000	F662	46,000	F663	63,000	M.1.b.
c. Secured by multifamily (5 or more) residential properties in domestic offices	K111	0	K112	0	K113	0	M.1.c.
d. Secured by nonfarm nonresidential properties in domestic offices:							
(1) Loans secured by owner-occupied nonfarm nonresidential properties	K114	0	K115	0	K116	0	M.1.d.1.
(2) Loans secured by other nonfarm nonresidential properties	K117	0	K118	0	K119	0	M.1.d.2.
e. Commercial and industrial loans:	RCFD		RCFD		RCFD		
(1) To U.S. addressees (domicile)	K120	0	K121	0	K122	15,000	M.1.e.1.
(2) To non-U.S. addressees (domicile)	K123	1,000	K124	0	K125	22,000	M.1.e.2.
f. All other loans (include loans to individuals for household, family, and other personal expenditures)	K126	150,000	K127	94,000	K128	4,000	M.1.f.
Itemize loan categories included in Memorandum item 1.f, above that exceed 10% of total loans restructured in troubled debt restructurings that are past due 30 days or more or in nonaccrual status (sum of Memorandum items 1.a through 1.e plus 1.f, columns A through C):	RCON		RCON		RCON		
(1) Loans secured by farmland in domestic offices	K130	0	K131	0	K132	0	M.1.f.1.
(2) Not applicable	RCFD		RCFD		RCFD		
(3) Loans to finance agricultural production and other loans to farmers	K138	0	K139	0	K140	0	M.1.f.3.
(4) Loans to individuals for household, family, and other personal expenditures:							
(a) Credit cards	K274	145,000	K275	93,000	K276	0	M.1.f.4.a.
(b) Automobile loans	K277	0	K278	0	K279	0	M.1.f.4.b.
(c) Other (includes revolving credit plans other than credit cards and other consumer loans)	K280	0	K281	0	K282	0	M.1.f.4.c.

Schedule RC-N—Continued

Memoranda—Continued

Dollar Amounts in Thousands	(Column A) Past due 30 through 89 days and still accruing RCFD	Amount	(Column B) Past due 90 days or more and still accruing RCFD	Amount	(Column C) Nonaccrual RCFD	Amount	
1.g. Total loans restructured in troubled debt restructurings included in Schedule RC-N items 1 through 7, above (sum of Memorandum items 1.a.(1) through 1.f) (1)	HK26	167,000	HK27	140,000	HK28	104,000	M.1.g.
2. Loans to finance commercial real estate, construction, and land development activities (not secured by real estate) included in Schedule RC-N, items 4 and 7, above	6558	0	6559	0	6560	0	M.2.
3. Loans secured by real estate to non-U.S. addressees (domicile) (included in Schedule RC-N, item 1, above)	1248	61,000	1249	3,000	1250	104,000	M.3.
4. Not applicable							
5. Loans and leases held for sale (included in RC-N, items 1 through 8, above)	C240	86,000	C241	13,000	C226	0	M.5.

Dollar Amounts in Thousands	(Column A) Past due 30 through 89 days RCFD	Amount	(Column B) Past due 90 days or more RCFD	Amount	
6. Derivative contracts:					
Fair value of amounts carried as assets	3529	0	3530	0	M.6.

Memorandum items 7, 8, 9.a, and 9.b are to be completed semiannually in the June and December reports only.

	RCFD	Amount	
7. Additions to nonaccrual assets during the previous six months	C410	NR	M.7.
8. Nonaccrual assets sold during the previous six months	C411	NR	M.8.

Dollar Amounts in Thousands	(Column A) Past due 30 through 89 days and still accruing RCFD	Amount	(Column B) Past due 90 days or more and still accruing RCFD	Amount	(Column C) Nonaccrual RCFD	Amount	
9. Purchased credit-impaired loans accounted for in accordance with FASB ASC 310-30 (former AICPA Statement of Position 03-3): (2)							
a. Outstanding balance	L183	NR	L184	NR	L185	NR	M.9.a.
b. Amount included in Schedule RC-N, items 1 through 7, above	L186	NR	L187	NR	L188	NR	M.9.b

1 Exclude amounts reported in Memorandum items 1.f.(1) through 1.f.(4) when calculating the total in Memorandum item 1.g.

2 Memorandum items 9.a and 9.b should be completed only by institutions that have not yet adopted ASU 2016-13.

Schedule RC-O—Other Data for Deposit Insurance Assessments

All FDIC-insured depository institutions must complete items 1 through 9, 10, and 11, Memorandum item 1, and, if applicable, item 9.a, Memorandum items 2 through 18 each quarter. Unless otherwise indicated, complete items 1 through 11 and Memorandum items 1 through 4 on an "unconsolidated single FDIC certificate number basis" (see instructions) and complete Memorandum items 5 through 18 on a fully consolidated basis.

Dollar Amounts in Thousands			RCFD	Amount	
1. Total deposit liabilities before exclusions (gross) as defined in Section 3(l) of the Federal Deposit Insurance Act and FDIC regulations			F236	1,141,806,000	1.
2. Total allowable exclusions, including interest accrued and unpaid on allowable exclusions (including foreign deposits)			F237	379,835,000	2.
3. Total foreign deposits, including interest accrued and unpaid thereon (included in item 2 above)			RCFN F234	379,835,000	3.
			RCFD		
4. Average consolidated total assets for the calendar quarter			K652	1,709,638,000	4.
a. Averaging method used (for daily averaging, enter 1, for weekly averaging, enter 2)	K653	Number 1			4.a.
				Amount	
5. Average tangible equity for the calendar quarter (1)			K654	151,530,000	5.
6. Holdings of long-term unsecured debt issued by other FDIC-insured depository institutions			K655	0	6.
7. Unsecured "Other borrowings" with a remaining maturity of (sum of items 7.a through 7.d must be less than or equal to Schedule RC-M, items 5.b.(1)(a)-(d) minus item 10.b):					
a. One year or less			G465	6,103,000	7.a.
b. Over one year through three years			G466	8,778,000	7.b.
c. Over three years through five years			G467	2,492,000	7.c.
d. Over five years			G468	7,804,000	7.d.
8. Subordinated notes and debentures with a remaining maturity of (sum of items 8.a. through 8.d. must equal Schedule RC, item 19):					
a. One year or less			G469	0	8.a.
b. Over one year through three years			G470	0	8.b.
c. Over three years through five years			G471	7,500,000	8.c.
d. Over five years			G472	3,000,000	8.d.
			RCON		
9. Brokered reciprocal deposits (included in Schedule RC-E, Part I, Memorandum item 1.b)			G803	0	9.
Item 9.a is to be completed on a fully consolidated basis by all institutions that own another insured depository institution.					
a. Fully consolidated brokered reciprocal deposits			L190	NR	9.a.
10. Banker's bank certification:					
Does the reporting institution meet both the statutory definition of a banker's bank and the business conduct test set forth in FDIC regulations?			RCFD K656	YES / NO NO	10.
If the answer to item 10 is "YES", complete items 10.a and 10.b.				Amount	
a. Banker's bank deduction			K657	NR	10.a.
b. Banker's bank deduction limit			K658	NR	10.b.
11. Custodial bank certification:					
Does the reporting institution meet the definition of a custodial bank set forth in FDIC regulations?			K659	YES / NO YES	11.
If the answer to item 11 is "YES", complete items 11.a and 11.b.[2]				Amount	
a. Custodial bank deduction			K660	715,265,000	11.a.
b. Custodial bank deduction limit			K661	94,312,000	11.b.

1 See instructions for averaging methods. For deposit insurance assessment purposes, tangible equity is defined as Tier 1 capital as set forth in the banking agencies' regulatory capital standards and reported in Schedule RC-R, Part I, item 26, except as described in the instructions.

2 If the amount reported in item 11.b is zero, item 11.a may be left blank.

Schedule RC-O—Continued

Memoranda

Dollar Amounts in Thousands			RCON	Amount	
1. Total deposit liabilities of the bank, including related interest accrued and unpaid, less allowable exclusions, including related interest accrued and unpaid (sum of Memorandum items 1.a.(1), 1.b.(1), 1.c.(1), and 1.d.(1) must equal Schedule RC-O, item 1 less item 2):					
a. Deposit accounts (excluding retirement accounts) of $250,000 or less:[1]					
(1) Amount of deposit accounts (excluding retirement accounts) of $250,000 or less			F049	182,180,000	M.1.a.1.
(2) Number of deposit accounts (excluding retirement accounts) of $250,000 or less	F050	Number 15,506,544			M.1.a.2.
b. Deposit accounts (excluding retirement accounts) of more than $250,000:[1]					
(1) Amount of deposit accounts (excluding retirement accounts) of more than $250,000			F051	565,557,000	M.1.b.1.
(2) Number of deposit accounts (excluding retirement accounts) of more than $250,000	F052	Number 192,635			M.1.b.2.
c. Retirement deposit accounts of $250,000 or less:[1]					
(1) Amount of retirement deposit accounts of $250,000 or less			F045	14,023,000	M.1.c.1.
(2) Number of retirement deposit accounts of $250,000 or less	F046	Number 1,405,114			M.1.c.2.
d. Retirement deposit accounts of more than $250,000:[1]					
(1) Amount of retirement deposit accounts of more than $250,000			F047	211,000	M.1.d.1.
(2) Number of retirement deposit accounts of more than $250,000	F048	Number 506			M.1.d.2.
Memorandum item 2 is to be completed by banks with $1 billion or more in total assets.[2]					
2. Estimated amount of uninsured deposits in domestic offices of the bank and in insured branches in Puerto Rico and U.S. territories and possessions, including related interest accrued and unpaid (see instructions) (3)			5597	537,913,000	M.2.
3. Has the reporting institution been consolidated with a parent bank or savings association in that parent bank's or parent savings association's Call Report? If so, report the legal title and FDIC Certificate Number of the parent bank or parent savings association:					
TEXT A545 NR			RCON A545	FDIC Cert. No. 00000	M.3.
4. Dually payable deposits in the reporting institution's foreign branches			RCFN GW43	0	M.4.

1 The dollar amounts used as the basis for reporting in Memorandum items 1.a through 1.d reflect the deposit insurance limits in effect on the report date.

2 The $1 billion asset-size test is based on the total assets reported on the June 30, 2022, Report of Condition.

3 Uninsured deposits should be estimated based on the deposit insurance limits set forth in Memorandum items 1.a through 1.d.

Schedule RC-O—Continued

Amounts reported in Memorandum items 6 through 9, 14, and 15 will not be made available to the public on an individual institution basis.

Memoranda—Continued

Dollar Amounts in Thousands		RCFD	Amount	
Memorandum items 5 through 12 are to be completed by "large institutions" and "highly complex institutions" as defined in FDIC regulations.				
5. Applicable portion of the CECL transitional amount or modified CECL transitional amount that has been added to retained earnings for regulatory capital purposes as of the current report date and is attributable to loans and leases held for investment		MW53	1,414,000	M.5.
6. Criticized and classified items:				
a. Special mention		K663	CONF	M.6.a.
b. Substandard		K664	CONF	M.6.b.
c. Doubtful		K665	CONF	M.6.c.
d. Loss		K666	CONF	M.6.d.
7. "Nontraditional 1-4 family residential mortgage loans" as defined for assessment purposes only in FDIC regulations:				
a. Nontraditional 1-4 family residential mortgage loans		N025	CONF	M.7.a.
b. Securitizations of nontraditional 1-4 family residential mortgage loans		N026	CONF	M.7.b.
8. "Higher-risk consumer loans" as defined for assessment purposes only in FDIC regulations:				
a. Higher-risk consumer loans		N027	CONF	M.8.a.
b. Securitizations of higher-risk consumer loans		N028	CONF	M.8.b.
9. "Higher-risk commercial and industrial loans and securities" as defined for assessment purposes only in FDIC regulations:				
a. Higher-risk commercial and industrial loans and securities		N029	CONF	M.9.a.
b. Securitizations of higher-risk commercial and industrial loans and securities		N030	CONF	M.9.b.
10. Commitments to fund construction, land development, and other land loans secured by real estate for the consolidated bank:				
a. Total unfunded commitments		K676	5,196,000	M.10.a.
b. Portion of unfunded commitments guaranteed or insured by the U.S. government (including the FDIC)		K677	0	M.10.b.
11. Amount of other real estate owned recoverable from the U.S. government under guarantee or insurance provisions (excluding FDIC loss-sharing agreements)		K669	0	M.11.
12. Nonbrokered time deposits of more than $250,000 in domestic offices (included in Schedule RC-E, Part I, Memorandum item 2.d)		RCON K678	55,645,000	M.12.
Memorandum item 13.a is to be completed by "large institutions" and "highly complex institutions" as defined in FDIC regulations. Memorandum items 13.b through 13.h are to be completed by "large institutions" only.				
13. Portion of funded loans and securities in domestic and foreign offices guaranteed or insured by the U.S. government (including FDIC loss-sharing agreements):		RCFD		
a. Construction, land development, and other land loans secured by real estate		N177	0	M.13.a.
b. Loans secured by multifamily residential and nonfarm nonresidential properties		N178	NR	M.13.b.
c. Closed-end loans secured by first liens on 1-4 family residential properties		N179	NR	M.13.c.
d. Closed-end loans secured by junior liens on 1-4 family residential properties and revolving, open-end loans secured by 1-4 family residential properties and extended under lines of credit		N180	NR	M.13.d.
e. Commercial and industrial loans		N181	NR	M.13.e.
f. Credit card loans to individuals for household, family, and other personal expenditures		N182	NR	M.13.f.
g. All other loans to individuals for household, family, and other personal expenditures		N183	NR	M.13.g.
h. Non-agency residential mortgage-backed securities		M963	NR	M.13.h.
Memorandum items 14 and 15 are to be completed by "highly complex institutions" as defined in FDIC regulations.				
14. Amount of the institution's largest counterparty exposure		K673	CONF	M.14.
15. Total amount of the institution's 20 largest counterparty exposures		K674	CONF	M.15.

Schedule RC-O—Continued

Memoranda—Continued

Dollar Amounts in Thousands	RCFD	Amount	
Memorandum item 16 is to be completed by "large institutions" and "highly complex institutions" as defined in FDIC regulations.			
16. Portion of loans restructured in troubled debt restructurings that are in compliance with their modified terms and are guaranteed or insured by the U.S. government (including the FDIC) (included in Schedule RC-C, Part I, Memorandum item 1)	L189	0	M.16.
Memorandum item 17 is to be completed on a fully consolidated basis by those "large institutions" and "highly complex institutions" as defined in FDIC regulations that own another insured depository institution.			
17. Selected fully consolidated data for deposit insurance assessment purposes:			
a. Total deposit liabilities before exclusions (gross) as defined in Section 3(l) of the Federal Deposit Insurance Act and FDIC regulations	L194	NR	M.17.a
b. Total allowable exclusions, including interest accrued and unpaid on allowable exclusions (including foreign deposits)	L195	NR	M.17.b
c. Unsecured "Other borrowings" with a remaining maturity of one year or less	L196	NR	M.17.c
d. Estimated amount of uninsured deposits in domestic offices of the institution and in insured branches in Puerto Rico and U.S. territories and possessions, including related interest accrued and unpaid	RCON L197	NR	M.17.d

Schedule RC-O—Continued

Memorandum item 18 is to be completed by "large institutions" and "highly complex institutions" as defined in FDIC regulations.
Amounts reported in Memorandum item 18 will not be made available to the public on an individual institution basis.

Dollar Amounts in Thousands	Two-Year Probability of Default (PD)								
	(Column A)	(Column B)	(Column C)	(Column D)	(Column E)	(Column F)	(Column G)	(Column H)	
	<= 1%	1.01–4%	4.01–7%	7.01–10%	10.01–14%	14.01–16%	16.01–18%	18.01–20%	
	Amount	Amount	Amount	Amount	Amount	Amount	Amount	Amount	
18. Outstanding balance of 1-4 family residential mortgage loans, consumer loans, and consumer leases by two-year probability of default:									
a. "Nontraditional 1-4 family residential mortgage loans" as defined for assessment purposes only in FDIC regulations	RCFD M964	RCFD M965	RCFD M966	RCFD M967	RCFD M968	RCFD M969	RCFD M970	RCFD M971	
	CONF	CONF	CONF	CONF	CONF	CONF	CONF	CONF	M.18.a
b. Closed-end loans secured by first liens on 1-4 family residential properties	RCFD M979	RCFD M980	RCFD M981	RCFD M982	RCFD M983	RCFD M984	RCFD M985	RCFD M986	
	CONF	CONF	CONF	CONF	CONF	CONF	CONF	CONF	M.18.b
c. Closed-end loans secured by junior liens on 1-4 family residential properties	RCFD M994	RCFD M995	RCFD M996	RCFD M997	RCFD M998	RCFD M999	RCFD N001	RCFD N002	
	CONF	CONF	CONF	CONF	CONF	CONF	CONF	CONF	M.18.c
d. Revolving, open-end loans secured by 1-4 family residential properties and extended under lines of credit	RCFD N010	RCFD N011	RCFD N012	RCFD N013	RCFD N014	RCFD N015	RCFD N016	RCFD N017	
	CONF	CONF	CONF	CONF	CONF	CONF	CONF	CONF	M.18.d
e. Credit cards	RCFD N040	RCFD N041	RCFD N042	RCFD N043	RCFD N044	RCFD N045	RCFD N046	RCFD N047	
	CONF	CONF	CONF	CONF	CONF	CONF	CONF	CONF	M.18.e
f. Automobile loans	RCFD N055	RCFD N056	RCFD N057	RCFD N058	RCFD N059	RCFD N060	RCFD N061	RCFD N062	
	CONF	CONF	CONF	CONF	CONF	CONF	CONF	CONF	M.18.f
g. Student loans	RCFD N070	RCFD N071	RCFD N072	RCFD N073	RCFD N074	RCFD N075	RCFD N076	RCFD N077	
	CONF	CONF	CONF	CONF	CONF	CONF	CONF	CONF	M.18.g
h. Other consumer loans and revolving credit plans other than credit cards	RCFD N085	RCFD N086	RCFD N087	RCFD N088	RCFD N089	RCFD N090	RCFD N091	RCFD N092	
	CONF	CONF	CONF	CONF	CONF	CONF	CONF	CONF	M.18.h
i. Consumer leases	RCFD N100	RCFD N101	RCFD N102	RCFD N103	RCFD N104	RCFD N105	RCFD N106	RCFD N107	
	CONF	CONF	CONF	CONF	CONF	CONF	CONF	CONF	M.18.i
j. Total	RCFD N115	RCFD N116	RCFD N117	RCFD N118	RCFD N119	RCFD N120	RCFD N121	RCFD N122	
	CONF	CONF	CONF	CONF	CONF	CONF	CONF	CONF	M.18.j

Schedule RC-O—Continued

Memorandum item 18 is to be completed by "large institutions" and "highly complex institutions" as defined in FDIC regulations.
Amounts reported in Memorandum item 18 will not be made available to the public on an individual institution basis.

Dollar Amounts in Thousands	Two-Year Probability of Default (PD)						(Column O) PDs Were Derived Using[1]	
	(Column I) 20.01–22%	(Column J) 22.01–26%	(Column K) 26.01–30%	(Column L) > 30%	(Column M) Unscoreable	(Column N) Total		
	Amount	Amount	Amount	Amount	Amount	Amount	Number	
18. Outstanding balance of 1-4 family residential mortgage loans, consumer loans, and consumer leases by two-year probability of default:								
a. "Nontraditional 1-4 family residential mortgage loans" as defined for assessment purposes only in FDIC regulations	RCFD M972	RCFD M973	RCFD M974	RCFD M975	RCFD M976	RCFD M977	RCFD M978	
	CONF	CONF	CONF	CONF	CONF	CONF	CONF	M.18.a
b. Closed-end loans secured by first liens on 1-4 family residential properties	RCFD M987	RCFD M988	RCFD M989	RCFD M990	RCFD M991	RCFD M992	RCFD M993	
	CONF	CONF	CONF	CONF	CONF	CONF	CONF	M.18.b
c. Closed-end loans secured by junior liens on 1-4 family residential properties	RCFD N003	RCFD N004	RCFD N005	RCFD N006	RCFD N007	RCFD N008	RCFD N009	
	CONF	CONF	CONF	CONF	CONF	CONF	CONF	M.18.c
d. Revolving, open-end loans secured by 1-4 family residential properties and extended under lines of credit	RCFD N018	RCFD N019	RCFD N020	RCFD N021	RCFD N022	RCFD N023	RCFD N024	
	CONF	CONF	CONF	CONF	CONF	CONF	CONF	M.18.d
e. Credit cards	RCFD N048	RCFD N049	RCFD N050	RCFD N051	RCFD N052	RCFD N053	RCFD N054	
	CONF	CONF	CONF	CONF	CONF	CONF	CONF	M.18.e
f. Automobile loans	RCFD N063	RCFD N064	RCFD N065	RCFD N066	RCFD N067	RCFD N068	RCFD N069	
	CONF	CONF	CONF	CONF	CONF	CONF	CONF	M.18.f
g. Student loans	RCFD N078	RCFD N079	RCFD N080	RCFD N081	RCFD N082	RCFD N083	RCFD N084	
	CONF	CONF	CONF	CONF	CONF	CONF	CONF	M.18.g
h. Other consumer loans and revolving credit plans other than credit cards	RCFD N093	RCFD N094	RCFD N095	RCFD N096	RCFD N097	RCFD N098	RCFD N099	
	CONF	CONF	CONF	CONF	CONF	CONF	CONF	M.18.h
i. Consumer leases	RCFD N108	RCFD N109	RCFD N110	RCFD N111	RCFD N112	RCFD N113	RCFD N114	
	CONF	CONF	CONF	CONF	CONF	CONF	CONF	M.18.i
j. Total	RCFD N123	RCFD N124	RCFD N125	RCFD N126	RCFD N127	RCFD N128		
	CONF	CONF	CONF	CONF	CONF	CONF		M.18.j

1 For PDs derived using scores and default rate mappings provided by a third-party vendor, enter 1; for PDs derived using an internal approach, enter 2; for PDs derived using third-party vendor mappings for some loans within a product type and an internal approach for other loans within the same product type, enter 3. If the total reported in Column N for a product type is zero, enter 0.

Schedule RC-P—1-4 Family Residential Mortgage Banking Activities in Domestic Offices

Schedule RC-P is to be completed by banks with at which either 1-4 family residential mortgage loan originations and purchases for resale[1] from all sources, loan sales, or quarter-end loans held for sale or trading in domestic offices exceed $10 million for two consecutive quarters.

Dollar Amounts in Thousands	RCON	Amount	
1. Retail originations during the quarter of 1-4 family residential mortgage loans for sale (1)	HT81	335,000	1.
2. Wholesale originations and purchases during the quarter of 1-4 family residential mortgage loans for sale (1)	HT82	979,000	2.
3. 1-4 family residential mortgages sold during the quarter	FT04	1,918,000	3.
4. 1-4 family residential mortgage loans held for sale or trading at quarter-end (included in Schedule RC, items 4.a and 5)	FT05	551,000	4.
5. Noninterest income for the quarter from the sale, securitization, and servicing of 1–4 family residential mortgage loans (included in Schedule RI, items 5.c, 5.f, 5.g, and 5.i)	RIAD HT85	22,000	5.
6. Repurchases and indemnifications of 1-4 family residential mortgage loans during the quarter	RCON HT86	7,000	6.
7. Representation and warranty reserves for 1-4 family residential mortgage loans sold:			
a. For representations and warranties made to U.S. government agencies and government-sponsored agencies	L191	CONF	7.a.
b. For representations and warranties made to other parties	L192	CONF	7.b.
c. Total representation and warranty reserves (sum of items 7.a and 7.b)	M288	11,000	7.c.

1 Exclude originations and purchases of 1–4 family residential mortgage loans that are held for investment.

Schedule RC-Q—Assets and Liabilities Measured at Fair Value on a Recurring Basis

Schedule RC-Q is to be completed by banks that:
(1) Have elected to report financial instruments or servicing assets and liabilities at fair value under a fair value option with changes in fair value recognized in earnings, or
(2) Are required to complete Schedule RC-D, Trading Assets and Liabilities.

Dollar Amounts in Thousands	(Column A) Total Fair Value Reported on Schedule RC RCFD	Amount	(Column B) LESS: Amounts Netted in the Determination of Total Fair Value RCFD	Amount	(Column C) Level 1 Fair Value Measurements RCFD	Amount	(Column D) Level 2 Fair Value Measurements RCFD	Amount	(Column E) Level 3 Fair Value Measurements RCFD	Amount	
Assets											
1. Available-for-sale debt securities and equity securities with readily determinable fair values not held for trading (1)	JA36	208,073,000	G474	0	G475	121,323,000	G476	86,010,000	G477	740,000	1.
2. Federal funds sold and securities purchased under agreements to resell	G478	5,398,000	G479	10,243,000	G480	0	G481	15,641,000	G482	0	2.
3. Loans and leases held for sale	G483	551,000	G484	0	G485	0	G486	502,000	G487	49,000	3.
4. Loans and leases held for investment	G488	5,969,000	G489	0	G490	0	G491	5,809,000	G492	160,000	4.
5. Trading assets:											
a. Derivative assets	3543	41,308,000	G493	478,290,000	G494	5,000	G495	506,887,000	G496	12,706,000	5.a.
b. Other trading assets	G497	91,906,000	G498	846,000	G499	57,194,000	G500	34,844,000	G501	714,000	5.b.
(1) Nontrading securities at fair value with changes in fair value reported in current earnings (included in Schedule RC-Q, item 5.b, above)	F240	0	F684	0	F692	0	F241	0	F242	0	5.b.1.
6. All other assets	G391	10,805,000	G392	(9,000)	G395	0	G396	10,049,000	G804	747,000	6.
7. Total assets measured at fair value on a recurring basis (sum of items 1 through 5.b plus item 6)	G502	364,010,000	G503	489,370,000	G504	178,522,000	G505	659,742,000	G506	15,116,000	7.

1 The amount reported in item 1, column A, must equal the sum of Schedule RC, items 2.b and 2.c.

Schedule RC-Q—Continued

Dollar Amounts in Thousands	(Column A) Total Fair Value Reported on Schedule RC		(Column B) LESS: Amounts Netted in the Determination of Total Fair Value		(Column C) Level 1 Fair Value Measurements		(Column D) Level 2 Fair Value Measurements		(Column E) Level 3 Fair Value Measurements		
	RCFD	Amount	RCFD	Amount	RCFD	Amount	RCFD	Amount	RCFD	Amount	
Liabilities											
8. Deposits	F252	2,745,000	F686	0	F694	0	F253	2,589,000	F254	156,000	8.
9. Federal funds purchased and securities sold under agreements to repurchase	G507	226,000	G508	10,243,000	G509	0	G510	10,469,000	G511	0	9.
10. Trading liabilities:											
a. Derivative liabilities	3547	35,472,000	G512	461,277,000	G513	17,000	G514	488,236,000	G515	8,496,000	10.a.
b. Other trading liabilities	G516	20,714,000	G517	846,000	G518	17,625,000	G519	3,930,000	G520	5,000	10.b.
11. Other borrowed money	G521	2,552,000	G522	0	G523	0	G524	1,555,000	G525	997,000	11.
12. Subordinated notes and debentures	G526	0	G527	0	G528	0	G529	0	G530	0	12.
13. All other liabilities	G805	2,570,000	G806	0	G807	0	G808	2,566,000	G809	4,000	13.
14. Total liabilities measured at fair value on a recurring basis (sum of items 8 through 13)	G531	64,279,000	G532	472,366,000	G533	17,642,000	G534	509,345,000	G535	9,658,000	14.
Memoranda											
1. All other assets (itemize and describe amounts included in Schedule RC-Q, item 6, that are greater than $100,000 and exceed 25% of item 6):											
a. Mortgage servicing assets	G536	NR	G537	NR	G538	NR	G539	NR	G540	NR	M.1.a.
b. Nontrading derivative assets	G541	NR	G542	NR	G543	NR	G544	NR	G545	NR	M.1.b.
c. TEXT G546 Negotiable CDs	G546	6,850,000	G547	NR	G548	NR	G549	6,846,000	G550	4,000	M.1.c.
d. TEXT G551 NR	G551	NR	G552	NR	G553	NR	G554	NR	G555	NR	M.1.d.
e. TEXT G556 NR	G556	NR	G557	NR	G558	NR	G559	NR	G560	NR	M.1.e.
f. TEXT G561 NR	G561	NR	G562	NR	G563	NR	G564	NR	G565	NR	M.1.f.
2. All other liabilities (itemize and describe amounts included in Schedule RC-Q, item 13, that are greater than $100,000 and exceed 25% of item 13):											
a. Loan commitments (not accounted for as derivatives)	F261	NR	F689	NR	F697	NR	F262	NR	F263	NR	M.2.a.
b. Nontrading derivative liabilities	G566	2,570,000	G567	NR	G568	NR	G569	2,566,000	G570	4,000	M.2.b.
c. TEXT G571 NR	G571	NR	G572	NR	G573	NR	G574	NR	G575	NR	M.2.c.
d. TEXT G576 NR	G576	NR	G577	NR	G578	NR	G579	NR	G580	NR	M.2.d.
e. TEXT G581 NR	G581	NR	G582	NR	G583	NR	G584	NR	G585	NR	M.2.e.
f. TEXT G586 NR	G586	NR	G587	NR	G588	NR	G589	NR	G590	NR	M.2.f.

Schedule RC-Q—Continued

Memoranda—Continued

Dollar Amounts in Thousands	RCFD	Consolidated Bank Amount	
3. Loans measured at fair value (included in Schedule RC-C, Part I, items 1 through 9):			
a. Loans secured by real estate:			
(1) Secured by 1-4 family residential properties	HT87	764,000	M.3.a.1.
(2) All other loans secured by real estate	HT88	0	M.3.a.2.
b. Commercial and industrial loans	F585	1,331,000	M.3.b.
c. Loans to individuals for household, family, and other personal expenditures			
(i.e., consumer loans) (includes purchased paper)	HT89	0	M.3.c.
d. Other loans	F589	4,425,000	M.3.d.
4. Unpaid principal balance of loans measured at fair value (reported in Schedule RC-Q, Memorandum item 3):			
a. Loans secured by real estate:			
(1) Secured by 1-4 family residential properties	HT91	851,000	M.4.a.1.
(2) All other loans secured by real estate	HT92	0	M.4.a.2.
b. Commercial and industrial loans	F597	1,254,000	M.4.b.
c. Loans to individuals for household, family, and other personal expenditures			
(i.e., consumer loans) (includes purchased paper)	HT93	0	M.4.c.
d. Other loans	F601	4,430,000	M.4.d.

Schedule RC-R—Regulatory Capital

Part I. Regulatory Capital Components and Ratios

Part I is to be completed on a consolidated basis.

Dollar Amounts in Thousands	RCFA	Amount	
Common Equity Tier 1 Capital			
1. Common stock plus related surplus, net of treasury stock and unearned employee stock ownership plan (ESOP) shares	P742	148,544,000	1.
2. Retained earnings (1)	KW00	45,853,000	2.
a. To be completed only by institutions that have adopted ASU 2016-13: Does your institution have a CECL transition election in effect as of the quarter-end report date? (enter "0" for No; enter "1" for Yes with a 3-year CECL transition election; enter "2" for Yes with a 5-year 2020 CECL transition election.)	RCOA JJ29	Number 2	2.a.
	RCFA	Amount	
3. Accumulated other comprehensive income (AOCI)	B530	(28,773,000)	3.
a. AOCI opt-out election (enter "1" for Yes; enter "0" for No.) (Advanced approaches institutions must enter "0" for No.)	0=No 1=Yes RCOA P838	0	3.a.
	RCFA	Amount	
4. Common equity tier 1 minority interest includable in common equity tier 1 capital	P839	186,000	4.
5. Common equity tier 1 capital before adjustments and deductions (sum of items 1 through 4)	P840	165,810,000	5.
Common Equity Tier 1 Capital: Adjustments and Deductions			
6. LESS: Goodwill net of associated deferred tax liabilities (DTLs)	P841	9,631,000	6.
7. LESS: Intangible assets (other than goodwill and mortgage servicing assets (MSAs)), net of associated DTLs	P842	3,196,000	7.
8. LESS: Deferred tax assets (DTAs) that arise from net operating loss and tax credit carryforwards, net of any related valuation allowances and net of DTLs	P843	3,056,000	8.
9. AOCI-related adjustments (if entered "1" for Yes in item 3.a, complete only items 9.a through 9.e; if entered "0" for No in item 3.a, complete only item 9.f):			
a. LESS: Net unrealized gains (losses) on available-for-sale debt securities (if a gain, report as a positive value; if a loss, report as a negative value)	P844	NR	9.a.
b. Not applicable			
c. LESS: Accumulated net gains (losses) on cash flow hedges (if a gain, report as a positive value; if a loss, report as a negative value)	P846	NR	9.c.
d. LESS: Amounts recorded in AOCI attributed to defined benefit postretirement plans resulting from the initial and subsequent application of the relevant GAAP standards that pertain to such plans (if a gain, report as a positive value; if a loss, report as a negative value)	P847	NR	9.d.
e. LESS: Net unrealized gains (losses) on held-to-maturity securities that are included in AOCI (if a gain, report as a positive value; if a loss, report as a negative value)	P848	NR	9.e.
f. To be completed only by institutions that entered "0" for No in item 3.a: LESS: Accumulated net gain (loss) on cash flow hedges included in AOCI, net of applicable income taxes, that relates to the hedging of items that are not recognized at fair value on the balance sheet (if a gain, report as a positive value; if a loss, report as a negative value)	P849	(1,275,000)	9.f.

1 Institutions that have adopted ASU 2016-13 and have elected to apply the 3-year or the 5-year 2020 CECL transition provision should include the applicable portion of the CECL transitional amount or the modified CECL transitional amount, respectively, in this item.

Schedule RC-R—Continued

Part I - Continued

Dollar Amounts in Thousands	RCFA	Amount	
10. Other deductions from (additions to) common equity tier 1 capital before threshold-based deductions:			
a. LESS: Unrealized net gain (loss) related to changes in the fair value of liabilities that are due to changes in own credit risk (if a gain, report as a positive value; if a loss, report as a negative value)	Q258	249,000	10.a.
b. LESS: All other deductions from (additions to) common equity tier 1 capital before threshold-based deductions	P850	318,000	10.b.

Dollar Amounts in Thousands	(Column A) Non-advanced Approaches Institutions[1] RCFA	Amount	(Column B) Advanced Approaches Institutions[1] RCFW	Amount	
11. LESS: Non-significant investments in the capital of unconsolidated financial institutions in the form of common stock that exceed the 10 percent threshold for non-significant investments			P851	0	11.
12. Subtotal (for column A, item 5 minus items 6 through 10.b; for column B, item 5 minus items 6 through 11)	P852	NR	P852	150,635,000	12.
13.a. LESS: Investments in the capital of unconsolidated financial institutions, net of associated DTLs, that exceed 25 percent of item 12	LB58	NR			13.a.
b. LESS: Significant investments in the capital of unconsolidated financial institutions in the form of common stock, net of associated DTLs, that exceed the 10 percent common equity tier 1 capital deduction threshold			P853	0	13.b.
14.a. LESS: MSAs, net of associated DTLs, that exceed 25 percent of item 12	LB59	NR			14.a.
b. LESS: MSAs, net of associated DTLs, that exceed the 10 percent common equity tier 1 capital deduction threshold			P854	0	14.b.
15.a. LESS: DTAs arising from temporary differences that could not be realized through net operating loss carrybacks, net of related valuation allowances and net of DTLs, that exceed 25 percent of item 12	LB60	NR			15.a.
b. LESS: DTAs arising from temporary differences that could not be realized through net operating loss carrybacks, net of related valuation allowances and net of DTLs, that exceed the 10 percent common equity tier 1 capital deduction threshold			P855	0	15.b.
16. LESS: Amount of significant investments in the capital of unconsolidated financial institutions in the form of common stock, net of associated DTLs; MSAs, net of associated DTLs; and DTAs arising from temporary differences that could not be realized through net operating loss carrybacks, net of related valuation allowances and net of DTLs; that exceeds the 15 percent common equity tier 1 capital deduction threshold			P856	0	16.
17. LESS: Deductions applied to common equity tier 1 capital due to insufficient amounts of additional tier 1 capital and tier 2 capital (2) to cover deductions	P857	NR	P857	0	17.
18. Total adjustments and deductions for common equity tier 1 capital (3) (sum of items 13 through 17)	P858	NR	P858	0	18.
19. Common equity tier 1 capital (item 12 minus item 18)	P859	NR	P859	150,635,000	19.

1 All non-advanced approaches institutions should complete column A for items 11-19; all advanced approaches institutions should complete column B for items 11-19.

2 An institution that has a CBLR framework election in effect as of the quarter-end report date is neither required to calculate tier 2 capital nor make any deductions that would have been taken from tier 2 capital as of the report date.

3 All non-advanced approaches institutions should report in item 18, column A, the sum of items 13.a, 14.a, 15.a, and 17, column A; all advanced approaches institutions should report in item 18, column B, the sum of items 13.b, 14.b, 15.b, 16, and 17, column B.

Schedule RC-R—Continued

Part I - Continued

Dollar Amounts in Thousands	RCFA	Amount	
Additional Tier 1 Capital			
20. Additional tier 1 capital instruments plus related surplus	P860	2,100,000	20.
21. Non-qualifying capital instruments subject to phase-out from additional tier 1 capital	P861	0	21.
22. Tier 1 minority interest not included in common equity tier 1 capital	P862	28,000	22.
23. Additional tier 1 capital before deductions (sum of items 20, 21, and 22)	P863	2,128,000	23.
24. LESS: Additional tier 1 capital deductions	P864	0	24.
25. Additional tier 1 capital (greater of item 23 minus item 24, or zero)	P865	2,128,000	25.
Tier 1 Capital			
26. Tier 1 capital (1) (sum of items 19 and 25)	8274	152,763,000	26.
Total Assets for the Leverage Ratio			
27. Average total consolidated assets (2)	KW03	1,686,720,000	27.
28. LESS: Deductions from common equity tier 1 capital and additional tier 1 capital (3)	P875	16,201,000	28.
29. LESS: Other deductions from (additions to) assets for leverage ratio purposes	B596	3,813,000	29.
30. Total assets for the leverage ratio (item 27 minus items 28 and 29)	A224	1,666,706,000	30.

Leverage Ratio*	RCFA	Percentage	
31. Leverage ratio (item 26 divided by item 30)	7204	9.1656%	31.

a. Does your institution have a community bank leverage ratio (CBLR) framework election in effect as of the quarter-end report date? (enter "1" for Yes; enter "0" for No)

0=No 1=Yes	RCOA		
	LE74	0	31.a.

If your institution entered "1" for Yes in item 31.a:
- Complete items 32 through 37 and, if applicable, items 38.a through 38.c,
- Do not complete items 39 through 55.b, and
- Do not complete Part II of Schedule RC-R.

If your institution entered "0" for No in item 31.a:
- Skip (do not complete) items 32 through 38.c,
- Complete items 39 through 55.b, as applicable, and
- Complete Part II of Schedule RC-R.

Item 31.b is to be completed only by non-advanced approaches institutions that elect to use the Standardized Approach for Counterparty Credit Risk (SA-CCR) for purposes of the standardized approach and supplementary leverage ratio.

b. Standardized Approach for Counterparty Credit Risk opt-in election (enter "1" for Yes; leave blank for No)

	RCOA		
1=Yes	NC99	NR	31.b.

* Report each ratio as a percentage, rounded to four decimal places, e.g., 12.3456.

1 All non-advanced approaches institutions should report the sum of item 19, column A, and item 25 in item 26; all advanced approaches institutions should report the sum of item 19, column B, and item 25 in item 26.

2 Institutions that have adopted ASU 2016-13 and have elected to apply the 3-year or 5-year 2020 CECL transition provision should include the applicable portion of the CECL transitional amount or the modified CECL transitional amount, respectively, in item 27.

3 All non-advanced approaches institutions should report in item 28 the sum of items 6, 7, 8, 10.b, 13.a, 14.a, 15.a, 17 (column A), and certain elements of item 24 - see instructions; all advanced approaches institutions should report in item 28, the sum of items 6, 7, 8, 10.b, 11, 13.b, 14.b, 15.b, 16, 17 (column B), and certain elements of item 24 - see instructions.

Schedule RC-R—Continued

Part I - Continued

Qualifying Criteria and Other Information for CBLR Institutions*

Dollar Amounts in Thousands	(Column A) RCFA	(Column A) Amount	(Column B) RCFA	(Column B) Percentage	
32. Total assets (Schedule RC, item 12); (must be less than $10 billion)	2170	NR			32.
33. Trading assets and trading liabilities (Schedule RC, sum of items 5 and 15). Report as a dollar amount in column A and as a percentage of total assets (5% limit) in column B	KX77	NR	KX78	NR	33.
34. Off-balance sheet exposures:					
a. Unused portion of conditionally cancellable commitments	KX79	NR			34.a.
b. Securities lent and borrowed (Schedule RC-L, sum of items 6.a and 6.b)	KX80	NR			34.b.
c. Other off-balance sheet exposures	KX81	NR			34.c.
d. Total off-balance sheet exposures (sum of items 34.a through 34.c) Report as a dollar amount in column A and as a percentage of total assets (25% limit) in column B	KX82	NR	KX83	NR	34.d.

Dollar Amounts in Thousands	RCFA	Amount	
35. Unconditionally cancellable commitments	S540	NR	35.
36. Investments in the tier 2 capital of unconsolidated financial institutions	LB61	NR	36.
37. Allocated transfer risk reserve	3128	NR	37.
38. Amount of allowances for credit losses on purchased credit-deteriorated assets:[1]			
a. Loans and leases held for investment	JJ30	NR	38.a.
b. Held-to-maturity debt securities	JJ31	NR	38.b.
c. Other financial assets measured at amortized cost	JJ32	NR	38.c.

If your institution entered "0" for No in item 31.a, complete items 39 through 55.b, as applicable, and Part II of Schedule RC-R. If your institution entered "1" for Yes in item 31.a, do not complete items 39 through 55.b or Part II of Schedule RC-R.

Dollar Amounts in Thousands	RCFA	Amount	
Tier 2 Capital[2]			
39. Tier 2 capital instruments plus related surplus	P866	9,000,000	39.
40. Non-qualifying capital instruments subject to phase-out from tier 2 capital	P867	NR	40.
41. Total capital minority interest that is not included in tier 1 capital	P868	37,000	41.
42. a. Allowance for loan and lease losses includable in tier 2 capital (3,4)	5310	11,810,000	42.a.
b. (Advanced approaches institutions that exit parallel run only): Eligible credit reserves includable in tier 2 capital	RCFW		
	5310	4,177,000	42.b.
43. Not applicable	RCFA		
44. a. Tier 2 capital before deductions (sum of items 39 through 42.a)	P870	20,847,000	44.a.
b. (Advanced approaches institutions that exit parallel run only): Tier 2 capital before deductions (sum of items 39 through 41, plus item 42.b)	RCFW		
	P870	13,214,000	44.b.

* Report each ratio as a percentage, rounded to four decimal places, e.g., 12.3456.

1 Items 38.a through 38.c should be completed only by institutions that have adopted ASU 2016-13.

2 An institution that has a CBLR election in effect as of the quarter-end report date is neither required to calculate tier 2 capital nor make any deductions that would have been taken from tier 2 capital as of the report date.

3 Institutions that have adopted ASU 2016-13 should report the amount of adjusted allowances for credit losses (AACL), as defined in the regulatory capital rule, includable in tier 2 capital in item 42.a.

4 Institutions that have adopted ASU 2016-13 and have elected to apply the 3-year or the 5-year 2020 CECL transition provision should subtract the applicable portion of the AACL transitional amount or the modified AACL transitional amount, respectively, from the AACL, as defined in the regulatory capital rule, before determining the amount of AACL includable in tier 2 capital. See instructions for further detail on the CECL transition provision.

Schedule RC-R—Continued

Part I - Continued

Dollar Amounts in Thousands	RCFA	Amount	
45. LESS: Tier 2 capital deductions	P872	NR	45.
46. a. Tier 2 capital (greater of item 44.a minus item 45, or zero)	5311	20,847,000	46.a.
b. (Advanced approaches institutions that exit parallel run only): Tier 2 capital (greater of item 44.b minus item 45, or zero)	RCFW / 5311	13,214,000	46.b.
Total Capital			
47. a. Total capital (sum of items 26 and 46.a)	3792	173,610,000	47.a.
b. (Advanced approaches institutions that exit parallel run only): Total capital (sum of items 26 and 46.b)	RCFW / 3792	165,977,000	47.b.
Total Risk-Weighted Assets	RCFA		
48. a. Total risk-weighted assets (from Schedule RC-R, Part II, item 31)	A223	976,833,000	48.a.
b. (Advanced approaches institutions that exit parallel run only): Total risk-weighted assets using advanced approaches rule (from FFIEC 101 Schedule A, item 60)	RCFW / A223	1,027,426,511	48.b.

Risk-Based Capital Ratios*

	Column A		Column B		
	RCFA	Percentage	RCFW	Percentage	
49. Common equity tier 1 capital ratio (Column A: item 19, column A or B, as applicable, divided by item 48.a) (Advanced approaches institutions that exit parallel run only: Column B: item 19, column B, divided by item 48.b)	P793	15.4208%	P793	14.6614%	49.
50. Tier 1 capital ratio (Column A: item 26 divided by item 48.a) (Advanced approaches institutions that exit parallel run only: Column B: item 26 divided by item 48.b)	7206	15.6386%	7206	14.8685%	50.
51. Total capital ratio (Column A: item 47.a divided by item 48.a) (Advanced approaches institutions that exit parallel run only: Column B: item 47.b divided by item 48.b)	7205	17.7727%	7205	16.1546%	51.

Capital Buffer*

	RCFA	Percentage	
52. Institution-specific capital buffer necessary to avoid limitations on distributions and discretionary bonus payments:			
a. Capital conservation buffer	H311	8.1546%	52.a.
b. (Advanced approaches institutions and institutions subject to Category III capital standards only): Total applicable capital buffer	RCFW / H312	2.5000%	52.b.

Dollar Amounts in Thousands	RCFA	Amount	
53. Eligible retained income (1)	H313	NR	53.
54. Distributions and discretionary bonus payments during the quarter (2)	H314	NR	54.
Supplementary Leverage Ratio*			
55. Advanced approaches institutions and institutions subject to Category III capital standards only: Supplementary leverage ratio information:			
a. Total leverage exposure (3)	H015	2,139,843,000	55.a.
		Percentage	
b. Supplementary leverage ratio	H036	7.1390%	55.b.

* Report each ratio and buffer as a percentage, rounded to four decimal places, e.g., 12.3456.

1 Non-advanced approaches institutions other than Category III institutions must complete item 53 only if the amount reported in item 52.a above is less than or equal to 2.5000 percent. Advanced approaches institutions and Category III institutions must complete item 53 only if the amount reported in item 52.a above is less than or equal to the amount reported in item 52.b above.

2 Non-advanced approaches institutions other than Category III institutions must complete item 54 only if the amount reported in Schedule RC-R, Part I, item 52.a, in the Call Report for the previous calendar quarter-end report date was less than or equal to 2.5000 percent. Advanced approaches institutions and Category III institutions must complete item 54 only if the amount reported in Schedule RC-R, Part I, item 52.a, in the Call Report for the previous calendar quarter-end report date was less than or equal to the amount reported in Schedule RC-R, Part I, item 52.b, in the Call Report for that previous report date.

3 Institutions that have adopted ASU 2016-13 and have elected to apply the 3-year or the 5-year 2020 CECL transition provision should include the applicable portion of the CECL transitional amount or the modified CECL transitional amount, respectively, in item 55.a.

Schedule RC-R—Continued

Part II. Risk-Weighted Assets

Institutions that entered "1" for Yes in Schedule RC-R, Part I, item 31.a, do not have to complete Schedule RC-R, Part II.
Institutions are required to assign a 100 percent risk weight to all assets not specifically assigned a risk weight under Subpart D of the federal banking agencies' regulatory capital rules[1] and not deducted from tier 1 or tier 2 capital.

Dollar Amounts in Thousands	(Column A) Totals From Schedule RC	(Column B) Adjustments to Totals Reported in Column A	(Column C) 0%	(Column D) 2%	(Column E) 4%	(Column F) 10%	(Column G) 20%	(Column H) 50%	(Column I) 100%	(Column J) 150%	
			Allocation by Risk-Weight Category								
	Amount	Amount	Amount	Amount	Amount	Amount	Amount	Amount	Amount	Amount	
Balance Sheet Asset Categories[2]											
1. Cash and balances due from depository institutions	RCFD D957 244,977,000	RCFD S396 (236,000)	RCFD D958 219,042,000				RCFD D959 13,376,000	RCFD S397 1,776,000	RCFD D960 5,501,000	RCFD S398 5,518,000	1.
2. Securities:	RCFD D961	RCFD S399	RCFD D962	RCFD HJ74	RCFD HJ75		RCFD D963	RCFD D964	RCFD D965	RCFD S400	
a. Held-to-maturity securities (3)	222,300,000	(84,000)	141,783,000	0	0		76,339,000	3,728,000	517,000	17,000	2.a.
b. Available-for-sale debt securities and equity securities with readily determinable fair values not held for trading	RCFD JA21 207,408,000	RCFD S402 (29,000)	RCFD D967 190,598,000	RCFD HJ76 0	RCFD HJ77 0		RCFD D968 10,891,000	RCFD D969 1,806,000	RCFD D970 3,063,000	RCFD S403 1,079,000	2.b.
3. Federal funds sold and securities purchased under agreements to resell:	RCON D971		RCON D972				RCON D973	RCON S410	RCON D974	RCON S411	
a. Federal funds sold	0		0				0	0	0	0	3.a.
b. Securities purchased under agreements to resell	RCFD H171 82,740,000	RCFD H172 82,740,000									3.b.
4. Loans and leases held for sale:	RCFD S413	RCFD S414	RCFD H173				RCFD S415	RCFD S416	RCFD S417		
a. Residential mortgage exposures	927,000	(38,000)	0				3,000	255,000	707,000		4.a.
b. High volatility commercial real estate exposures	RCFD S419 0	RCFD S420 0	RCFD H174 0				RCFD H175 0	RCFD H176 0	RCFD H177 0	RCFD S421 0	4.b.

1 For national banks and federal savings associations, 12 CFR Part 3; for state member banks, 12 CFR Part 217; and for state nonmember banks and state savings associations, 12 CFR Part 324.

2 All securitization exposures held as on-balance sheet assets of the reporting institution are to be excluded from items 1 through 8 and are to be reported instead in item 9.

3 Institutions that have adopted ASU 2016-13 and have reported held-to-maturity securities net of allowances for credit losses in item 2.a, column A, should report as a negative number in item 2.a., column B, those allowances for credit losses eligible for inclusion in tier 2 capital, which excludes allowances for credit losses on purchased credit-deteriorated assets.

Schedule RC-R—Continued

Part II—Continued

Dollar Amounts in Thousands	(Column K) 250% Amount	(Column L) 300% Amount	(Column M) 400% Amount	(Column N) 600% Amount	(Column O) 625% Amount	(Column P) 937.5% Amount	(Column Q) 1250% Amount	(Column R) Application of Other Risk-Weighting Approaches[1] Exposure Amount	(Column S) Application of Other Risk-Weighting Approaches[1] Risk-Weighted Asset Amount	
Balance Sheet Asset Categories (continued)										
1. Cash and balances due from depository institutions										1.
2. Securities:										
a. Held-to-maturity securities										2.a.
b. Available-for-sale debt securities and equity securities with readily determinable fair values not held for trading	RCFD H270 0	RCFD S405 0		RCFD S406 0				RCFD H271 0	RCFD H272 0	2.b.
3. Federal funds sold and securities purchased under agreements to resell:										
a. Federal funds sold										3.a.
b. Securities purchased under agreements to resell										3.b.
4. Loans and leases held for sale:								RCFD H273	RCFD H274	
a. Residential mortgage exposures								0	0	4.a.
b. High volatility commercial real estate exposures								RCFD H275 0	RCFD H276 0	4.b.

[1] Includes, for example, investments in mutual funds/investment funds, exposures collateralized by securitization exposures or mutual funds, separate account bank-owned life insurance, and default fund contributions to central counterparties.

Schedule RC-R—Continued

Part II—Continued

Dollar Amounts in Thousands	(Column A) Totals From Schedule RC	(Column B) Adjustments to Totals Reported in Column A	(Column C) 0%	(Column D) 2%	(Column E) 4%	(Column F) 10%	(Column G) 20%	(Column H) 50%	(Column I) 100%	(Column J) 150%	
			Allocation by Risk-Weight Category								
	Amount	Amount	Amount	Amount	Amount	Amount	Amount	Amount	Amount	Amount	
4. Loans and leases held for sale (continued):											
c. Exposures past due 90 days or	RCFD S423	RCFD S424	RCFD S425	RCFD HJ78	RCFD HJ79		RCFD S426	RCFD S427	RCFD S428	RCFD S429	
more or on nonaccrual (1)	1,000	(5,000)	0	0	0		0	0	0	6,000	4.c.
	RCFD S431	RCFD S432	RCFD S433	RCFD HJ80	RCFD HJ81		RCFD S434	RCFD S435	RCFD S436	RCFD S437	
d. All other exposures	2,665,000	(82,000)	0	14,000	0		481,000	0	2,243,000	9,000	4.d.
5. Loans and leases held for investment (2):	RCFD S439	RCFD S440	RCFD H178				RCFD S441	RCFD S442	RCFD S443		
a. Residential mortgage exposures	132,138,000	(5,000)	0				732,000	111,730,000	19,681,000		5.a.
b. High volatility commercial	RCFD S445	RCFD S446	RCFD H179				RCFD H180	RCFD H181	RCFD H182	RCFD S447	
real estate exposures	0	0	0				0	0	0	0	5.b.
c. Exposures past due 90 days or	RCFD S449	RCFD S450	RCFD S451	RCFD HJ82	RCFD HJ83		RCFD S452	RCFD S453	RCFD S454	RCFD S455	
more or on nonaccrual (3)	4,822,000	(61,000)	47,000	1,000	0		14,000	0	0	4,821,000	5.c.
	RCFD S457	RCFD S458	RCFD S459	RCFD HJ84	RCFD HJ85		RCFD S460	RCFD S461	RCFD S462	RCFD S463	
d. All other exposures	418,945,000	5,981,000	6,732,000	2,756,000	0		4,556,000	2,113,000	387,921,000	3,587,000	5.d.
	RCFD 3123	RCFD 3123									
6. LESS: Allowance for loan and lease losses (4)	16,006,000	16,006,000									6.

1 For loans and leases held for sale, exclude residential mortgage exposures, high volatility commercial real estate exposures, or sovereign exposures that are past due 90 days or more or on nonaccrual.

2 Institutions that have adopted ASU 2016-13 should report as a positive number in column B of items 5.a through 5.d, as appropriate, any allowances for credit losses on purchased credit-deteriorated assets reported in column A of items 5.a through 5.d, as appropriate.

3 For loans and leases held for investment, exclude residential mortgage exposures, high volatility commercial real estate exposures, or sovereign exposures that are past due 90 days or more or on nonaccrual.

4 Institutions that have adopted ASU 2016-13 should report the allowance for credit losses on loans and leases in item 6, columns A and B.

Schedule RC-R—Continued

Part II—Continued

Dollar Amounts in Thousands	(Column K) 250% Amount	(Column L) 300% Amount	(Column M) 400% Amount	(Column N) 600% Amount	(Column O) 625% Amount	(Column P) 937.5% Amount	(Column Q) 1250% Amount	(Column R) Application of Other Risk-Weighting Approaches[1] Exposure Amount	(Column S) Application of Other Risk-Weighting Approaches[1] Risk-Weighted Asset Amount	
4. Loans and leases held for sale (continued):										
c. Exposures past due 90 days or more or on nonaccrual (2)								RCFD H277 0	RCFD H278 0	4.c.
d. All other exposures								RCFD H279 0	RCFD H280 0	4.d.
5. Loans and leases held for investment:										
a. Residential mortgage exposures								RCFD H281 0	RCFD H282 0	5.a.
b. High volatility commercial real estate exposures								RCFD H283 0	RCFD H284 0	5.b.
c. Exposures past due 90 days or more or on nonaccrual (3)								RCFD H285 0	RCFD H286 0	5.c.
d. All other exposures								RCFD H287 5,299,000	RCFD H288 1,488,000	5.d.
6. LESS: Allowance for loan and lease losses										6.

1 Includes, for example, investments in mutual funds/investment funds, exposures collateralized by securitization exposures or mutual funds, separate account bank-owned life insurance, and default fund contributions to central counterparties.

2 For loans and leases held for sale, exclude residential mortgage exposures, high volatility commercial real estate exposures, or sovereign exposures that are past due 90 days or more or on nonaccrual.

3 For loans and leases held for investment, exclude residential mortgage exposures, high volatility commercial real estate exposures, or sovereign exposures that are past due 90 days or more or on nonaccrual.

Schedule RC-R—Continued

Part II—Continued

Dollar Amounts in Thousands	(Column A) Totals From Schedule RC	(Column B) Adjustments to Totals Reported in Column A	(Column C) Allocation by Risk-Weight Category 0%	(Column D) 2%	(Column E) 4%	(Column F) 10%	(Column G) 20%	(Column H) 50%	(Column I) 100%	(Column J) 150%	
	Amount	Amount	Amount	Amount	Amount	Amount	Amount	Amount	Amount	Amount	
	RCFD D976	RCFD S466	RCFD D977	RCFD HJ86	RCFD HJ87		RCFD D978	RCFD D979	RCFD D980	RCFD S467	
7. Trading assets	133,214,000	101,727,000	24,259,000	1,000	0		325,000	145,000	6,140,000	617,000	7.
	RCFD D981	RCFD S469	RCFD D982	RCFD HJ88	RCFD HJ89		RCFD D983	RCFD D984	RCFD D985	RCFD H185	
8. All other assets (1,2,3)	119,107,000	18,647,966	26,031,000	58,000	0		2,810,000	375,000	46,787,034	4,078,000	8.
a. Separate account bank-owned life insurance											8.a.
b. Default fund contributions to central counterparties											8.b.

1 Includes premises and fixed assets; other real estate owned; investments in unconsolidated subsidiaries and associated companies; direct and indirect investments in real estate ventures; intangible assets; and other assets.

2 Institutions that have adopted ASU 2016-13 and have elected to apply the 3-year or the 5-year 2020 CECL transition provision should report as a positive number in item 8, column B, the applicable portion of the DTA transitional amount as determined in accordance with the 3-year or the 5-year 2020 CECL transition rule, respectively.

3 Institutions that have adopted ASU 2016-13 and have reported any assets, net of allowances for credit losses in item 8, column A, should report as a negative number in item 8, column B, those allowances for credit losses eligible for inclusion in tier 2 capital, which excludes allowances for credit losses on purchased credit-deteriorated assets.

Schedule RC-R—Continued

Part II—Continued

Dollar Amounts in Thousands	(Column K) 250% Amount	(Column L) 300% Amount	(Column M) 400% Amount	(Column N) 600% Amount	(Column O) 625% Amount	(Column P) 937.5% Amount	(Column Q) 1250% Amount	(Column R) Application of Other Risk-Weighting Approaches[1] Exposure Amount	(Column S) Application of Other Risk-Weighting Approaches[1] Risk-Weighted Asset Amount	
	Allocation by Risk-Weight Category									
	RCFD H289	RCFD H186	RCFD H290	RCFD H187				RCFD H291	RCFD H292	
7. Trading assets	0	0	0	0				0	0	7.
	RCFD H293	RCFD H188	RCFD S470	RCFD S471				RCFD H294	RCFD H295	
8. All other assets (2)	12,897,000	0	0	0				783,000	1,356,000	8.
a. Separate account bank-owned life insurance								RCFD H296 4,488,000	RCFD H297 895,786	8.a.
b. Default fund contributions to central counterparties								RCFD H298 2,152,000	RCFD H299 342,000	8.b.

1 Includes, for example, investments in mutual funds/investment funds, exposures collateralized by securitization exposures or mutual funds, separate account bank-owned life insurance, and default fund contributions to central counterparties.

2 Includes premises and fixed assets; other real estate owned; investments in unconsolidated subsidiaries and associated companies; direct and indirect investments in real estate ventures; intangible assets; and other assets.

Schedule RC-R—Continued

Part II—Continued

Dollar Amounts in Thousands	(Column A) Totals	(Column B) Adjustments to Totals Reported in Column A	(Column Q) Allocation by Risk-Weight Category (Exposure Amount)	(Column T) Total Risk-Weighted Asset Amount by Calculation Methodology	(Column U) Total Risk-Weighted Asset Amount by Calculation Methodology	
			1250%	SSFA[1]	Gross-Up	
	Amount	Amount	Amount	Amount	Amount	
Securitization Exposures: On- and Off-Balance Sheet						
9. On-balance sheet securitization exposures:	RCFD S475	RCFD S476	RCFD S477	RCFD S478	RCFD S479	
a. Held-to-maturity securities (2)	31,038,000	31,038,000	0	6,967,000	0	9.a.
	RCFD S480	RCFD S481	RCFD S482	RCFD S483	RCFD S484	
b. Available-for-sale securities	665,000	665,000	0	146,000	0	9.b.
	RCFD S485	RCFD S486	RCFD S487	RCFD S488	RCFD S489	
c. Trading assets	0	0	0	0	0	9.c.
	RCFD S490	RCFD S491	RCFD S492	RCFD S493	RCFD S494	
d. All other on-balance sheet securitization exposures	72,431,000	72,131,000	300,000	20,362,000	0	9.d.
	RCFD S495	RCFD S496	RCFD S497	RCFD S498	RCFD S499	
10. Off-balance sheet securitization exposures	45,220,000	45,083,000	137,000	8,765,000	0	10.

Dollar Amounts in Thousands	(Column A) Total From *Schedule RC*	(Column B) Adjustments to Totals Reported in Column A	(Column C) Allocation by Risk-Weight Category 0%	(Column D) 2%	(Column E) 4%	(Column F) 10%	(Column G) 20%	(Column H) 50%	(Column I) 100%	(Column J) 150%	
	Amount	Amount	Amount	Amount	Amount	Amount	Amount	Amount	Amount	Amount	
	RCFD 2170	RCFD S500	RCFD D987	RCFD HJ90	RCFD HJ91		RCFD D988	RCFD D989	RCFD D990	RCFD S503	
11. Total balance sheet assets (3)	1,657,372,000	296,383,966	608,492,000	2,830,000	0		109,527,000	121,928,000	472,560,034	19,732,000	11.

Dollar Amounts in Thousands	(Column K) Allocation by Risk-Weight Category 250%	(Column L) 300%	(Column M) 400%	(Column N) 600%	(Column O) 625%	(Column P) 937.5%	(Column Q) 1250%	(Column R) Application of Other Risk-Weighting Approaches Exposure Amount	
	Amount	Amount	Amount	Amount	Amount	Amount	Amount	Amount	
	RCFD S504	RCFD S505	RCFD S506	RCFD S507			RCFD S510	RCFD H300	
11. Total balance sheet assets (3)	12,897,000	0	0	0			300,000	12,722,000	11.

1 Simplified Supervisory Formula Approach.

2 Institutions that have adopted ASU 2016-13 and have reported held-to-maturity securities, net of allowances for credit losses in item 9.a, column A, should report as a negative number in item 9.a., column B, those allowances for credit losses eligible for inclusion in tier 2 capital, which excludes allowances for credit losses on purchased credit-deteriorated assets.

3 For each of columns A through R of item 11, report the sum of items 1 through 9. For item 11, the sum of columns B through R must equal column A. Item 11, column A, must equal Schedule RC, item 12.

Schedule RC-R—Continued

Part II—Continued

Dollar Amounts in Thousands	(Column A) Face, Notional, or Other Amount	CCF[1]	(Column B) Credit Equivalent Amount[2]	(Column C) 0%	(Column D) 2%	(Column E) 4%	(Col F) 10%	(Column G) 20%	(Column H) 50%	(Column I) 100%	(Column J) 150%	
				Allocation by Risk-Weight Category								
	Amount		Amount	Amount	Amount	Amount	Amount	Amount	Amount	Amount	Amount	
Derivatives, Off-Balance Sheet Items, and Other Items Subject to Risk Weighting (Excluding Securitization Exposures) (3)												
12. Financial standby letters of credit	RCFD D991 36,799,000	1.0	RCFD D992 36,799,000	RCFD D993 3,833,000	RCFD HJ92 1,085,000	RCFD HJ93 0		RCFD D994 5,974,000	RCFD D995 753,000	RCFD D996 24,286,000	RCFD S511 868,000	12.
13. Performance standby letters of credit and transaction-related contingent items	RCFD D997 9,627,000	0.5	RCFD D998 4,813,500	RCFD D999 99,000				RCFD G603 366,500	RCFD G604 17,000	RCFD G605 4,229,000	RCFD S512 102,000	13.
14. Commercial and similar letters of credit with an original maturity of one year or less	RCFD G606 5,367,000	0.2	RCFD G607 1,073,400	RCFD G608 0	RCFD HJ94 3,000	RCFD HJ95 0		RCFD G609 36,400	RCFD G610 17,000	RCFD G611 788,000	RCFD S513 229,000	14.
15. Retained recourse on small business obligations sold with recourse	RCFD G612 0	1.0	RCFD G613 0	RCFD G614 0				RCFD G615 0	RCFD G616 0	RCFD G617 0	RCFD S514 0	15.

1 Credit conversion factor.

2 Column A multiplied by credit conversion factor. For each of items 12 through 21, the sum of columns C through J plus column R must equal column B.

3 All derivatives and off-balance sheet items that are securitization exposures are to be excluded from items 12 through 21 and are to be reported instead in item 10.

Schedule RC-R—Continued

Part II—Continued

Dollar Amounts in Thousands	(Column A) Face, Notional, or Other Amount	CCF[1]	(Column B) Credit Equivalent Amount[2]	(Column C)	(Column D)	(Column E)	(Col F)	(Column G)	(Column H)	(Column I)	(Column J)	
				Allocation by Risk-Weight Category								
				0%	2%	4%	10%	20%	50%	100%	150%	
	Amount		Amount	Amount	Amount	Amount	Amount	Amount	Amount	Amount	Amount	
16. Repo-style transactions (3)	RCFD S515		RCFD S516	RCFD S517	RCFD S518	RCFD S519		RCFD S520	RCFD S521	RCFD S522	RCFD S523	
	27,446,000	1.0	27,446,000	7,469,000	6,397,000	0		4,039,000	303,000	7,857,000	1,381,000	16.
17. All other off-balance sheet liabilities	RCFD G618		RCFD G619	RCFD G620				RCFD G621	RCFD G622	RCFD G623	RCFD S524	
	9,116,000	1.0	9,116,000	7,899,000				0	1,000	1,206,000	10,000	17.
18. Unused commitments (exclude unused commitments to asset-backed commercial paper conduits):												
a. Original maturity of one year or less	RCFD S525		RCFD S526	RCFD S527	RCFD HJ96	RCFD HJ97		RCFD S528	RCFD S529	RCFD S530	RCFD S531	
	44,588,000	0.2	8,917,600	155,000	979,000	0		311,600	105,000	7,345,000	22,000	18.a.
b. Original maturity exceeding one year	RCFD G624		RCFD G625	RCFD G626	RCFD HJ98	RCFD HJ99		RCFD G627	RCFD G628	RCFD G629	RCFD S539	
	255,401,000	0.5	127,700,500	17,500	13,929,000	0		11,151,000	299,000	101,493,000	811,000	18.b.
19. Unconditionally cancelable commitments	RCFD S540		RCFD S541									
	671,102,000	0.0	0									19.
			RCFD S542	RCFD S543	RCFD HK00	RCFD HK01	RCFD S544	RCFD S545	RCFD S546	RCFD S547	RCFD S548	
20. Over-the-counter derivatives			160,642,000	14,786,000	0	0	0	28,398,000	4,753,000	111,377,000	1,104,000	20.
			RCFD S549	RCFD S550	RCFD S551	RCFD S552		RCFD S554	RCFD S555	RCFD S556	RCFD S557	
21. Centrally cleared derivatives			42,691,000	0	41,926,000	0		0	0	765,000	0	21.
22. Unsettled transactions (failed trades) (4)	RCFD H191			RCFD H193				RCFD H194	RCFD H195	RCFD H196	RCFD H197	
	62,000			45,000				0	0	5,000	0	22.

1 Credit conversion factor.

2 For items 16 through 19, column A multiplied by credit conversion factor.

3 Includes securities purchased under agreements to resell (reverse repos), securities sold under agreements to repurchase (repos), securities borrowed, and securities lent.

4 For item 22, the sum of columns C through Q must equal column A.

Schedule RC-R—Continued

Part II—Continued

Dollar Amounts in Thousands	(Column O) Allocation by Risk-Weight Category: 625% Amount	(Column P) Allocation by Risk-Weight Category: 937.5% Amount	(Column Q) Allocation by Risk-Weight Category: 1250% Amount	(Column R) Application of Other Risk-Weighting Approaches[1]: Credit Equivalent Amount	(Column S) Application of Other Risk-Weighting Approaches[1]: Risk-Weighted Asset Amount	
				RCFD H301	RCFD H302	
16. Repo-style transactions (2)				0	0	16.
17. All other off-balance sheet liabilities						17.
18. Unused commitments (excludes unused commitments to asset-backed commercial paper conduits):				RCFD H303	RCFD H304	
a. Original maturity of one year or less				0	0	18.a.
				RCFD H307	RCFD H308	
b. Original maturity exceeding one year				0	0	18.b.
19. Unconditionally cancelable commitments						19.
				RCFD H309	RCFD H310	
20. Over-the-counter derivatives				224,000	956,000	20.
21. Centrally cleared derivatives						21.
	RCFD H198	RCFD H199	RCFD H200			
22. Unsettled transactions (failed trades) (3)	0	0	12,000			22.

1 Includes, for example, exposures collateralized by securitization exposures or mutual funds.
2 Includes securities purchased under agreements to resell (reverse repos), securities sold under agreements to repurchase (repos), securities borrowed, and securities lent.
3 For item 22, the sum of columns C through Q must equal column A.

Schedule RC-R—Continued

Part II—Continued

Dollar Amounts in Thousands	(Column C) 0% Amount	(Column D) 2% Amount	(Column E) 4% Amount	(Column F) 10% Amount	(Column G) 20% Amount	(Column H) 50% Amount	(Column I) 100% Amount	(Column J) 150% Amount	
	Allocation by Risk-Weight Category								
23. Total assets, derivatives, off-balance sheet items, and other items subject to risk weighting by risk-weight category (for each of columns C through P, sum of items 11 through 22; for column Q, sum of items 10 through 22)	RCFD G630 642,795,500	RCFD S558 67,149,000	RCFD S559 0	RCFD S560 0	RCFD G631 159,803,500	RCFD G632 128,176,000	RCFD G633 731,911,034	RCFD S561 24,259,000	23.
24. Risk weight factor	X 0%	X 2%	X 4%	X 10%	X 20%	X 50%	X 100%	X 150%	24.
25. Risk-weighted assets by risk-weight category (for each column, item 23 multiplied by item 24)	RCFD G634 0	RCFD S569 1,342,980	RCFD S570 0	RCFD S571 0	RCFD G635 31,960,700	RCFD G636 64,088,000	RCFD G637 731,911,034	RCFD S572 36,388,500	25.

Schedule RC-R—Continued

Part II—Continued

Dollar Amounts in Thousands	(Column K) 250% Amount	(Column L) 300% Amount	(Column M) 400% Amount	(Column N) 600% Amount	(Column O) 625% Amount	(Column P) 937.5% Amount	(Column Q) 1250% Amount	
	Allocation by Risk-Weight Category							
23. Total assets, derivatives, off-balance sheet items, and other items subject to risk weighting by risk-weight category (for each of columns C through P, sum of items 11 through 22; for column Q, sum of items 10 through 22)	RCFD S562 12,897,000	RCFD S563 0	RCFD S564 0	RCFD S565 0	RCFD S566 0	RCFD S567 0	RCFD S568 449,000	23.
24. Risk weight factor	X 250%	X 300%	X 400%	X 600%	X 625%	X 937.5%	X 1250%	24.
25. Risk-weighted assets by risk-weight category (for each column, item 23 multiplied by item 24)	RCFD S573 32,242,500	RCFD S574 0	RCFD S575 0	RCFD S576 0	RCFD S577 0	RCFD S578 0	RCFD S579 5,612,500	25.

Dollar Amounts in Thousands	Totals RCFD	Totals Amount	
26. Risk-weighted assets base for purposes of calculating the allowance for loan and lease losses 1.25 percent threshold (1)	S580	944,824,000	26.
27. Standardized market-risk weighted assets (applicable only to banks that are covered by the market risk capital rules)	.S581	36,814,000	27.
28. Risk-weighted assets before deductions for excess allowance for loan and lease losses and allocated transfer risk reserve (2,3)	B704	981,638,000	28.
29. LESS: Excess allowance for loan and lease losses (4,5)	.A222	4,210,000	29.
30. LESS: Allocated transfer risk reserve	.3128	595,000	30.
31. Total risk-weighted assets (item 28 minus items 29 and 30)	.G641	976,833,000	31.

1 For institutions that have adopted ASU 2016-13, the risk-weighted assets base reported in item 26 is for purposes of calculating the adjusted allowances for credit losses (AACL) 1.25 percent threshold.

2 Sum of items 2.b through 20, column S; items 9.a, 9.b, 9.c, 9.d, and 10, columns T and U; item 25, columns C through Q; and item 27 (if applicable).

3 For institutions that have adopted ASU 2016-13, the risk-weighted assets reported in item 28 represents the amount of risk-weighted assets before deductions for excess AACL and allocated transfer risk reserve.

4 Institutions that have adopted ASU 2016-13 should report the excess AACL.

5 Institutions that have adopted ASU 2016-13 and have elected to apply the 3-year or the 5-year 2020 CECL transition provision should subtract the applicable portion of the AACL transitional amount or the modified AACL transitional amount, respectively, from the AACL, as defined in the regulatory capital rule, before determining the amount of excess AACL.

Schedule RC-R—Continued

Part II—Continued

Memoranda

Dollar Amounts in Thousands	RCFD	Amount	
1. Current credit exposure across all derivative contracts covered by the regulatory capital rules	G642	44,754,000	M.1.

	With a remaining maturity of						
	(Column A) One year or less		(Column B) Over one year through five years		(Column C) Over five years		
Dollar Amounts in Thousands	RCFD	Amount	RCFD	Amount	RCFD	Amount	
2. Notional principal amounts of over-the-counter derivative contracts:							
a. Interest rate	S582	4,791,464,000	S583	3,661,971,000	S584	2,675,876,000	M.2.a.
b. Foreign exchange rate and gold	S585	9,126,738,000	S586	1,960,744,000	S587	949,748,000	M.2.b.
c. Credit (investment grade reference asset)	S588	164,950,000	S589	671,137,000	S590	60,118,000	M.2.c.
d. Credit (non-investment grade reference asset)	S591	46,232,000	S592	174,137,000	S593	11,767,000	M.2.d.
e. Equity	S594	617,555,000	S595	150,538,000	S596	8,198,000	M.2.e.
f. Precious metals (except gold)	S597	70,988,000	S598	6,958,000	S599	0	M.2.f.
g. Other	S600	72,031,000	S601	29,174,000	S602	424,000	M.2.g.
3. Notional principal amounts of centrally cleared derivative contracts:							
a. Interest rate	S603	19,226,089,000	S604	761,381,000	S605	481,634,000	M.3.a.
b. Foreign exchange rate and gold	S606	404,659,000	S607	9,190,000	S608	365,000	M.3.b.
c. Credit (investment grade reference asset)	S609	247,411,000	S610	0	S611	0	M.3.c.
d. Credit (non-investment grade reference asset)	S612	79,341,000	S613	0	S614	0	M.3.d.
e. Equity	S615	143,093,000	S616	31,474,000	S617	42,000	M.3.e.
f. Precious metals (except gold)	S618	20,389,000	S619	701,000	S620	0	M.3.f.
g. Other	S621	51,283,000	S622	26,904,000	S623	29,000	M.3.g.

Dollar Amounts in Thousands	RCFD	Amount	
4. Amount of allowances for credit losses on purchased credit-deteriorated assets: (1)			
a. Loans and leases held for investment	JJ30	0	M.4.a.
b. Held-to-maturity debt securities	JJ31	0	M.4.b.
c. Other financial assets measured at amortized cost	JJ32	0	M.4.c.

[1] Memorandum items 4.a through 4.c should be completed only by institutions that have adopted ASU 2016-13.

Schedule RC-S—Servicing, Securitization, and Asset Sale Activities

Dollar Amounts in Thousands	(Column A) 1-4 Family Residential Loans	(Column B) Home Equity Line	(Column C) Credit Card Receivables	(Column D) Auto Loans	(Column E) Other Consumer Loans	(Column F) Commercial and Industrial Loans	(Column G) All Other Loans, All Leases, and All Other Assets	
	Amount	Amount	Amount	Amount	Amount	Amount	Amount	
Bank Securitization Activities								
1. Outstanding principal balance of assets sold and securitized by the reporting bank with servicing retained or with recourse or other seller-provided credit enhancements	RCFD B705	RCFD B706	RCFD B707	RCFD B708	RCFD B709	RCFD B710	RCFD B711	
	3,741,000	0	0	0	0	0	23,000	1.
2. Maximum amount of credit exposure arising from recourse or other seller-provided credit enhancements provided to structures reported in item 1	RCFD HU09	RCFD HU10	RCFD HU11	RCFD HU12	RCFD HU13	RCFD HU14	RCFD HU15	
	0	0	0	0	0	0	1,000	2.
Item 3 is to be completed by banks with $100 billion or more in total assets.[1]								
3. Reporting bank's unused commitments to provide liquidity to structures reported in item 1	RCFD B726	RCFD B727	RCFD B728	RCFD B729	RCFD B730	RCFD B731	RCFD B732	
	0	0	0	0	0	0	0	3.
4. Past due loan amounts included in item 1:	RCFD B733	RCFD B734	RCFD B735	RCFD B736	RCFD B737	RCFD B738	RCFD B739	
a. 30-89 days past due	176,000	0	0	0	0	0	0	4.a.
	RCFD B740	RCFD B741	RCFD B742	RCFD B743	RCFD B744	RCFD B745	RCFD B746	
b. 90 days or more past due	134,000	0	0	0	0	0	0	4.b.
5. Charge-offs and recoveries on assets sold and securitized with servicing retained or with recourse or other seller-provided credit enhancements (calendar year-to-date):	RIAD B747	RIAD B748	RIAD B749	RIAD B750	RIAD B751	RIAD B752	RIAD B753	
a. Charge-offs	6,000	0	0	0	0	0	0	5.a.
	RIAD B754	RIAD B755	RIAD B756	RIAD B757	RIAD B758	RIAD B759	RIAD B760	
b. Recoveries	2,000	0	0	0	0	0	0	5.b.

[1] The $100 billion asset-size test is based on total assets reported on the June 30, 2022, Report of Condition.

Schedule RC-S—Continued

Dollar Amounts in Thousands	(Column A) 1-4 Family Residential Loans	(Column B) Home Equity Line	(Column C) Credit Card Receivables	(Column D) Auto Loans	(Column E) Other Consumer Loans	(Column F) Commercial and Industrial Loans	(Column G) All Other Loans, All Leases, and All Other Assets	
	Amount	Amount	Amount	Amount	Amount	Amount	Amount	
Item 6 is to be completed by banks with $10 billion or more in total assets.[1]								
6. Total amount of ownership (or seller's) interest carried as securities or loans		RCFD HU16 0	RCFD HU17 0			RCFD HU18 0		6.
7. and 8. Not applicable								
For Securitization Facilities Sponsored By or Otherwise Established By Other Institutions								
9. Maximum amount of credit exposure arising from credit enhancements provided by the reporting bank to other institutions' securitization structures in the form of standby letters of credit, purchased subordinated securities, and other enhancements	RCFD B776 0			RCFD B779 0	RCFD B780 0	RCFD B781 0	RCFD B782 0	9.
Item 10 is to be completed by banks with $10 billion or more in total assets.[1]								
10. Reporting bank's unused commitments to provide liquidity to other institutions' securitization structures	RCFD B783 0			RCFD B786 0	RCFD B787 0	RCFD B788 0	RCFD B789 524,000	10.
Bank Asset Sales								
11. Assets sold with recourse or other seller-provided credit enhancements and not securitized by the reporting bank	RCFD B790 107,000						RCFD B796 3,761,000	11.
12. Maximum amount of credit exposure arising from recourse or other seller- provided credit enhancements provided to assets reported in item 11	RCFD B797 107,000						RCFD B803 945,000	12.

[1] The $10 billion asset-size test is based on the total assets reported on the June 30, 2022, Report of Condition.

Schedule RC-S—Continued

Memoranda

Dollar Amounts in Thousands	RCFD	Amount	
1. Not applicable			
2. Outstanding principal balance of assets serviced for others (includes participations serviced for others):			
a. Closed-end 1-4 family residential mortgages serviced with recourse or other servicer-provided credit enhancements	B804	107,000	M.2.a.
b. Closed-end 1-4 family residential mortgages serviced with no recourse or other servicer-provided credit enhancements	B805	44,664,000	M.2.b.
c. Other financial assets (includes home equity lines) (1)	A591	17,216,000	M.2.c.
d. 1-4 family residential mortgages serviced for others that are in process of foreclosure at quarter-end (includes closed-end and open-end loans)	F699	286,000	M.2.d.
Memorandum item 3 is to be completed by banks with $10 billion or more in total assets.[2]			
3. Asset-backed commercial paper conduits:			
a. Maximum amount of credit exposure arising from credit enhancements provided to conduit structures in the form of standby letters of credit, subordinated securities, and other enhancements:			
(1) Conduits sponsored by the bank, a bank affiliate, or the bank's holding company	B806	2,044,000	M.3.a1.
(2) Conduits sponsored by other unrelated institutions	B807	0	M.3.a2.
b. Unused commitments to provide liquidity to conduit structures:			
(1) Conduits sponsored by the bank, a bank affiliate, or the bank's holding company	B808	26,336,000	M.3.b1.
(2) Conduits sponsored by other unrelated institutions	B809	0	M.3.b2.
4. Outstanding credit card fees and finance charges included in Schedule RC-S, item 1, column C (2,3)	C407	NR	M.4.

[1] Memorandum item 2.c is to be completed if the principal balance of other financial assets serviced for others is more than $10 million.

[2] The $10 billion asset-size test is based on the total assets reported on the June 30, 2022, Report of Condition.

[3] Memorandum item 4 is to be completed by banks with $10 billion or more in total assets that (1) together with affiliated institutions, have outstanding credit card receivables (as defined in the instructions) that exceed $500 million as of the report date, or (2) are credit card specialty banks as defined for Uniform Bank Performance Report purposes.

Schedule RC-T—Fiduciary and Related Services

	RCFD	YES / NO	
1. Does the institution have fiduciary powers? (If "NO", do not complete Schedule RC-T)	A345	YES	1.
2. Does the institution exercise the fiduciary powers it has been granted?	A346	YES	2.
3. Does the institution have any fiduciary or related activity (in the form of assets or accounts) to report in this schedule? (If "NO," do not complete the rest of Schedule RC-T)	B867	YES	3.

If the answer to item 3 is "YES," complete the applicable items of Schedule RC-T, as follows:

Institutions with total fiduciary assets (item 10, sum of columns A and B) greater than $250 million (as of the preceding December 31 report date) or with gross fiduciary and related services income greater than 10% of revenue (net interest income plus noninterest income) for the preceding calendar year must complete:
- Items 4 through 22 and Memorandum item 3 quarterly,
- Items 23 through 26 annually with the December report, and
- Memorandum items 1, 2, and 4 annually with the December report.

Institutions with total fiduciary assets (item 10, sum of columns A and B) less than or equal to $250 million (as of the preceding December 31 report date) that do not meet the fiduciary income test for quarterly reporting must complete:
- Items 4 through 13 annually with the December report, and
- Memorandum items 1 through 3 annually with the December report.
- Institutions with total fiduciary assets greater than $100 million but less than or equal to $250 million (as of the preceding December 31 report date) that do not meet the fiduciary income test for quarterly reporting must also complete Memorandum item 4 annually with the December report.

Dollar Amounts in Thousands	(Column A) Managed Assets	(Column B) Non-Managed Assets	(Column C) Number of Managed Accounts	(Column D) Number of Non-Managed Accounts	
	Amount	Amount	Number	Number	
Fiduciary and Related Assets	RCFD B868	RCFD B869	RCFD B870	RCFD B871	
4. Personal trust and agency accounts	9,435,000	57,750,000	1,392	3,821	4.
5. Employee benefit and retirement-related trust and agency accounts:					
a. Employee benefit - defined contribution	RCFD B872	RCFD B873	RCFD B874	RCFD B875	
	0	13,486,000	0	33	5.a.
b. Employee benefit - defined benefit	RCFD B876	RCFD B877	RCFD B878	RCFD B879	
	0	0	0	0	5.b.
c. Other employee benefit and retirement-related accounts	RCFD B880	RCFD B881	RCFD B882	RCFD B883	
	400,000	79,000	202	7	5.c.
	RCFD B884	RCFD B885	RCFD C001	RCFD C002	
6. Corporate trust and agency accounts	0	57,723,000	0	1,949	6.
7. Investment management and investment advisory agency accounts	RCFD B886	RCFD J253	RCFD B888	RCFD J254	
	58,488,000	150,000	7,248	19	7.
8. Foundation and endowment trust and agency accounts	RCFD J255	RCFD J256	RCFD J257	RCFD J258	
	900,000	25,000	223	11	8.
	RCFD B890	RCFD B891	RCFD B892	RCFD B893	
9. Other fiduciary accounts	104,995,000	658,492,000	87	6,203	9.
10. Total fiduciary accounts (sum of items 4 through 9)	RCFD B894	RCFD B895	RCFD B896	RCFD B897	
	174,218,000	787,705,000	9,152	12,043	10.
		RCFD B898		RCFD B899	
11. Custody and safekeeping accounts		20,143,546,000		282,571	11.

Schedule RC-T—Continued

Dollar Amounts in Thousands	(Column A) Managed Assets Amount	(Column B) Non-Managed Assets Amount	(Column C) Number of Managed Accounts Number	(Column D) Number of Non-Managed Accounts Number	
12. Fiduciary accounts held in foreign offices (included in items 10 and 11)	RCFN B900 49,749,000	RCFN B901 11,307,656,000	RCFN B902 3,054	RCFN B903 268,692	12.
13. Individual Retirement Accounts, Health Savings Accounts, and other similar accounts (included in items 5.c and 11)	RCFD J259 400,000	RCFD J260 531,000	RCFD J261 202	RCFD J262 427	13.

Dollar Amounts in Thousands	RIAD	Amount	
Fiduciary and Related Services Income			
14. Personal trust and agency accounts	B904	76,000	14.
15. Employee benefit and retirement-related trust and agency accounts:			
a. Employee benefit - defined contribution	B905	0	15.a.
b. Employee benefit - defined benefit	B906	0	15.b.
c. Other employee benefit and retirement-related accounts	B907	2,000	15.c.
16. Corporate trust and agency accounts	A479	10,000	16.
17. Investment management and investment advisory agency accounts	J315	194,000	17.
18. Foundation and endowment trust and agency accounts	J316	4,000	18.
19. Other fiduciary accounts	A480	65,000	19.
20. Custody and safekeeping accounts	B909	1,203,000	20.
21. Other fiduciary and related services income	B910	283,000	21.
22. Total gross fiduciary and related services income (sum of items 14 through 21) (must equal Schedule RI, item 5.a)	4070	1,837,000	22.
a. Fiduciary and related services income—foreign offices (included in item 22) B912 1,170,000			22.a.
23. Less: Expenses	C058	NR	23.
24. Less: Net losses from fiduciary and related services	A488	NR	24.
25. Plus: Intracompany income credits for fiduciary and related services	B911	NR	25.
26. Net fiduciary and related services income	A491	NR	26.

Memoranda

Dollar Amounts in Thousands	(Column A) Personal Trust and Agency and Investment Management Agency Accounts RCFD	Amount	(Column B) Employee Benefit and Retirement-Related Trust and Agency Accounts RCFD	Amount	(Column C) All Other Accounts RCFD	Amount	
1. Managed assets held in fiduciary accounts:							
a. Noninterest-bearing deposits	J263	NR	J264	NR	J265	NR	M.1.a.
b. Interest-bearing deposits	J266	NR	J267	NR	J268	NR	M.1.b.
c. U.S. Treasury and U.S. Government agency obligations	J269	NR	J270	NR	J271	NR	M.1.c.
d. State, county, and municipal obligations	J272	NR	J273	NR	J274	NR	M.1.d.
e. Money market mutual funds	J275	NR	J276	NR	J277	NR	M.1.e.
f. Equity mutual funds	J278	NR	J279	NR	J280	NR	M.1.f.
g. Other mutual funds	J281	NR	J282	NR	J283	NR	M.1.g.
h. Common trust funds and collective investment funds	J284	NR	J285	NR	J286	NR	M.1.h.
i. Other short-term obligations	J287	NR	J288	NR	J289	NR	M.1.i.

Schedule RC-T—Continued

Memoranda—Continued

Dollar Amounts in Thousands	(Column A) Personal Trust and Agency and Investment Management Agency Accounts RCFD	Amount	(Column B) Employee Benefit and Retirement-Related Trust and Agency Accounts RCFD	Amount	(Column C) All Other Accounts RCFD	Amount	
1. j. Other notes and bonds	J290	NR	J291	NR	J292	NR	M.1.j.
k. Investments in unregistered funds and private equity investments	J293	NR	J294	NR	J295	NR	M.1.k.
l. Other common and preferred stocks	J296	NR	J297	NR	J298	NR	M.1.l.
m. Real estate mortgages	J299	NR	J300	NR	J301	NR	M.1.m.
n. Real estate	J302	NR	J303	NR	J304	NR	M.1.n.
o. Miscellaneous assets	J305	NR	J306	NR	J307	NR	M.1.o.
p. Total managed assets held in fiduciary accounts (for each column, sum of Memorandum items 1.a through 1.o)	J308	NR	J309	NR	J310	NR	M.1.p.

Dollar Amounts in Thousands	(Column A) Managed Assets RCFD	Amount	(Column B) Number of Managed Accounts RCFD	Number	
1. q. Investments of managed fiduciary accounts in advised or sponsored mutual funds	J311	NR	J312	NR	M.1.q.

Dollar Amounts in Thousands	(Column A) Number of Issues RCFD	Number	(Column B) Principal Amount Outstanding Amount	
2. Corporate trust and agency accounts:			RCFD B928	
a. Corporate and municipal trusteeships	B927	NR	NR	M.2.a.
			RCFD J314	
(1) Issues reported in Memorandum item 2.a that are in default	J313	NR	NR	M.2.a.1.
b. Transfer agent, registrar, paying agent, and other corporate agency	B929	NR		M.2.b.

Memorandum items 3.a through 3.h are to be completed by banks with collective investment funds and common trust funds with a total market value of $1 billion or more as of the preceding December 31 report date.

Memorandum item 3.h only is to be completed by banks with collective investment funds and common trust funds with a total market value of less that $1 billion as of the preceding December 31 report date.

Dollar Amounts in Thousands	(Column A) Number of Funds RCFD	Number	(Column B) Market Value of Fund Assets RCFD	Amount	
3. Collective investment funds and common trust funds:					
a. Domestic equity	B931	NR	B932	NR	M.3.a.
b. International/Global equity	B933	NR	B934	NR	M.3.b.
c. Stock/Bond blend	B935	NR	B936	NR	M.3.c.
d. Taxable bond	B937	NR	B938	NR	M3.d.
e. Municipal bond	B939	NR	B940	NR	M.3.e.
f. Short-term investments/Money market	B941	NR	B942	NR	M.3.f.
g. Specialty/Other	B943	NR	B944	NR	M.3.g.
h. Total collective investment funds (sum of Memorandum items 3.a through 3.g)	B945	0	B946	0	M.3.h.

Schedule RC-T—Continued

Memoranda—Continued

Dollar Amounts in Thousands	(Column A) Gross Losses Managed Accounts RIAD	(Column A) Gross Losses Managed Accounts Amount	(Column B) Gross Losses Non-Managed Accounts RIAD	(Column B) Gross Losses Non-Managed Accounts Amount	(Column C) Recoveries RIAD	(Column C) Recoveries Amount	
4. Fiduciary settlements, surcharges, and other losses:							
a. Personal trust and agency accounts	B947	NR	B948	NR	B949	NR	M.4.a.
b. Employee benefit and retirement-related trust and agency accounts	B950	NR	B951	NR	B952	NR	M.4.b.
c. Investment management and investment advisory agency accounts	B953	NR	B954	NR	B955	NR	M.4.c.
d. Other fiduciary accounts and related services	B956	NR	B957	NR	B958	NR	M.4.d.
e. Total fiduciary settlements, surcharges, and other losses (sum of Memorandum items 4.a through 4.d) (sum of columns A and B minus column C must equal Schedule RC-T, item 24)	B959	NR	B960	NR	B961	NR	M.4.e.

Person to whom questions about Schedule RC-T - Fiduciary and Related Services should be directed:

CONF

Name and Title (TEXT B962)

CONF

E-mail Address (TEXT B926)

CONF

Telephone: Area code/phone number/extension (TEXT B963)

CONF

FAX: Area code/phone number (TEXT B964)

Schedule RC-V—Variable Interest Entities[1]

Dollar Amounts in Thousands	(Column A) Securitization Vehicles RCFD	(Column A) Securitization Vehicles Amount	(Column B) Other VIEs RCFD	(Column B) Other VIEs Amount	
1. Assets of consolidated variable interest entities (VIEs) that can be used only to settle obligations of the consolidated VIEs:					
a. Cash and balances due from depository institutions	J981	0	JF84	20,000	1.a.
b. Securities not held for trading	HU20	27,000	HU21	570,000	1.b.
c. Loans and leases held for investment, net of allowance, and held for sale	HU22	31,166,000	HU23	21,632,000	1.c.
d. Other real estate owned	K009	0	JF89	0	1.d.
e. Other assets	JF91	11,000	JF90	357,000	1.e.
2. Liabilities of consolidated VIEs for which creditors do not have recourse to the general credit of the reporting bank:					
a. Other borrowed money	JF92	5,426,000	JF85	9,657,000	2.a.
b. Other liabilities	JF93	42,000	JF86	711,000	2.b.
3. All other assets of consolidated VIEs (not included in items 1.a. through 1.e above)	K030	0	JF87	0	3.
4. All other liabilities of consolidated VIEs (not included in items 2.a and 2.b above)	K033	0	JF88	2,044,000	4.

Dollar Amounts in Thousands	RCFD	Amount	
5. Total assets of asset-backed commercial paper (ABCP) conduit VIEs	JF77	20,852,000	5.
6. Total liabilities of ABCP conduit VIEs	JF78	11,031,000	6.

[1] Institutions that have adopted ASU 2016-13 should report assets, net of any applicable allowance for credit losses.

Optional Narrative Statement Concerning the Amounts Reported in the Consolidated Reports of Condition and Income

The management of the reporting bank may, if it wishes, submit a brief narrative statement on the amounts reported in the Consolidated Reports of Condition and Income. This optional statement will be made available to the public, along with the publicly available data in the Consolidated Reports of Condition and Income, in response to any request for individual bank report data. However, the information reported in Schedule RI-E, item 2.g; Schedule RC-C, Part I, Memorandum items 17.a and 17.b; Schedule RC-O, Memorandum items 6 through 9, 14, 15 and 18; and Schedule RC-P, items 7.a and 7.b, is regarded as confidential and will not be made available to the public on an individual institution basis. BANKS CHOOSING TO SUBMIT THE NARRATIVE STATEMENT SHOULD ENSURE THAT THE STATEMENT DOES NOT CONTAIN THE NAMES OR OTHER IDENTIFICATIONS OF INDIVIDUAL BANK CUSTOMERS, REFERENCES TO THE AMOUNTS REPORTED IN THE CONFIDENTIAL ITEMS IDENTIFIED ABOVE, OR ANY OTHER INFORMATION THAT THEY ARE NOT WILLING TO HAVE MADE PUBLIC OR THAT WOULD COMPROMISE THE PRIVACY OF THEIR CUSTOMERS. Banks choosing not to make a statement may check the "No comment" box below and should make no entries of any kind in the space provided for the narrative statement; i.e., DO NOT enter in this space such phrases as "No statement," "Not applicable," "N/A," "No comment," and "None."

The optional statement must be entered on this sheet. The statement should not exceed 100 words. Further, regardless of the number of words, the statement must not exceed 750 characters, including punctuation, indentation, and standard spacing between words and sentences. If any submission should exceed 750 characters, as defined, it will be truncated at 750 characters with no notice to the submitting bank and the truncated statement will appear as the bank's statement both on agency computerized records and in computer-file releases to the public.

All information furnished by the bank in the narrative statement must be accurate and not misleading. Appropriate efforts shall be taken by the submitting bank to ensure the statement's accuracy.

If, subsequent to the original submission, material changes are submitted for the data reported in the Consolidated Reports of Condition and Income, the existing narrative statement will be deleted from the files, and from disclosure; the bank, at its option, may replace it with a statement appropriate to the amended data.

The optional narrative statement will appear in agency records and in release to the public exactly as submitted (or amended as described in the preceding paragraph) by the management of the bank (except for the truncation of statements exceeding the 750-character limit described above). THE STATEMENT WILL NOT BE EDITED OR SCREENED IN ANY WAY BY THE SUPERVISORY AGENCIES FOR ACCURACY OR RELEVANCE. DISCLOSURE OF THE STATEMENT SHALL NOT SIGNIFY THAT ANY FEDERAL SUPERVISORY AGENCY HAS VERIFIED OR CONFIRMED THE ACCURACY OF THE INFORMATION CONTAINED THEREIN. A STATEMENT TO THIS EFFECT WILL APPEAR ON ANY PUBLIC RELEASE OF THE OPTIONAL STATEMENT SUBMITTED BY THE MANAGEMENT OF THE REPORTING BANK.

	RCON	YES / NO
Comments?	6979	NO

BANK MANAGEMENT STATEMENT (please type or print clearly; 750 character limit):
(TEXT 6980)

NR

2022 ANNUAL REPORT

Citi is proud of its colleagues in Ukraine, who are supporting the country through a devastating war.

More than 20 years ago, I started at Citi as a market risk analyst in New York City. Since then, I have benefited from the career opportunities that come with being at a global bank and have worked across the world. In 2018, I took on the role of leading Citi's franchise in Ukraine and have had the pleasure of making my home with my family in the beautiful city of Kyiv.

At Citi, we like to think of ourselves as a "human bank," and nowhere has that been more apparent than in Ukraine. When Russia invaded our country last year, the entire firm moved swiftly to support our colleagues and clients. Thanks to the courage and dedication of our Citi Ukraine team, our business here has operated continuously throughout the war. That's allowed us to support clients on the ground who are overseeing essential services and the non-governmental organizations that are delivering aid. On the cover of this report, you will find some images illustrating these heroic efforts.

I am also incredibly grateful to my Citi colleagues in Poland, Romania, Hungary and other neighboring countries who have received displaced Ukrainians and mobilized volunteer efforts. On top of that, so many members of the firm from around the world have found other ways to support us in Ukraine. Simply put, I could not be prouder to work at Citi.

May 2023 bring peace to Ukraine.

Alex McWhorter
Citi Country Officer, Citi Ukraine

Hear more from Alex and Citi Ukraine colleagues on the impact of the war.

Europe, Middle East and Africa CEO David Livingstone (center left) and Alex McWhorter (center right) meet with Citi Ukraine colleagues during a visit to Poland.

A mission of enabling growth and economic progress

What you can expect from us and what we expect from ourselves

Citi's mission is to serve as a trusted partner to our clients by responsibly providing financial services that enable growth and economic progress. Our core activities are safeguarding assets, lending money, making payments and accessing the capital markets on behalf of our clients. We have more than 200 years of experience helping our clients meet the world's toughest challenges and embrace its greatest opportunities. We are Citi, the global bank — an institution connecting millions of people across hundreds of countries and cities.

We protect people's savings and help them make the purchases — from everyday transactions to buying a home — that improve the quality of their lives. We advise people on how to invest for future needs, such as their children's education and their own retirement, and help them buy securities such as stocks and bonds.

We work with companies to optimize their daily operations, whether they need working capital, to make payroll or export their goods overseas. By lending to companies large and small, we help them grow, creating jobs and real economic value at home and in communities around the world. We provide financing and support to governments at all levels, so they can build sustainable infrastructure, such as housing, transportation, schools and other vital public works.

These capabilities create an obligation to act responsibly, do everything possible to create the best outcomes and prudently manage risk. If we fall short, we will take decisive action and learn from our experience.

We strive to earn and maintain the public's trust by constantly adhering to the highest ethical standards. We ask our colleagues to ensure that their decisions pass three tests: they are in our clients' interests, create economic value and are always systemically responsible. When we do these things well, we make a positive financial and social impact in the communities we serve and show what a global bank can do.

Letter to shareholders

"We have absolute clarity on our future, and we are focused on accelerating growth, gaining share and increasing returns for shareholders over time."

Jane Fraser
Chief Executive Officer

Dear shareholders,

Looking back at 2022, I don't think any of us could have predicted the twists and turns the year would take. Lingering disruptions to supply chains, historic inflationary pressures, persistent lockdowns in China and the largest war on European soil since World War II combined to create a tumultuous environment for businesses and financial markets.

As a leading global bank with a more-than-210-year history, these dynamics are not unfamiliar to us. And as we showed throughout the pandemic, Citi is an important source of strength and stability during times of immense change and challenge. This is an opportunity and a responsibility we take very seriously.

So, for me, 2022 will be remembered most for two things:

The first is how we continued to support our clients. We helped them navigate macro and geopolitical dynamics. We advised them in their digital transformations and supported the shifts in their business models. We guided them in their transitions toward a clean-energy economy. When war broke out in Ukraine, we sprang to the aid of our employees and clients on the ground, and helped our multinational clients unwind their operations in Russia in response to Western sanctions aimed at the country.

The second is the important strides we are making to position Citi to win in the decade ahead. In March 2022, at our first Investor Day in several years, we set a vision and refreshed our strategy to change our business mix and simplify our operating model. We have absolute clarity on our future, and we are focused on accelerating growth, gaining share and increasing returns for shareholders over time.

By most measures, we ended the year in a stronger position than we started.

A foundation for the future

Our vision for Citi is to be the preeminent banking partner for institutions with cross-border needs, a global leader in wealth management and a valued personal bank in our home market.

To that end, we have laid the foundation by focusing on five core interconnected businesses: Services, Markets, Banking, Global Wealth Management and U.S. Personal Banking. We intentionally designed our business mix to withstand different macroeconomic conditions, and we have seen that borne out over the past year. So whilst the environment has changed, our strategy has not, and we remain steadfast in executing and delivering for our shareholders.

For the year, we delivered $14.8 billion in net income on revenues of $75.3 billion. Our Return on Tangible Common Equity (RoTCE[1]) was 8.9%, and we remain on track to achieve an RoTCE of 11–12% in the medium term.

We increased our Common Equity Tier 1 Capital ratio by nearly 80 basis points to 13%, which includes a buffer of 100 basis points above the regulatory requirement to help absorb the impact of various macro and other factors. Finally, our tangible book value per share[1] increased to $81.65, and we returned more than $7 billion to our shareholders through common dividends and share repurchases.

How our core businesses fared

Our Services business had an exceptional year with revenues up 27% versus 2021. Treasury and Trade Solutions (TTS), the crown jewel of our global network, experienced a 32% increase in revenues as we continued to grow our wallet share with existing clients whilst also adding new client relationships. With the introduction of a seven-day sweeps service, the industry's first 24/7 USD clearing capabilities and instant payments in 33 markets, we're moving closer to an always-on, near real-time cash management solution for corporate clients. In Securities Services, we grew yearly revenues by 15% and onboarded $1.2 trillion in assets under custody and administration.

Our Markets business closed 2022 with revenues up 7% from 2021, ending the year with one of the best fourth quarters in recent memory. Our traders navigated the volatility quite well, with notable performance amongst corporate clients and strong gains in FX and rates. And together with our Corporate Bank, our Markets team continued to optimize its balance sheet.

Revenues in Banking fell 35% as we contended with a materially slower deal environment. But Banking remains a key part of our strategy, and we continued to play a leading role in the year's notable transactions. This included acting as one of the lead advisors on Volkswagen's €9.4 billion IPO of Porsche, the largest public listing of the year, and serving as financial advisor to Amgen on its proposed $27.8 billion acquisition of Horizon Therapeutics. We hired exceptional bankers in healthcare, clean energy and technology — all sectors critical to our growth — and welcomed new talent into our Commercial Bank as it has expanded into Canada, Germany and Switzerland.

In U.S. Personal Banking, revenues for the year rose 7% as we bolstered our leadership in payments and lending. Branded Cards grew revenues by 9%, whilst Retail Services revenues were up 7%. We launched new credit cards with ExxonMobil and AT&T and celebrated 35 years of our co-branded credit

A year of progress

Debuted a refreshed strategy
for improving returns at Citi's Investor Day

Served as one of the lead advisors
on Porsche's IPO and as financial advisor on Amgen's proposed acquisition of Horizon Therapeutics

Built out digital capabilities
in our market-leading Treasury and Trade Solutions business and launched a 24/7 payments clearing service

Onboarded $1.2 trillion of new assets under custody and administration
in Securities Services

Simplified our operating model
by closing the sale of five consumer businesses and announced plans to end nearly all operations in Russia

Strengthened connections between businesses
resulting in more than 60,000 client referrals from the U.S. Personal Bank to Citi Global Wealth

Celebrated 35 years
of the American Airlines co-branded credit card, a leading airline rewards credit card

Hired exceptional talent in Banking, Capital Markets and Advisory
to strengthen coverage of growth sectors such as healthcare, clean energy and technology

Expanded the Private Bank
to France and Germany, opened the first Citi Global Wealth Center in Hong Kong and established a Citi Global Wealth at Work presence in Luxembourg

Grew Citi Commercial Bank
by expanding into Canada, Germany and Switzerland and hiring talent to execute on our client-centric coverage model

Enhanced risk and controls
by improving stress test capabilities and our approval process for new products

Implemented new performance management framework
to drive excellence and accountability across the firm

card partnership with American Airlines. Revenues in Retail Banking were roughly flat for the full year, but we continued to enhance our digital capabilities, growing digital users by 6% for the year. And as part of our efforts to break down barriers to banking, last year we became the first of the largest U.S. banks to completely eliminate overdraft fees and returned item fees for our customers.

We also made progress building out our Global Wealth Management business despite the economic headwinds that slowed activity amongst our Asia-based clients in particular and reduced overall revenues by 2%. Having unified our Wealth businesses under a single platform, we've been acquiring new clients and investing in hiring advisors to make sure we're well-positioned for success as the markets recover. In addition, we forged ahead with our global expansion, opening Private Bank offices in Paris and Frankfurt, a new Wealth center in Hong Kong and a Citi Global Wealth at Work presence in Luxembourg.

Greater connectivity and focus

A centerpiece of our go-forward plan is increasing the linkages between our businesses so we can more easily engage clients in one part of our firm with products and services from another. By delivering the full power of Citi to clients, we can deepen existing relationships and win new mandates.

Our Markets and Banking businesses are now aligned more closely than ever, and, as a result, we are supporting our clients in a more integrated way. Our Wealth business is also benefiting from closer connections and received more than 60,000 referrals from the Retail Bank last year. In addition, we have established a new partnership agreement between Wealth and our Commercial Bank, where 90% of our clients are privately owned companies.

At the same time, we are making progress in simplifying our firm, making us easier to manage and allowing us to focus on the parts of our business where we know we can grow and improve our competitiveness.

We announced our intention to exit 14 consumer businesses in Asia, Europe, the Middle East and Mexico — businesses that do not have clear synergies with our global network. As a result of swift but disciplined execution, in 2022 we successfully closed the sale of our consumer businesses in Australia, Bahrain, Malaysia, the Philippines and Thailand. In March 2023, we closed the sale of our consumer businesses in India and Vietnam and are on track to close two additional markets by the end of the year. We also are progressing with the wind-down of our consumer business in Korea. In addition to exiting our consumer and local commercial banking businesses in Russia, we are actively ending nearly all institutional banking services in the country, and by the second quarter of 2023, our only operations will be those necessary to fulfill any legal and regulatory obligations. Apart from Russia, Citi will continue to serve our clients and invest in these markets through our institutional franchise and our Wealth business.

Citi's Transformation

For our strategy to unlock the greatest possible value, we know we need to modernize our infrastructure so that we are scaled and agile and able to continue to deliver for our clients. The consent orders issued in 2020 by the Federal Reserve Board and Office of the Comptroller of the Currency underscored how we had underinvested not only in parts of our infrastructure but also in our risk and controls environment and our data governance.

Last year, we made progress in accelerating our work to address these gaps and simplify and modernize our operating model for the digital age. This work is so consequential in nature that we call it our "Transformation." It remains my number one priority.

Whilst this is a multi-year journey, we are already seeing the fruits of our labors. We have dramatically streamlined our approval process for new products. And new stress testing capabilities enable us to make faster, better-informed risk decisions. This made a huge difference in how we have been able to minimize the impact of Russia's invasion of Ukraine on all parts of our business.

Investments in our people and communities

Ensuring we have a culture characterized by excellence and accountability underpins the success of our Transformation and broader vision for the firm. Last year, we launched a program, Citi's New Way, to help our colleagues adopt the everyday habits we need in order to operate with excellence. We have also hardwired accountability into our firm by strengthening our performance management process and implementing a greater emphasis on financial returns rather than on revenues.

The diversity of the nearly 240,000 people who work at Citi is a distinguishing aspect of our firm, as is the diversity of our Board, which is majority female. We remain committed to a workplace that mirrors the communities we serve. In 2022, we set new goals to increase the number of women and other underrepresented groups working at Citi. These new goals follow our success in exceeding the three-year goals we set in 2018 to increase the percentage of women in the firm globally and of Black talent in the U.S.

In another sign of our progress, last year we celebrated the promotion of one of the largest and most diverse Managing Director classes in recent years. Maintaining a workplace that is diverse, equitable and inclusive is not only true to our values but key to our competitiveness.

Our commitment to advancing diversity, equity and inclusion goes well beyond Citi's walls as we continue to use our resources as a global bank to take on some of society's toughest challenges. We expanded the Citi Impact Fund to $500 million in support of diverse founders who are driving both financial and social returns. And we delivered on our commitment to transparency and accountability by announcing the findings from an external review and audit of our $1 billion Action for Racial Equity initiative to help close the racial wealth gap.

Full year 2022 results and key metrics

Key financial metrics

REVENUES $75.3B	NET INCOME $14.8B		
EPS $7.00	ROCE 7.7%		
RoTCE 8.9%[1]	SLR 5.8%	CET1 CAPITAL RATIO 13.0%[2]	

Businesses snapshot

TOTAL SERVICES REVENUES ↑27%	TOTAL MARKETS REVENUES ↑7%
TOTAL BANKING REVENUES ↓35%	U.S. PERSONAL BANKING REVENUES ↑7%
GLOBAL WEALTH MANAGEMENT REVENUES ↓2%	LEGACY FRANCHISES REVENUES ↑3%

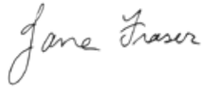
Key highlights

- TTS revenues **↑32% YoY** with further wallet share gains
- Fixed Income revenues **↑13% YoY** signaling our strengthened leadership position
- Returned **~$7.3B** in capital to shareholders in the form of common dividends and share repurchases
- Securities Services **↑15% YoY** with **$1.2T** of new client assets under custody and administration onboarded
- Cards revenues **↑8% YoY** with double-digit growth in revenues and interest-earning balances in the second half
- Closed the sale of **5** non-strategic consumer exit markets[3]

We have also been a leader in reimagining the future of work. Drawing on lessons learned during the pandemic, we have institutionalized a hybrid work model for much of our firm. This approach provides the flexibility that our people want whilst also ensuring we benefit from the in-person collaboration, real-time coaching and apprenticeship that occurs only when we are physically together.

Everywhere you look around the firm, there is an undeniable sense of momentum. We have never been clearer about the bank we want to be, and we have made significant progress over the past year in bringing this vision to life. Through our relentless commitment to excellence, we are changing the trajectory of Citi to close the gap with our competitors and deliver a new era of success for all our stakeholders.

Sincerely,



Jane Fraser
Chief Executive Officer, Citigroup Inc.

[1] RoTCE and tangible book value per share are non-GAAP financial measures. For more information, see page 40 of Citi's 2022 Form 10-K.
[2] Citi's binding CET1 Capital ratio was derived under the Basel III Standardized Approach as of December 31, 2022.
[3] Closed the sale of India and Vietnam consumer businesses in March 2023.

Confronting society's toughest challenges

Prioritized the safety of Citi colleagues in Ukraine
while supporting clients and relief organizations on the ground.

Mobilized over **$3 billion in emerging market social finance** activity, including access to finance, healthcare, digital connectivity, smallholder agriculture, reliable energy, water and sanitation.

Became the first major U.S. bank to set **a recruiting goal for LGBTQ+ candidates** from colleges and universities around the globe.

Advised the Egyptian government, in its role as COP27 president, on climate finance in Egypt and other developing countries.

Expanded the Citi Impact Fund to $500 million more than tripling our initial commitment to invest in private companies helping to address societal challenges.

Financed nearly **$6 billion in affordable housing** projects in the U.S.

Became the first major U.S. bank to **eliminate overdraft fees.**

Provided more than 2.5 million households, including nearly 1 million women, access to essential goods and services in emerging markets.

Became a founding member of the Biden administration's **Economic Opportunity Coalition** focused on addressing economic disparities in underserved communities.

Created a first-of-its-kind **diverse financial institutions group** to deepen our work with minority-owned firms.

Signed onto the **Sustainable Steel Principles,** the first framework for lenders to measure steel industry emissions.

Committed $50 million through the Citi Foundation to nonprofits supporting community finance initiatives throughout the U.S.

Volunteered over 115,000 hours across 84 countries and territories as part of Citi's Global Community Day.

Set 2030 emissions reductions targets for energy and power lending portfolios as part of Citi's net zero commitment.

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION

WASHINGTON, D.C. 20549

FORM 10-K

(Mark One)

☒ **ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the fiscal year ended December 31, 2022

OR

☐ **TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the transition period from to

Commission file number 1-9924

Citigroup Inc.

(Exact name of registrant as specified in its charter)

Delaware	**52-1568099**
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification No.)
388 Greenwich Street, New York NY	**10013**
(Address of principal executive offices)	(Zip code)

(212) 559-1000

(Registrant's telephone number, including area code)

Securities registered pursuant to Section 12(b) of the Securities Exchange Act of 1934 formatted in Inline XBRL: See Exhibit 99.01

Securities registered pursuant to Section 12(g) of the Act: none

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. Yes ☒ No ☐

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or 15(d) of the Act. Yes ☐ No ☒

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes ☒ No ☐

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). Yes ☒ No ☐

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company, or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company" and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer ☒	**Accelerated filer** ☐	**Non-accelerated filer** ☐	**Smaller reporting company** ☐
			Emerging growth company ☐

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act. Yes ☐

Indicate by check mark whether the Registrant has filed a report on and attestation to its management's assessment of the effectiveness of its internal control over financial reporting under Section 404(b) of the Sarbanes-Oxley Act (15 U.S.C. 7262(b)) by the registered public accounting firm that prepared or issued its audit report. ☒

If securities are registered pursuant to Section 12(b) of the Act, indicate by check mark whether the financial statements of the registrant included in the filing reflect the correction of an error to previously issued financial statements. ☐

Indicate by check mark whether any of those error corrections are restatements that required a recovery analysis of incentive-based compensation received by any of the registrant's executive officers during the relevant recovery period pursuant to §240.10D-1(b). ☐

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Act). Yes ☐ No ☒

The aggregate market value of Citigroup Inc. common stock held by non-affiliates of Citigroup Inc. on June 30, 2022 was approximately $88.9 billion.

Number of shares of Citigroup Inc. common stock outstanding on January 31, 2023: 1,943,712,436

Documents Incorporated by Reference: Portions of the registrant's proxy statement for the annual meeting of stockholders scheduled to be held on April 25, 2023 are incorporated by reference in this Form 10-K in response to Items 10, 11, 12, 13 and 14 of Part III.

Available on the web at www.citigroup.com

FORM 10-K CROSS-REFERENCE INDEX

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* For additional information regarding Citigroup's Directors, see "Corporate Governance" and "Proposal 1: Election of Directors" in the definitive Proxy Statement for Citigroup's Annual Meeting of Stockholders scheduled to be held on April 25, 2023, to be filed with the SEC (the Proxy Statement), incorporated herein by reference.

** See "Compensation Discussion and Analysis," "The Personnel and Compensation Committee Report," and "2022 Summary Compensation Table and Compensation Information" and "CEO Pay Ratio" in the Proxy Statement, incorporated herein by reference, other than disclosure under the heading "Pay versus Performance" information responsive to Item 402(v) of Regulation S-K of SEC rules.

*** See "About the Annual Meeting," "Stock Ownership," and "Equity Compensation Plan Information" in the Proxy Statement, incorporated herein by reference.

**** See "Corporate Governance—Director Independence," "—Certain Transactions and Relationships, Compensation Committee Interlocks and Insider Participation" and "—Indebtedness" in the Proxy Statement, incorporated herein by reference.

***** See "Proposal 2: Ratification of Selection of Independent Registered Public Accountants" in the Proxy Statement, incorporated herein by reference.

CITIGROUP'S 2022 ANNUAL REPORT ON FORM 10-K

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OVERVIEW

Citigroup's history dates back to the founding of the City Bank of New York in 1812.

Citigroup is a global diversified financial services holding company whose businesses provide consumers, corporations, governments and institutions with a broad, yet focused, range of financial products and services, including consumer banking and credit, corporate and investment banking, securities brokerage, trade and securities services and wealth management. Citi has approximately 200 million customer accounts and does business in nearly 160 countries and jurisdictions.

At December 31, 2022, Citi had approximately 240,000 full-time employees, compared to approximately 223,400 full-time employees at December 31, 2021. For additional information, see "Human Capital Resources and Management" below.

Throughout this report, "Citigroup," "Citi" and "the Company" refer to Citigroup Inc. and its consolidated subsidiaries. For a list of certain terms and acronyms used herein, see "Glossary of Terms and Acronyms" at the end of this report. All "Note" references correspond to the Notes to the Consolidated Financial Statements.

Additional Information

Additional information about Citigroup is available on Citi's website at www.citigroup.com. Citigroup's recent annual reports on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K and proxy statements, as well as other filings with the U.S. Securities and Exchange Commission (SEC) are available free of charge through Citi's website by clicking on the "Investors" tab and selecting "SEC Filings." The SEC's website also contains these filings and other information regarding Citi at www.sec.gov.

For a discussion of 2021 versus 2020 results of operations of *Institutional Clients Group (ICG)*, *Personal Banking and Wealth Management (PBWM)*, *Legacy Franchises* and *Corporate/Other*, see each respective business's results of operations in Citigroup's Annual Report on Form 10-K for the year ended December 31, 2021 and its Current Report on Form 8-K dated May 10, 2022 (as amended by a Current Report on Form 8-K/A dated May 10, 2022) (collectively referred to as Citigroup's 2021 Annual Report on Form 10-K).

Certain reclassifications have been made to the prior periods' financial statements and disclosures to conform to the current period's presentation.

Please see "Risk Factors" below for a discussion of material risks and uncertainties that could impact Citi's businesses, results of operations and financial condition.

Non-GAAP Financial Measures

Citi prepares its financial statements in accordance with U.S. GAAP and also presents certain non-GAAP financial measures (non-GAAP measures) that exclude certain items or otherwise include components that differ from the most directly comparable measures calculated in accordance with U.S. GAAP. Non-GAAP measures are provided as additional useful information to assess Citi's financial condition and results of operations (including period-to-period operating performance). These non-GAAP measures are not intended as a substitute for GAAP financial measures and may not be defined or calculated the same way as non-GAAP measures with similar names used by other companies. For more information, including the reconciliation of these non-GAAP financial measures to their corresponding GAAP financial measures, see the respective sections where the measures are presented and described and the "Glossary of Terms and Acronyms" below.

Citigroup is managed pursuant to three operating segments: *Institutional Clients Group*, *Personal Banking and Wealth Management* and *Legacy Franchises*. Activities not assigned to the operating segments are included in *Corporate/Other*.

Citigroup Operating Segments

Institutional Clients Group (ICG)

- **Services**
  - Treasury and trade solutions (TTS)
  - Securities services
- **Markets**
  - Equity markets
  - Fixed income markets
- **Banking**
  - Investment banking
  - Corporate lending

Personal Banking and Wealth Management (PBWM)

- **U.S. Personal Banking**
  - Cards
    - Branded cards
    - Retail services
  - Retail banking
- **Global Wealth Management (Global Wealth)**
  - Private bank
  - Wealth at Work
  - Citigold

Legacy Franchises

- **Asia Consumer Banking (Asia Consumer)**
  - Retail banking and cards for the remaining 8 exit markets (China, India, Indonesia, Korea, Poland, Russia, Taiwan and Vietnam)
- **Mexico Consumer Banking (Mexico Consumer)** and **Mexico Small Business and Middle-Market Banking (Mexico SBMM)**
  - Retail banking and cards
- **Legacy Holdings Assets**
  - Certain North America consumer mortgage loans
  - Other legacy assets

Corporate/Other

- **Corporate Treasury managed portfolios**
- **Operations and technology**
- **Global staff functions and other corporate expenses**
- **Discontinued operations**

The following are the four regions in which Citigroup operates. The regional results are fully reflected in the operating segments and *Corporate/Other* above.

Citigroup Regions[(1)]

- North America
- Europe, Middle East and Africa (EMEA)
- Latin America
- Asia

(1) North America includes the U.S., Canada and Puerto Rico, Latin America includes Mexico and Asia includes Japan.

MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

EXECUTIVE SUMMARY

As described further throughout this Executive Summary, Citi demonstrated continued progress across the franchise during 2022:

- Citi's revenues increased 5% versus the prior year, including net gains on sales of Citi's Philippines and Thailand consumer banking businesses versus a loss on sale of Citi's Australia consumer banking business in the prior year. Excluding these divestiture-related impacts (see "2022 Results Summary" below), revenues increased 3%, driven by higher net interest income, partially offset by lower non-interest revenues.
- Citi's expenses increased 6% versus the prior year, including divestiture-related impacts in both the current and prior years. Excluding these divestiture-related impacts (see "2022 Results Summary" below), expenses increased 8%, driven by continued investments in Citi's transformation, business-led investments and volume-related expenses, as well as other risk and control investments and inflation, all partially offset by productivity savings, the impact of foreign exchange translation and the expense reduction from the closure of five exit markets (see also "Expenses" below).
- Citi's cost of credit was $5.2 billion, versus $(3.8) billion in the prior year, largely reflecting a net build of $1.2 billion in the allowance for credit losses (ACL) for loans and unfunded commitments, primarily due to consumer loan growth and a deterioration in macroeconomic assumptions, compared to a net ACL release of $8.8 billion in the prior year.
- Citi returned $7.3 billion to common shareholders in the form of dividends and share repurchases.
- Citi's Common Equity Tier 1 (CET1) Capital ratio increased to 13.0% as of December 31, 2022, compared to 12.2% as of December 31, 2021 (for additional information, see "Capital Resources" below). Citi's required regulatory CET1 Capital ratio was 12.0% as of January 1, 2023, under the Basel III Standardized Approach.
- Citi made substantial progress on its consumer banking business divestitures in 2022, closing sales in five exit markets and working toward closing four additional sale transactions, as well as progressing with the ongoing wind-downs of the Korea consumer banking business and Russia consumer, local commercial and institutional businesses.

2022 Results Summary

Citigroup

Citigroup reported net income of $14.8 billion, or $7.00 per share, compared to net income of $22.0 billion, or $10.14 per share in the prior year. The decrease in net income was primarily driven by the higher cost of credit, resulting from loan growth in *Personal Banking and Wealth Management (PBWM)* and a deterioration in macroeconomic assumptions, and the higher operating expenses, partially offset by the higher revenues. Citigroup's effective tax rate was 19.4% in the current year versus 19.8% in the prior year. Earnings per share (EPS) decreased 31%, reflecting the decrease in net income, partially offset by a 4% decline in average diluted shares outstanding.

As discussed above, results for 2022 included divestiture-related impacts of approximately $(184) million in after-tax earnings, substantially all of which were recorded in *Legacy Franchises* (for additional information, see discussion below). Collectively, divestiture-related impacts had a $0.09 negative impact on EPS. This compares to divestiture-related negative impacts on EPS of $0.80 in 2021. (As used throughout this Form 10-K, Citi's results of operations and financial condition excluding the divestiture-related impacts are non-GAAP financial measures. Citi believes the presentation of its results of operations and financial condition excluding the divestiture-related impacts described above provides a meaningful depiction of the underlying fundamentals of its broader results and *Legacy Franchises*' results for investors, industry analysts and others.)

Results for 2022 included pretax divestiture-related impacts of approximately $82 million (approximately $(184) million after-tax), substantially all of which were recorded in *Legacy Franchises*, primarily consisting of the following:

- Approximately $618 million Philippines gain on sale recorded in revenues
- Approximately $209 million Thailand gain on sale recorded in revenues
- Approximately $(64) million incremental Australia consumer business loss on sale recorded in revenues
- Approximately $535 million goodwill impairment recorded in expenses due to re-segmentation and timing of divestitures
- Approximately $161 million of aggregate divestiture-related costs

Results for 2021 included pretax divestiture-related impacts of $(1.9) billion (approximately $(1.6) billion after-tax) in *Legacy Franchises*, which primarily consisted of the following:

- Approximately $(694) million Australia loss on sale recorded in revenues
- Approximately $1.1 billion related to charges incurred from the voluntary early retirement program (VERP) in connection with the wind-down of the Korea consumer banking business recorded in expenses
- Contract modification costs related to the Asia divestitures of $119 million

Citigroup revenues of $75.3 billion increased 5% versus the prior year. Excluding the divestiture-related impacts, revenues were up 3%, as the impact of higher interest rates across businesses and strong loan growth in *PBWM* were partially offset by declines in Banking in *Institutional Clients*

Group (ICG) and Asia investment product revenue in Global Wealth Management (Global Wealth), as well as the reduction in revenues from the closure of five exit markets and ongoing wind-downs.

Citigroup's end-of-period loans were $657 billion, down 2% versus the prior year, largely driven by *Legacy Franchises* and the impact of foreign exchange translation. The decline in *Legacy Franchises* primarily reflected the reclassification of loans to *Other assets* to reflect held-for-sale (HFS) accounting, as a result of the signing of sale agreements for consumer banking businesses in Asia Consumer Banking (Asia Consumer), as well as the impact of the ongoing Korea and Russia wind-downs.

Citigroup's end-of-period deposits were $1.4 trillion, up 4% versus the prior year, largely driven by Treasury and trade solutions in *ICG*, partially offset by the impact of foreign exchange translation.

Expenses

Citigroup's operating expenses of $51.3 billion increased 6% in 2022. Reported expenses included divestiture-related impacts of approximately $696 million in the current year and approximately $1.2 billion in the prior year, substantially all of which were recorded in *Legacy Franchises*. Excluding these divestiture-related impacts, expenses increased 8% versus the prior year, largely driven by the following:

- Approximately 2% by transformation investments, with about two-thirds related to the risk, controls, data and finance programs (approximately 25% of the program investments were related to technology).
- Approximately 1% by business-led investments, as Citi continues to hire commercial and investment bankers, as well as client advisors in Global Wealth, and continues to invest in client experience, front-office platforms and onboarding.
- Approximately 1% by higher volume-related expenses across both *PBWM* and *ICG*.
- Approximately 3% by other risk and control investments and inflation, partially offset by a Revlon-related wire transfer recovery, productivity savings, the impact of foreign exchange translation and the expense reduction from the exit markets.

Citi expects to incur higher expenses in 2023, primarily driven by transformation-related investments, volume-related expenses and inflation-related impacts.

Cost of Credit

Citi's total provisions for credit losses and for benefits and claims was a cost of $5.2 billion, compared to a benefit of $3.8 billion in the prior year. Results in 2022 included net credit losses of $3.8 billion versus $4.9 billion in the prior year. The higher cost of credit was driven by the net build of $1.2 billion in the ACL for loans and unfunded commitments, compared to a net ACL release of $8.8 billion in the prior year, partially offset by the lower net credit losses. The net ACL build was primarily due to cards loan growth in *PBWM* and a deterioration in macroeconomic assumptions. For additional information on Citi's ACL, see "Significant Accounting Policies and Significant Estimates—Citi's Allowance for Credit Losses (ACL)" below.

Net credit losses of $3.8 billion decreased 23% from the prior year, largely driven by lower consumer net credit losses. Consumer net credit losses decreased 20% to $3.6 billion, reflecting low loss rates in the first half of 2022, followed by the ongoing normalization of losses toward pre-pandemic levels, particularly in Retail services cards business in *PBWM*. Corporate net credit losses decreased 54% to $178 million, largely driven by improvements in portfolio credit quality.

Citi expects to incur higher net credit losses in 2023, primarily driven by continued normalization toward pre-pandemic levels, particularly in the cards business in *PBWM*.

For additional information on Citi's consumer and corporate credit costs, see each respective business's results of operations and "Credit Risk" below.

Capital

Citigroup's CET1 Capital ratio was 13.0% as of December 31, 2022, compared to 12.2% as of December 31, 2021, based on the Basel III Standardized Approach for determining risk-weighted assets (RWA). The increase was primarily driven by net income, impacts from the closing of the Australia, Philippines and other Asia consumer banking business sales and business actions to reduce RWA, partially offset by the return of capital to common shareholders and interest rate impacts on Citigroup's investment portfolio. The increase in Citi's CET1 Capital ratio was also partially offset by the impact of adopting the Standardized Approach for Counterparty Credit Risk (SA-CCR) on January 1, 2022.

Citigroup's Supplementary Leverage ratio as of December 31, 2022 was 5.8%, compared to 5.7% as of December 31, 2021. The increase was driven by a decrease in Total Leverage Exposure, partly offset by lower Tier 1 Capital. For additional information on Citi's capital ratios and related components, see "Capital Resources" below.

Citi has continued to pause common share repurchases in order to absorb any temporary capital impacts related to any potential signing of a sale agreement for its Mexico Consumer and Small Business and Middle-Market Banking (Mexico Consumer/SBMM) business (for additional information, see "Macroeconomic and Other Risks and Uncertainties" and the capital return risk factor in "Risk Factors" below) and to continue to have ample capital to serve its clients.

Institutional Clients Group

ICG net income of $10.7 billion decreased 25%, driven by a net ACL release in the prior year, versus a net ACL build in the current year, and higher expenses, partially offset by higher revenues. *ICG* operating expenses of $26.3 billion increased 10%, primarily driven by continued investment in Citi's transformation, business-led investments and volume-related expenses, partially offset by a Revlon-related wire transfer recovery, the impact of foreign exchange translation and productivity savings.

ICG revenues of $41.2 billion increased 3% (including losses on loan hedges), as revenue growth in Services and Markets was partially offset by lower revenues in Banking. Results included a gain on loan hedges of $307 million,

compared with a loss on loan hedges of $140 million in the prior year.

Services revenues of $16.0 billion increased 27%. Treasury and trade solutions (TTS) revenues of $12.2 billion increased 32%, driven by 46% growth in net interest income and 10% growth in non-interest revenue. The strong performance in TTS was driven by the benefit of higher interest rates, as well as business actions, including balance sheet optimization and managing deposit pricing, deepening of relationships with existing clients and an increase in new clients across segments. Securities services revenues of $3.9 billion increased 15%, as net interest income increased 59%, driven by higher interest rates across currencies, as well as the impact of foreign exchange translation, partially offset by a 1% decrease in non-interest revenue due to the impact of lower global financial markets.

Markets revenues of $19.1 billion increased 7% versus the prior year, largely driven by Fixed income markets, partially offset by lower client activity levels in Equity markets, as well as business actions to reduce RWA. Fixed income markets revenues of $14.6 billion increased 13%, driven by strength in rates and currencies. Equity markets revenues of $4.6 billion were down 9%, largely reflecting reduced client activity in equity derivatives versus the prior year.

Banking revenues of $6.1 billion decreased 35%, including the gain on loan hedges in the current year and loss on loan hedges in the prior year. Excluding the gain and loss on loan hedges, Banking revenues of $5.8 billion decreased 39%, driven by lower revenues in Investment banking and Corporate lending. Investment banking revenues of $3.1 billion decreased 53%, as heightened macroeconomic uncertainty and volatility continued to impact client activity. Excluding the gain and loss on loan hedges, Corporate lending revenues decreased 8% versus the prior year, driven by the impact of foreign currency translation, higher cost of funds and higher hedging costs.

For additional information on the results of operations of *ICG* in 2022, see "*Institutional Clients Group*" below.

Personal Banking and Wealth Management

PBWM net income of $3.3 billion decreased 57% versus the prior year, largely driven by a net ACL release in the prior year versus a net ACL build in the current year, as well as higher expenses. *PBWM* operating expenses of $16.3 billion increased 11%, primarily driven by continued investments in Citi's transformation, other risk and control initiatives, volume-related expenses and business-led investments, partially offset by productivity savings.

PBWM revenues of $24.2 billion increased 4% versus the prior year, as net interest income growth, driven by strong loan growth across Branded cards and Retail services and higher interest rates, was partially offset by a decline in non-interest revenue, driven by lower investment product revenue in Global Wealth and higher partner payments in Retail services.

U.S. Personal Banking revenues of $16.8 billion increased 7% versus the prior year. Branded cards revenues of $8.9 billion increased 9%, driven by higher net interest income. In Branded cards, new account acquisitions increased 11%, card spend volumes increased 16% and average loans increased 11%. Retail services revenues of $5.5 billion increased 7%, driven by higher net interest income, partially offset by higher partner payments. Retail banking revenues of $2.5 billion were largely unchanged versus the prior year, as higher interest income and modest deposit growth were offset by lower mortgage revenues due to fewer mortgage originations.

Global Wealth revenues of $7.4 billion decreased 2% versus the prior year, as investment product revenue headwinds, particularly in Asia, more than offset net interest income growth from higher interest rates and higher loan and deposit volumes.

For additional information on the results of operations of *PBWM* in 2022, see "*Personal Banking and Wealth Management*" below.

Legacy Franchises

Legacy Franchises net loss of $12 million compared to net income of $1 million in the prior year, primarily driven by higher cost of credit, partially offset by lower expenses and higher revenues, primarily reflecting the Philippines and Thailand gains on sales in the current year and the Australia loss on sale in the prior year. *Legacy Franchises* expenses of $7.8 billion decreased 6%, largely driven by the absence of the Korea VERP charge in the prior year and the benefit from closing the five exit markets, partially offset by the $535 million goodwill impairment, an approximate $70 million impairment of long-lived assets related to the Russia consumer banking business and $156 million of other aggregate divestiture-related costs.

Legacy Franchises revenues of $8.5 billion increased 3% versus the prior year, primarily driven by the Philippines and Thailand gains on sale versus the Australia loss on sale in the prior year. Excluding these divestiture-related impacts, revenues decreased 15%, primarily driven by the reduction in revenues from the closings of the five exit markets, as well as the impact of the ongoing Korea and Russia wind-downs.

For additional information on the results of operations of *Legacy Franchises* in 2022, see "*Legacy Franchises*" below.

Corporate/Other

Corporate/Other net income was $879 million, compared to a net loss of $8 million in the prior year, reflecting higher revenue and lower expenses, partially offset by lower income tax benefits, as well as the second quarter of 2022 release of a CTA (cumulative translation adjustment) loss (net of hedges) from *Accumulated other comprehensive income (loss) (AOCI)* related to the substantial liquidation of a legacy U.K. consumer operation, recorded in discontinued operations. *Corporate/Other* operating expenses of $953 million decreased 31%, primarily driven by lower consulting expenses and the impact of certain legal settlements.

Corporate/Other revenues of $1.4 billion increased from $0.5 billion in the prior year, driven by higher net interest income, primarily from the investment portfolio, partially offset by lower non-interest revenue, primarily due to the absence of mark-to-market gains in the prior year as well as higher hedging costs.

For additional information on the results of operations of *Corporate/Other* in 2022, see "*Corporate/Other*" below.

Macroeconomic and Other Risks and Uncertainties

Various geopolitical and macroeconomic challenges and uncertainties continue to adversely impact economic conditions in the U.S. and globally. The U.S. and other countries have continued to experience significantly elevated levels of inflation, resulting in central banks implementing a series of interest rates increases, with additional increases expected in the near term. In addition to causing a humanitarian crisis, the war in Ukraine continues to disrupt energy and food markets. An economic rebound in China remains uncertain, due to the ongoing impacts from COVID-19, the amount of leverage in its economy and stress in the property sector. These and other factors have adversely affected financial markets, negatively impacted global economic growth rates, contributed to lower consumer confidence and increased the risk of recession in Europe, the U.S. and other countries. These and other factors could adversely affect Citi's customers, clients, businesses, funding costs, expenses and results during 2023.

In addition, Citi could incur a significant loss on sale in 2023, due to CTA losses (net of hedges) in *AOCI*, goodwill write-offs and other *AOCI* loss components, related to the potential signing of a sale agreement for any of its remaining consumer banking divestitures. The majority of these losses would be regulatory capital neutral at closing.

For a further discussion of trends, uncertainties and risks that will or could impact Citi's businesses, results of operations, capital and other financial condition during 2023, see "2022 Results Summary" above and "Risk Factors," each respective business's results of operations and "Managing Global Risk," including "Managing Global Risk—Other Risks —Country Risk—Russia," below.

CITI'S CONSENT ORDER COMPLIANCE

Citi has embarked on a multiyear transformation, with the target outcome to change Citi's business and operating models such that they simultaneously strengthen risk and controls and improve Citi's value to customers, clients and shareholders.

This includes efforts to effectively implement the October 2020 Federal Reserve Board (FRB) and Office of the Comptroller of the Currency (OCC) consent orders issued to Citigroup and Citibank, respectively. In the second quarter of 2021, Citi made an initial submission to the OCC, and submitted its plans to address the consent orders to both regulators during the third quarter of 2021. Citi continues to work constructively with the regulators and provides to both regulators on an ongoing basis additional information regarding its plans and progress. Citi will continue to reflect their feedback in its project plans and execution efforts.

As discussed above, Citi's efforts include continued investments in its transformation, including the remediation of its consent orders. Citi's CEO has made the strengthening of Citi's risk and control environment a strategic priority and has established a Chief Administrative Officer organization to centralize program management. In addition, the Citigroup and Citibank Boards of Directors each formed a Transformation Oversight Committee, an ad hoc committee of each Board, to provide oversight of management's remediation efforts under the consent orders. The Citi Board of Directors has determined that Citi's plans are responsive to the Company's objectives and that progress continues to be made on execution of the plans.

For additional information about the consent orders, see "Risk Factors—Compliance Risks" below and Citi's Current Report on Form 8-K filed with the SEC on October 7, 2020.

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RESULTS OF OPERATIONS

SUMMARY OF SELECTED FINANCIAL DATA

Citigroup Inc. and Consolidated Subsidiaries

In millions of dollars, except per share amounts	**2022**	2021	2020	2019	2018
Net interest income	**$ 48,668**	$ 42,494	$ 44,751	$ 48,128	$ 47,744
Non-interest revenue	**26,670**	29,390	30,750	26,939	26,292
Revenues, net of interest expense	**$ 75,338**	$ 71,884	$ 75,501	$ 75,067	$ 74,036
Operating expenses	**51,292**	48,193	44,374	42,783	43,023
Provisions for credit losses and for benefits and claims	**5,239**	(3,778)	17,495	8,383	7,568
Income from continuing operations before income taxes	**$ 18,807**	$ 27,469	$ 13,632	$ 23,901	$ 23,445
Income taxes	**3,642**	5,451	2,525	4,430	5,357
Income from continuing operations	**$ 15,165**	$ 22,018	$ 11,107	$ 19,471	$ 18,088
Income (loss) from discontinued operations, net of taxes	**(231)**	7	(20)	(4)	(8)
Net income before attribution of noncontrolling interests	**$ 14,934**	$ 22,025	$ 11,087	$ 19,467	$ 18,080
Net income attributable to noncontrolling interests	**89**	73	40	66	35
Citigroup's net income	**$ 14,845**	$ 21,952	$ 11,047	$ 19,401	$ 18,045
Earnings per share					
Basic					
Income from continuing operations	**$ 7.16**	$ 10.21	$ 4.75	$ 8.08	$ 6.69
Net income	**7.04**	10.21	4.74	8.08	6.69
Diluted					
Income from continuing operations	**$ 7.11**	$ 10.14	$ 4.73	$ 8.04	$ 6.69
Net income	**7.00**	10.14	4.72	8.04	6.68
Dividends declared per common share	**2.04**	2.04	2.04	1.92	1.54
Common dividends	**$ 4,028**	$ 4,196	$ 4,299	$ 4,403	$ 3,865
Preferred dividends[(1)]	**1,032**	1,040	1,095	1,109	1,174
Common share repurchases	**3,250**	7,600	2,925	17,875	14,545

Table continues on the next page, including footnotes.

SUMMARY OF SELECTED FINANCIAL DATA
(Continued)

Citigroup Inc. and Consolidated Subsidiaries

In millions of dollars, except per share amounts, ratios and direct staff	**2022**	2021	2020	2019	2018
At December 31:					
Total assets	**$ 2,416,676**	$ 2,291,413	$ 2,260,090	$ 1,951,158	$ 1,917,383
Total deposits	**1,365,954**	1,317,230	1,280,671	1,070,590	1,013,170
Long-term debt	**271,606**	254,374	271,686	248,760	231,999
Citigroup common stockholders' equity	**182,194**	182,977	179,962	175,262	177,760
Total Citigroup stockholders' equity	**201,189**	201,972	199,442	193,242	196,220
Average assets	**2,396,023**	2,347,709	2,226,454	1,978,805	1,920,242
Direct staff *(in thousands)*	**240**	223	210	200	204
Performance metrics					
Return on average assets	**0.62 %**	0.94 %	0.50 %	0.98 %	0.94 %
Return on average common stockholders' equity[2]	**7.7**	11.5	5.7	10.3	9.4
Return on average total stockholders' equity[2]	**7.5**	10.9	5.7	9.9	9.1
Return on tangible common equity (RoTCE)[3]	**8.9**	13.4	6.6	12.1	11.0
Efficiency ratio (total operating expenses/total revenues, net)	**68.1**	67.0	58.8	57.0	58.1
Basel III ratios					
CET1 Capital[4]	**13.03 %**	12.25 %	11.51 %	11.79 %	11.86 %
Tier 1 Capital[4]	**14.80**	13.91	13.06	13.33	13.43
Total Capital[4]	**15.46**	16.04	15.33	15.87	16.14
Supplementary Leverage ratio	**5.82**	5.73	6.99	6.20	6.40
Citigroup common stockholders' equity to assets	**7.54 %**	7.99 %	7.96 %	8.98 %	9.27 %
Total Citigroup stockholders' equity to assets	**8.33**	8.81	8.82	9.90	10.23
Dividend payout ratio[5]	**29**	20	43	24	23
Total payout ratio[6]	**53**	56	73	122	109
Book value per common share	**$ 94.06**	$ 92.21	$ 86.43	$ 82.90	$ 75.05
Tangible book value (TBV) per share[3]	**81.65**	79.16	73.67	70.39	63.79

(1) Certain series of preferred stock have semiannual payment dates. See Note 21.

(2) The return on average common stockholders' equity is calculated using net income less preferred stock dividends divided by average common stockholders' equity. The return on average total Citigroup stockholders' equity is calculated using net income divided by average Citigroup stockholders' equity.

(3) RoTCE and TBV are non-GAAP financial measures. For information on RoTCE and TBV, see "Capital Resources—Tangible Common Equity, Book Value Per Share, Tangible Book Value Per Share and Returns on Equity" below.

(4) Citi's binding CET1 Capital and Tier 1 Capital ratios were derived under the Basel III Standardized Approach as of December 31, 2022, 2021, 2019 and 2018, and were derived under the Basel III Advanced Approaches framework as of December 31, 2020. Citi's binding Total Capital ratio was derived under the Basel III Advanced Approaches framework for all periods presented.

(5) Dividends declared per common share as a percentage of net income per diluted share.

(6) Total common dividends declared plus common share repurchases as a percentage of net income available to common shareholders (*Net income* less preferred dividends). See "Consolidated Statement of Changes in Stockholders' Equity," Note 10 and "Equity Security Repurchases" below for the component details.

SEGMENT REVENUES AND INCOME (LOSS)

REVENUES

In millions of dollars	**2022**	2021	2020	**% Change 2022 vs. 2021**	% Change 2021 vs. 2020
Institutional Clients Group	**$ 41,206**	$ 39,836	$ 41,093	**3 %**	(3)%
Personal Banking and Wealth Management	**24,217**	23,327	25,140	**4**	(7)
Legacy Franchises	**8,472**	8,251	9,454	**3**	(13)
Corporate/Other	**1,443**	470	(186)	**NM**	NM
Total Citigroup net revenues	**$ 75,338**	$ 71,884	$ 75,501	**5 %**	(5)%

NM Not meaningful

INCOME

In millions of dollars	**2022**	2021	2020	**% Change 2022 vs. 2021**	% Change 2021 vs. 2020
Income (loss) from continuing operations					
Institutional Clients Group	**$ 10,738**	$ 14,308	$ 10,811	**(25)%**	32 %
Personal Banking and Wealth Management	**3,319**	7,734	1,322	**(57)**	NM
Legacy Franchises	**(9)**	(9)	(142)	**—**	94
Corporate/Other	**1,117**	(15)	(884)	**NM**	98
Income from continuing operations	**$ 15,165**	$ 22,018	$ 11,107	**(31)%**	98 %
Discontinued operations	**$ (231)**	$ 7	$ (20)	**NM**	NM
Less: Net income attributable to noncontrolling interests	**89**	73	40	**22 %**	83 %
Citigroup's net income	**$ 14,845**	$ 21,952	$ 11,047	**(32)%**	99 %

NM Not meaningful

SEGMENT BALANCE SHEET[1]—DECEMBER 31, 2022

In millions of dollars	Institutional Clients Group	Personal Banking and Wealth Management	Legacy Franchises	Corporate/Other and consolidating eliminations[2]	Citigroup parent company-issued long-term debt and stockholders' equity[3]	Total Citigroup consolidated
Assets						
Cash and deposits with banks, net of allowance	**$ 108,289**	**$ 6,411**	**$ 3,251**	**$ 224,074**	**$ —**	**$ 342,025**
Securities borrowed and purchased under agreements to resell, net of allowance	**364,673**	**425**	**303**	**—**	**—**	**365,401**
Trading account assets	**319,376**	**2,250**	**639**	**11,849**	**—**	**334,114**
Investments, net of allowance	**140,613**	**73**	**1,516**	**384,380**	**—**	**526,582**
Loans, net of unearned income and allowance for credit losses on loans	**279,337**	**324,260**	**36,650**	**—**	**—**	**640,247**
Other assets, net of allowance	**111,477**	**25,559**	**27,764**	**43,507**	**—**	**208,307**
Net intersegment liquid assets[4]	**406,143**	**134,852**	**26,592**	**(567,587)**	**—**	**—**
Total assets	**$ 1,729,908**	**$ 493,830**	**$ 96,715**	**$ 96,223**	**$ —**	**$ 2,416,676**
Liabilities and equity						
Total deposits	**$ 845,364**	**$ 437,813**	**$ 50,994**	**$ 31,783**	**$ —**	**$ 1,365,954**
Securities loaned and sold under agreements to repurchase	**199,895**	**80**	**2,469**	**—**	**—**	**202,444**
Trading account liabilities	**168,550**	**1,636**	**258**	**203**	**—**	**170,647**
Short-term borrowings	**34,785**	**2**	**4**	**12,305**	**—**	**47,096**
Long-term debt[3]	**93,219**	**189**	**75**	**11,866**	**166,257**	**271,606**
Other liabilities	**99,353**	**14,514**	**27,868**	**15,356**	**—**	**157,091**
Net intersegment funding (lending)[3]	**288,742**	**39,596**	**15,047**	**24,061**	**(367,446)**	**—**
Total liabilities	**$ 1,729,908**	**$ 493,830**	**$ 96,715**	**$ 95,574**	**$ (201,189)**	**$ 2,214,838**
Total stockholders' equity[5]	**—**	**—**	**—**	**649**	**201,189**	**201,838**
Total liabilities and equity	**$ 1,729,908**	**$ 493,830**	**$ 96,715**	**$ 96,223**	**$ —**	**$ 2,416,676**

(1) The supplemental information presented in the table above reflects Citigroup's consolidated GAAP balance sheet by reportable segment and component. The respective segment information depicts the assets and liabilities managed by each segment.

(2) Consolidating eliminations for total Citigroup and Citigroup parent company assets and liabilities are recorded within *Corporate/Other.*

(3) Total stockholders' equity and the majority of long-term debt of Citigroup are reflected on the Citigroup parent company balance sheet (see Notes 18 and 30). Citigroup allocates stockholders' equity and long-term debt to its businesses through intersegment allocations as shown above.

(4) Represents the attribution of Citigroup's liquid assets (primarily consisting of cash, marketable equity securities and available-for-sale debt securities) to the various businesses based on Liquidity Coverage ratio (LCR) assumptions.

(5) *Corporate/Other* equity represents noncontrolling interests.

INSTITUTIONAL CLIENTS GROUP

Institutional Clients Group (ICG) includes Services, Markets and Banking (for additional information on these businesses, see "Citigroup Operating Segments" above). *ICG* provides corporate, institutional and public sector clients around the world with a full range of wholesale banking products and services, including fixed income and equity sales and trading, foreign exchange, prime brokerage, derivative services, equity and fixed income research, corporate lending, investment banking and advisory services, cash management, trade finance and securities services. *ICG* transacts with clients in both cash instruments and derivatives, including fixed income, foreign currency, equity and commodity products.

ICG's revenue is generated primarily from fees and spreads associated with these activities. *ICG* earns fee income for assisting clients with transactional services and clearing and providing brokerage and investment banking services and other such activities. Such fees are recognized at the point in time when Citigroup's performance under the terms of a contractual arrangement is completed, which is typically at the trade/execution date or closing of a transaction. Revenue generated from these activities is recorded in *Commissions and fees* and *Investment banking fees*. Revenue is also generated from assets under custody and administration, which is recognized as/when the associated promised service is satisfied, which normally occurs at the point in time the service is requested by the customer and provided by Citi. Revenue generated from these activities is primarily recorded in *Administration and other fiduciary fees*. For additional information on these various types of revenues, see Note 5.

In addition, as a market maker, *ICG* facilitates transactions, including holding product inventory to meet client demand, and earns the differential between the price at which it buys and sells the products. These price differentials and the unrealized gains and losses on the inventory are recorded in *Principal transactions*. Mark-to-market gains and losses on certain credit derivatives (used to economically hedge the corporate loan portfolio) are also recorded in *Principal transactions* (for additional information on *Principal transactions* revenue, see Note 6). *Other* primarily includes realized gains and losses on available-for-sale (AFS) debt securities, gains and losses on equity securities not held in trading accounts and other non-recurring gains and losses. Interest income earned on assets held, less interest paid on long- and short-term debt, secured funding transactions and customers deposits, is recorded as *Net interest income.*

The amount and types of Markets revenues are impacted by a variety of interrelated factors, including market liquidity; changes in market variables such as interest rates, foreign exchange rates, equity prices, commodity prices and credit spreads, as well as their implied volatilities; investor confidence and other macroeconomic conditions. Assuming all other market conditions do not change, increases in client activity levels or bid/offer spreads generally result in increases in revenues. However, changes in market conditions can significantly impact client activity levels, bid/offer spreads and the fair value of product inventory. For example, a decrease in market liquidity may increase bid/offer spreads, decrease client activity levels and widen credit spreads on product inventory positions. *ICG*'s management of the Markets businesses involves daily monitoring and evaluation of the above factors at the trading desk as well as the country level.

In the Markets businesses, client revenues are those revenues directly attributable to client transactions at the time of inception, including commissions, interest or fees earned. Client revenues do not include the results of client facilitation activities (e.g., holding product inventory in anticipation of client demand) or the results of certain economic hedging activities.

ICG's international presence is supported by trading floors in approximately 80 countries and a proprietary network in 95 countries and jurisdictions. As previously disclosed, Citi intends to end nearly all of the institutional banking services it offers in Russia by the end of the first quarter of 2023. Going forward, Citi's only operations in Russia will be those necessary to fulfill its remaining legal and regulatory obligations. At this time, the estimated cost to be incurred in relation to this action is approximately $80 million (excluding the impact from any portfolio sales), primarily through 2024. For additional information about Citi's continued efforts to reduce its operations and exposure in Russia, see "*Legacy Franchises*" and "Managing Global Risk—Other Risks—Country Risk—Russia" below.

At December 31, 2022, *ICG* had $1.7 trillion in assets and $845 billion in deposits. Securities services managed $22.2 trillion in assets under custody and administration at December 31, 2022, of which Citi provided both custody and administrative services to certain clients related to $1.9 trillion of such assets. Managed assets under trust were $4.0 trillion at December 31, 2022. For additional information on these operations, see "Administration and Other Fiduciary Fees" in Note 5.

In millions of dollars, except as otherwise noted	**2022**	2021	2020	**% Change 2022 vs. 2021**	% Change 2021 vs. 2020
Commissions and fees	**$ 4,404**	$ 4,300	$ 3,961	**2 %**	9 %
Administration and other fiduciary fees	**2,684**	2,693	2,348	**—**	15
Investment banking fees[1]	**3,573**	6,709	4,982	**(47)**	35
Principal transactions	**13,633**	9,763	12,916	**40**	(24)
Other	**(999)**	1,372	1,136	**NM**	21
Total non-interest revenue	**$ 23,295**	$ 24,837	$ 25,343	**(6)%**	(2)%
Net interest income (including dividends)	**17,911**	14,999	15,750	**19**	(5)
Total revenues, net of interest expense	**$ 41,206**	$ 39,836	$ 41,093	**3 %**	(3)%
Total operating expenses[2]	**$ 26,299**	$ 23,949	$ 22,336	**10 %**	7 %

Net credit losses on loans	**$**	**152**	$	356	$	877	**(57)%**	(59)%
Credit reserve build (release) for loans		**478**		(2,093)		2,582	**NM**	NM
Provision (release) for credit losses on unfunded lending commitments		**187**		(753)		1,390	**NM**	NM
Provisions for credit losses on HTM debt securities and other assets		**94**		—		20	**—**	100
Provisions (releases) for credit losses	**$**	**911**	$	(2,490)	$	4,869	**NM**	NM
Income from continuing operations before taxes	**$**	**13,996**	$	18,377	$	13,888	**(24)%**	32 %
Income taxes		**3,258**		4,069		3,077	**(20)**	32
Income from continuing operations	**$**	**10,738**	$	14,308	$	10,811	**(25)%**	32 %
Noncontrolling interests		**79**		83		50	**(5)**	66
Net income	**$**	**10,659**	$	14,225	$	10,761	**(25)%**	32 %
Balance Sheet data *(in billions of dollars)*								
EOP assets	**$**	**1,730**	$	1,613	$	1,592	**7 %**	1 %
Average assets		**1,716**		1,669		1,566	**3**	7
Efficiency ratio		**64 %**		60 %		54 %		
Average loans by reporting unit *(in billions of dollars)*								
Services	**$**	**82**	$	75	$	70	**9 %**	7 %
Banking		**196**		196		217	**—**	(10)
Markets		**13**		16		11	**(19)**	45
Total	**$**	**291**	$	287	$	298	**1 %**	(4)%
Average deposits by reporting unit *(in billions of dollars)*								
TTS	**$**	**675**	$	670	$	646	**1 %**	4 %
Securities services		**133**		135		108	**(1)**	25
Services	**$**	**808**	$	805	$	754	**— %**	7 %
Markets and Banking		**22**		23		26	**(4)**	(12)
Total	**$**	**830**	$	828	$	780	**— %**	6 %

(1) Investment banking fees are substantially composed of underwriting and advisory revenues.
(2) 2020 includes an approximate $390 million operational loss related to certain legal matters. 2022 includes a Revlon-related wire transfer recovery.
NM Not meaningful

ICG Revenue Details

In millions of dollars		**2022**		2021		2020	**% Change 2022 vs. 2021**	% Change 2021 vs. 2020
Services								
Net interest income	**$**	**9,722**	$	6,595	$	7,581	**47 %**	(13)%
Non-interest revenue		**6,300**		5,987		5,165	**5**	16
Total Services revenues	**$**	**16,022**	$	12,582	$	12,746	**27 %**	(1)%
Net interest income	**$**	**8,306**	$	5,706	$	6,524	**46 %**	(13)%
Non-interest revenue		**3,857**		3,509		3,004	**10**	17
TTS revenues	**$**	**12,163**	$	9,215	$	9,528	**32 %**	(3)%
Net interest income	**$**	**1,416**	$	889	$	1,057	**59 %**	(16)%
Non-interest revenue		**2,443**		2,478		2,161	**(1)**	15
Securities services revenues	**$**	**3,859**	$	3,367	$	3,218	**15 %**	5 %
Markets								
Net interest income	**$**	**5,164**	$	5,161	$	5,182	**— %**	— %
Non-interest revenue		**13,949**		12,715		15,932	**10**	(20)
Total Markets revenues[1]	**$**	**19,113**	$	17,876	$	21,114	**7 %**	(15)%
Fixed income markets	**$**	**14,555**	$	12,880	$	17,040	**13 %**	(24)%
Equity markets		**4,558**		4,996		4,074	**(9)**	23
Total Markets revenues	**$**	**19,113**	$	17,876	$	21,114	**7 %**	(15)%
Rates and currencies	**$**	**11,743**	$	8,793	$	12,057	**34 %**	(27)%
Spread products / other fixed income		**2,812**		4,087		4,983	**(31)**	(18)
Total Fixed income markets revenues	**$**	**14,555**	$	12,880	$	17,040	**13 %**	(24)%
Banking								
Net interest income	**$**	**3,025**	$	3,243	$	2,987	**(7)%**	9 %
Non-interest revenue		**3,046**		6,135		4,246	**(50)**	44
Total Banking revenues	**$**	**6,071**	$	9,378	$	7,233	**(35)%**	30 %
Investment banking								
Advisory	**$**	**1,365**	$	1,796	$	1,010	**(24)%**	78 %
Equity underwriting		**611**		2,249		1,423	**(73)**	58
Debt underwriting		**1,133**		2,586		2,173	**(56)**	19
Total Investment banking revenues	**$**	**3,109**	$	6,631	$	4,606	**(53)%**	44 %
Corporate lending (excluding gains (losses) on loan hedges)[2]	**$**	**2,655**	$	2,887	$	2,686	**(8)%**	7 %
Total Banking revenues (excluding gains (losses) on loan hedges)[2]	**$**	**5,764**	$	9,518	$	7,292	**(39)%**	31 %
Gain (loss) on loan hedges[2]		**307**		(140)		(59)	**NM**	NM
Total Banking revenues (including gains (losses) on loan hedges)[2]	**$**	**6,071**	$	9,378	$	7,233	**(35)%**	30 %
Total *ICG* revenues, net of interest expense	**$**	**41,206**	$	39,836	$	41,093	**3 %**	(3)%

(1) Citi assesses its Markets business performance on a total revenue basis, as offsets may occur across revenue line items. For example, securities that generate *Net interest income* may be risk managed by derivatives that are recorded in *Principal transactions* revenue within *Non-interest revenue*. For a description of the composition of these revenue line items, see Notes 4, 5 and 6.

(2) Credit derivatives are used to economically hedge a portion of the corporate loan portfolio that includes both accrual loans and loans at fair value. Gain (loss) on loan hedges include the mark-to-market on the credit derivatives and the mark-to-market on the loans in the portfolio that are at fair value. The fixed premium costs of these hedges are netted against the corporate lending revenues to reflect the cost of credit protection. Citigroup's results of operations excluding the impact of gain (loss) on loan hedges are non-GAAP financial measures.

NM Not meaningful

The discussion of the results of operations for ICG below excludes (where noted) the impact of any gain (loss) on hedges of accrual loans, which are non-GAAP financial measures. For a reconciliation of these metrics to the reported results, see the table above.

2022 vs. 2021

Net income of $10.7 billion decreased 25%, primarily driven by substantially higher cost of credit and higher expenses, partially offset by higher revenues.

Revenues increased 3% (including gain (loss) on loan hedges), primarily reflecting higher Services and Markets revenues, partially offset by lower Banking revenues. Services revenues were up 27%, driven by higher revenues in both TTS and Securities services. Markets revenues were up 7%, primarily driven by higher Fixed income markets revenues, partially offset by lower Equity markets revenues and the impact of business actions taken to reduce RWA.

Banking revenues were down 35% (39% excluding the impact of gain (loss) on loan hedges), reflecting lower revenues in both Investment banking and Corporate lending.

Citi expects that revenues in its Markets and Investment banking businesses will continue to reflect the overall market environment during 2023.

Within Services:

- TTS revenues increased 32%, driven by 46% growth in net interest income and 10% growth in non-interest revenue, driven by deepening of existing client relations and gaining new clients across segments. The increase in net interest income was driven by both the cash and trade businesses, reflecting benefits from higher interest rates, balance sheet optimization, higher average deposits and higher average loans. Average deposits grew 1%, as volume growth was partially offset by the impact of foreign exchange translation. Average loans grew 11%, primarily driven by the strength in trade flows in Asia and Latin America, partially offset by loan sales in North America. Strong non-interest revenues growth across both cash and trade businesses reflected client engagement and growth from underlying drivers, including higher U.S. dollar clearing volumes (up 2%), cross-border flows (up 11%) and commercial card spend (up 49%).
- Securities services revenues increased 15%, primarily driven by an increase in net interest income, reflecting higher interest rates across currencies as well as the impact of foreign exchange translation. Non-interest revenues decreased 1%, due to the impact of foreign exchange translation and lower fees in the custody business tied to lower assets under custody and administration (decline of 7%), driven by declines in global financial markets. The decline in non-interest revenues was partially offset by continued elevated levels of corporate activity in issuer services and new client onboarding of $1.2 trillion in assets under custody and administration. Average deposits declined 7%, due to clients seeking higher rate alternatives.

Within Markets:

- Fixed income markets revenues increased 13%, driven by growth in rates and currencies across all regions, due to strong corporate and investor client engagement, partially offset by a decline in spread products, primarily driven by North America.
- Rates and currencies revenues increased 34%, reflecting increased market volatility, driven by rising interest rates and quantitative tightening, as central banks responded to elevated levels of inflation. Spread products and other fixed income revenues decreased 31%, due to continued lower client activity across spread products and a challenging credit market due to widening spreads for most of the year. The decline in spread products and other fixed income revenues was partially offset by strength in commodities, particularly with corporate clients, as the business assisted those clients in managing risk associated with the increased volatility.
- Equity markets revenues decreased 9%, driven by equity derivatives, primarily reflecting lower activity by both corporate and institutional clients compared to a strong prior year. The lower revenues also reflected a decline in equity cash, driven by lower client activity.

Within Banking:

- Investment banking revenues were down 53%, reflecting a significant decline in the overall market wallet and loss in wallet share, as heightened macroeconomic uncertainty and volatility continued to impact client activity. Advisory revenues decreased 24%, reflecting a decline in North America and EMEA, driven by the decline in the market wallet as well as loss in wallet share. Equity and debt underwriting revenues decreased 73% and 56% respectively, reflecting a decline in North America, EMEA and Asia and driven by the decline in the market wallet as well as wallet share loss. The decline in debt underwriting revenues also reflected markdowns on loan commitments and losses on loan sales.
- Corporate lending revenues increased 8%, including the impact of gain (loss) on loan hedges. Excluding the impact of gain (loss) on loan hedges, revenues decreased 8%, primarily driven by the impacts of foreign currency translation, higher cost of funds and higher hedging costs.

Expenses were up 10%, primarily driven by continued investment in Citi's transformation, business-led investments and volume-related expenses, partially offset by a Revlon-related wire transfer recovery, the impact of foreign exchange translation and productivity savings.

Provisions were $911 million, compared to a benefit of $2.5 billion in the prior year, driven by an ACL build, partially offset by lower net credit losses.

Net credit losses declined to $152 million, compared to $356 million in the prior year, driven by improvements in portfolio credit quality.

The ACL build was $759 million, compared to a release of $2.8 billion in the prior year. The ACL build was primarily driven by a deterioration in macroeconomic assumptions. For additional information on Citi's ACL, see "Significant Accounting Policies and Significant Estimates" below.

For additional information on *ICG*'s corporate credit portfolio, see "Managing Global Risk—Credit Risk—Corporate Credit" below.

For additional information on trends in *ICG*'s deposits and loans, see "Managing Global Risk—Liquidity Risk—Loans" and "—Deposits" below.

For additional information about trends, uncertainties and risks related to *ICG*'s future results, see "Executive Summary" above and "Risk Factors" and "Managing Global Risk—Other Risks—Country Risk—Argentina" and "—Russia" below.

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PERSONAL BANKING AND WEALTH MANAGEMENT

Personal Banking and Wealth Management (PBWM) consists of U.S. Personal Banking and Global Wealth Management (Global Wealth). U.S. Personal Banking includes Retail banking, which provides traditional banking services to retail and small business customers. U.S. Personal Banking's cards portfolio includes the following proprietary portfolios: Cash, Rewards and Value portfolios and co-branded cards (including, among others, American Airlines and Costco) within Branded cards, and co-brand and private label relationships (including, among others, The Home Depot, Best Buy, Sears and Macy's) within Retail services. Global Wealth includes Private bank, Wealth at Work and Citigold and provides financial services to clients from affluent to ultra-high-net-worth through banking, lending, mortgages, investment, custody and trust product offerings in 20 countries, including the U.S., Mexico and four wealth management centers: Singapore, Hong Kong, the UAE and London.

At December 31, 2022, U.S. Personal Banking had 654 retail bank branches concentrated in the six key metropolitan areas of New York, Chicago, Los Angeles, San Francisco, Miami and Washington, D.C. U.S. Personal Banking had $151 billion in outstanding credit card balances, $113 billion in deposits and $37 billion in retail banking loans.

At December 31, 2022, Global Wealth had $325 billion in deposits, $84 billion in mortgage loans, $61 billion in personal and small business loans and $5 billion in outstanding credit card balances.

In millions of dollars, except as otherwise noted	**2022**	2021	2020	**% Change 2022 vs. 2021**	% Change 2021 vs. 2020
Net interest income	**$ 22,656**	$ 20,646	$ 22,326	**10 %**	(8)%
Non-interest revenue	**1,561**	2,681	2,814	**(42)**	(5)
Total revenues, net of interest expense	**$ 24,217**	$ 23,327	$ 25,140	**4 %**	(7)%
Total operating expenses	**$ 16,258**	$ 14,610	$ 13,599	**11 %**	7 %
Net credit losses on loans	**$ 3,021**	$ 3,061	$ 5,229	**(1)%**	(41)%
Credit reserve build (release) for loans	**707**	(4,284)	4,613	**NM**	NM
Provision (release) for credit losses on unfunded lending commitments	**11**	(16)	26	**NM**	NM
Provisions for benefits and claims (PBC), and other assets	**15**	15	17	**—**	(12)
Provisions (release) for credit losses and PBC	**$ 3,754**	$ (1,224)	$ 9,885	**NM**	NM
Income from continuing operations before taxes	**$ 4,205**	$ 9,941	$ 1,656	**(58)%**	NM
Income taxes	**886**	2,207	334	**(60)**	NM
Income from continuing operations	**$ 3,319**	$ 7,734	$ 1,322	**(57)%**	NM
Noncontrolling interests	**—**	—	—	**—**	— %
Net income	**$ 3,319**	$ 7,734	$ 1,322	**(57)%**	NM
Balance Sheet data *(in billions of dollars)*					
EOP assets	**$ 494**	$ 464	$ 453	**6 %**	2 %
Average assets	**476**	467	454	**2**	3
Average loans	**321**	307	304	**5**	1
Average deposits	**435**	417	358	**4**	16
Efficiency ratio	**67 %**	63 %	54 %		
Net credit losses as a percentage of average loans	**0.94**	1.00	1.72		
Revenue by reporting unit and component					
Branded cards	**$ 8,892**	$ 8,190	$ 8,799	**9 %**	(7)%
Retail services	**5,450**	5,082	5,965	**7**	(15)
Retail banking	**2,501**	2,506	2,790	**—**	(10)
U.S. Personal Banking	**$ 16,843**	$ 15,778	$ 17,554	**7 %**	(10)%
Private bank	**$ 2,762**	$ 2,943	$ 2,882	**(6)%**	2 %
Wealth at Work	**730**	691	677	**6**	2
Citigold	**3,882**	3,915	4,027	**(1)**	(3)
Global Wealth	**$ 7,374**	$ 7,549	$ 7,586	**(2)%**	— %
Total	**$ 24,217**	$ 23,327	$ 25,140	**4 %**	(7)%

NM Not meaningful

2022 vs. 2021

Net income was $3.3 billion, compared to $7.7 billion in the prior year, reflecting significantly higher cost of credit and higher expenses, partially offset by higher revenues.

Revenues increased 4%, primarily due to higher net interest income, driven by strong loan growth in Branded cards and Retail services and higher interest rates. The increase was partially offset by lower non-interest revenue, reflecting lower investment product revenue in Global Wealth and higher partner payments in Retail services resulting from higher revenues.

U.S. Personal Banking revenues increased 7%, reflecting higher revenues in cards.

Cards revenues increased 8%. Branded cards revenues increased 9%, primarily driven by higher net interest income on higher loan balances. Branded cards new account acquisitions increased 11% and card spend volume increased 16%. Average loans increased 11%, reflecting the higher card spend volumes.

Retail services revenues increased 7%, primarily driven by higher net interest income on higher loan balances and lower payment rates, partially offset by the increase in partner payments. The increase in partner payments reflected higher income sharing as a result of higher revenues (for additional information on partner payments, see Note 5). Retail services credit card spend volume increased 8% and average loans increased 6%, reflecting the higher card spend volumes.

Retail banking revenues were largely unchanged, as the higher interest rates and modest deposit growth were offset by lower mortgage revenues due to fewer mortgage originations, driven by the higher interest rates. Average deposits increased 3%, largely reflecting higher levels of consumer liquidity in the first half of 2022.

Global Wealth revenues decreased 2%, reflecting investment product revenue headwinds, particularly in Asia, driven by overall market volatility, partially offset by net interest income growth, driven by higher interest rates and higher loan and deposit volumes. Average loans increased 2% and average deposits increased 5%. Client assets decreased 8%, primarily driven by declines in equity market valuations. Global Wealth advisors increased 4% during 2022. Private bank revenues decreased 6%, Citigold revenues decreased 1% and Wealth at Work revenues increased 6%.

Expenses increased 11%, primarily driven by continued investments in Citi's transformation, other risk and control initiatives, volume-related expenses and business-led investments, partially offset by productivity savings.

Provisions were $3.8 billion, compared to a benefit of $1.2 billion in the prior year, largely driven by a net ACL build. Net credit losses decreased 1%, driven by historically low loss rates experienced in the first half of 2022, followed by the ongoing normalization of losses toward pre-pandemic levels, particularly in Retail services (net credit losses up 7% to $1.3 billion). Branded cards net credit losses declined 17% to $1.4 billion.

The net ACL build was $0.7 billion, compared to a net release of $4.3 billion in the prior year, primarily driven by U.S. Cards loan growth and a deterioration in macroeconomic assumptions. For additional information on Citi's ACL, see "Significant Accounting Policies and Significant Estimates" below.

For additional information on U.S. Personal Banking's Retail banking, and its Branded cards and Retail services portfolios, see "Credit Risk—Consumer Credit" below.

For additional information about trends, uncertainties and risks related to *PBWM*'s future results, see "Executive Summary" above and "Risk Factors" below.

LEGACY FRANCHISES

As of December 31, 2022, *Legacy Franchises* included (i) Asia Consumer Banking (Asia Consumer), representing the consumer banking operations of the remaining eight Asia and EMEA exit countries; (ii) Mexico Consumer Banking (Mexico Consumer) and Mexico Small Business and Middle-Market Banking (Mexico SBMM), collectively Mexico Consumer/SBMM, which Citi also plans to exit; and (iii) Legacy Holdings Assets (certain North America consumer mortgage loans and other legacy assets). Asia Consumer provides traditional retail banking and branded card products to retail and small business customers. Mexico Consumer/SBMM provides traditional retail banking and branded card products to consumers and small business customers and traditional middle-market banking products and services to commercial customers through Citibanamex.

Legacy Franchises also included the following consumer banking businesses prior to their sale: Australia, until its closing on June 1, 2022; the Philippines, until its closing on August 1, 2022; Thailand and Malaysia, until their closings on November 1, 2022; and Bahrain, until its closing on December 1, 2022. In addition, Citi has entered into agreements to sell its consumer banking businesses in India, Indonesia, Taiwan and Vietnam, and announced its wind-down of consumer banking operations in Korea and China and consumer banking and local commercial banking operations in Russia (see below). In December 2022, Citi announced the pursuit of sales of portfolios within its China consumer banking business, subject to applicable regulations. See Note 2 for additional information on *Legacy Franchises*' consumer banking business sales and wind-downs.

As previously disclosed, Citi announced the wind-down of its consumer banking and local commercial banking operations in Russia, including its active pursuit of sales of certain Russia consumer banking portfolios. In connection with this wind-down plan, Citi expects to incur approximately $110 million in costs (excluding the impact from any portfolio sales), primarily through 2024, largely driven by restructuring, vendor termination fees and other related charges. In December 2022, Citi (i) sold a portfolio of ruble-denominated personal installment loans, totaling approximately $240 million in outstanding loan balances as of the fourth quarter of 2022 and (ii) entered into a referral agreement to settle a portfolio of ruble-denominated credit card loans, subject to customer consents; the outstanding card loans balance was approximately $219 million as of the fourth quarter of 2022. For additional information about Citi's continued efforts to reduce its operations and exposure in Russia, see "*Institutional Clients Group*" above and "Risk Factors" and "Managing Global Risk—Other Risks—Country Risk—Russia" below.

At December 31, 2022, on a combined basis, *Legacy Franchises* had 1,438 retail branches, $23 billion in retail banking loans and $51 billion in deposits. In addition, the businesses had $8 billion in outstanding card loan balances, and Mexico SBMM had $7 billion in outstanding corporate loan balances. These amounts exclude approximately $12 billion of loans ($9 billion of retail banking loans and $3 billion of credit card loan balances) and approximately $16 billion of deposits, all of which were reclassified to *Other assets* and *Other liabilities* held-for-sale (HFS) as a result of Citi's agreements to sell its consumer banking businesses in India, Indonesia, Taiwan and Vietnam. See Note 2 for additional information.

In millions of dollars, except as otherwise noted		**2022**		2021		2020	**% Change 2022 vs. 2021**	% Change 2021 vs. 2020
Net interest income	**$**	**5,691**	$	6,250	$	6,973	**(9)%**	(10)%
Non-interest revenue		**2,781**		2,001		2,481	**39**	(19)
Total revenues, net of interest expense	**$**	**8,472**	$	8,251	$	9,454	**3 %**	(13)%
Total operating expenses	**$**	**7,782**	$	8,259	$	6,890	**(6)%**	20 %
Net credit losses on loans	**$**	**616**	$	1,478	$	1,505	**(58)%**	(2)%
Credit reserve build (release) for loans		**(229)**		(1,621)		1,116	**86**	NM
Provision (release) for credit losses on unfunded lending commitments		**93**		(19)		30	**NM**	NM
Provisions for benefits and claims (PBC), HTM debt securities and other assets		**91**		100		88	**(9)**	14
Provisions (releases) for credit losses and PBC	**$**	**571**	$	(62)	$	2,739	**NM**	NM
Income (loss) from continuing operations before taxes	**$**	**119**	$	54	$	(175)	**NM**	NM
Income taxes		**128**		63		(33)	**NM**	NM
Income (loss) from continuing operations	**$**	**(9)**	$	(9)	$	(142)	**— %**	94 %
Noncontrolling interests		**3**		(10)		(6)	**NM**	(67)
Net income (loss)	**$**	**(12)**	$	1	$	(136)	**NM**	101 %
Balance Sheet data *(in billions of dollars)*								
EOP assets	**$**	**97**	$	125	$	131	**(22)%**	(5)%
Average assets		**110**		127		128	**(13)**	(1)
EOP loans		**38**		65		84	**(42)**	(23)
EOP deposits		**51**		76		90	**(33)**	(16)
Efficiency ratio		**92 %**		100 %		73 %		
Revenue by reporting unit and component								
Asia Consumer	**$**	**3,811**	$	3,405	$	4,311	**12 %**	(21)%
Mexico Consumer/SBMM		**4,751**		4,651		4,885	**2**	(5)
Legacy Holdings Assets		**(90)**		195		258	**NM**	(24)
Total	**$**	**8,472**	$	8,251	$	9,454	**3 %**	(13)%

NM Not meaningful

2022 vs. 2021

Net loss was $12 million, compared to net income of $1 million in the prior year, primarily driven by higher cost of credit, partially offset by lower expenses and higher revenues.

Results for 2022 included divestiture-related impacts of approximately $87 million (approximately $(180) million after-tax), which primarily consisted of (i) an approximate $618 million Philippines gain on sale recorded in revenues, (ii) an approximate $209 million Thailand gain on sale recorded in revenues, (iii) an approximate $(64) million incremental Australia consumer banking loss on sale recorded in revenues, (iv) an approximate $535 million goodwill impairment recorded in expenses and (v) an approximate $156 million of other aggregate divestiture-related costs.

Results for 2021 included divestiture-related impacts of approximately $(1.9) billion (approximately $(1.6) billion after-tax), which primarily consisted of (i) an approximate $(694) million Australia loss on sale recorded in revenues, (ii) an approximate $1.1 billion related to charges incurred from the voluntary early retirement program (VERP) in connection with the wind-down of the Korea consumer banking business recorded in expenses and (iii) contract modification costs related to the Asia divestitures of approximately $119 million recorded in expenses.

Revenues increased 3%, primarily driven by higher revenues in Asia Consumer and Mexico Consumer/SBMM, partially offset by lower Legacy Holdings Assets revenues.

Asia Consumer revenues increased 12%, primarily driven by the Philippines and Thailand gains on sale, versus the Australia loss on sale in the prior year, partially offset by the loss of revenues from the closing of the five exit markets and impacts of the ongoing Korea and Russia wind-downs.

Mexico Consumer/SBMM revenues increased 2%, as cards revenues in Mexico Consumer increased 7% and SBMM revenues increased 9%, primarily due to higher interest rates and higher deposit and loan growth. The increase in revenues was partially offset by a 1% decrease in retail banking revenues, primarily driven by lower fiduciary fees reflecting declines in equity market valuations.

Legacy Holdings Assets revenues of $(90) million decreased from $195 million in the prior year, largely driven by a CTA loss (net of hedges) recorded in *AOCI* in the second quarter of 2022, related to the substantial liquidation of a legacy U.K. consumer operation (for additional information, see "*Corporate/Other*" below and Note 2), as well as the continued wind-down of Legacy Holdings Assets.

Expenses decreased 6%, primarily driven by the absence of the $1.2 billion divestiture-related costs in the prior year, including the Korea VERP of approximately $1.1 billion and contract modification costs related to Asia divestiture markets of approximately $119 million, and the benefit from the closing of the five exit markets. The decline was partially offset by an approximate $535 million goodwill impairment in the first quarter of 2022, an approximate $70 million impairment of long-lived assets related to the Russia consumer banking business in the second quarter of 2022 and approximately $156 million of other aggregate divestiture-related costs.

Provisions were $571 million, compared to a benefit of $62 million in the prior year, primarily driven by a lower net ACL release, partially offset by lower net credit losses. Net credit losses decreased 58%, primarily reflecting improved delinquencies in both Asia Consumer and Mexico Consumer and the reclassification of loans and net credit losses to reflect HFS accounting as a result of the signing of sale agreements for the aforementioned consumer banking businesses in Asia Consumer.

The net ACL release was $136 million, compared to a net release of $1.6 billion in the prior year. The continued release primarily reflected further improvement in portfolio credit quality. For additional information on Citi's ACL, see "Significant Accounting Policies and Significant Estimates" below.

For additional information about trends, uncertainties and risks related to *Legacy Franchises*' future results, see "Executive Summary" above and "Risk Factors" and "Managing Global Risk—Other Risks—Country Risk—Russia" below.

CORPORATE/OTHER

Activities not assigned to the operating segments (*ICG*, *PBWM* and *Legacy Franchises*) are included in *Corporate/Other. Corporate/Other* included certain unallocated costs of global staff functions (including finance, risk, human resources, legal and compliance-related costs), other corporate expenses and unallocated global operations and technology expenses and income taxes, as well as results of Corporate Treasury investment activities and discontinued operations. At December 31, 2022, *Corporate/Other* had $96 billion in assets, primarily related to the investment securities.

In millions of dollars	**2022**	2021	2020	**% Change 2022 vs. 2021**	% Change 2021 vs. 2020
Net interest income	**$ 2,410**	$ 599	$ (298)	**NM**	NM
Non-interest revenue	**(967)**	(129)	112	**NM**	NM
Total revenues, net of interest expense	**$ 1,443**	$ 470	$ (186)	**NM**	NM
Total operating expenses	**$ 953**	$ 1,375	$ 1,549	**(31)%**	(11)%
Provisions (releases) for HTM debt securities and other assets	**$ 3**	$ (2)	$ 2	**NM**	NM
Income (loss) from continuing operations before taxes	**$ 487**	$ (903)	$ (1,737)	**NM**	48 %
Income taxes (benefits)	**(630)**	(888)	(853)	**29 %**	(4)
Income (loss) from continuing operations	**$ 1,117**	$ (15)	$ (884)	**NM**	98 %
Income (loss) from discontinued operations, net of taxes	**(231)**	7	(20)	**NM**	NM
Net income (loss) before attribution of noncontrolling interests	**$ 886**	$ (8)	$ (904)	**NM**	99 %
Noncontrolling interests	**7**	—	(4)	**— %**	100
Net income (loss)	**$ 879**	$ (8)	$ (900)	**NM**	99 %

NM Not meaningful

2022 vs. 2021

Net income was $879 million, compared to a net loss of $8 million in the prior year, reflecting higher revenues and lower expenses, partially offset by lower income tax benefits and a second quarter of 2022 release of a CTA loss (net of hedges) from *AOCI*, recorded in discontinued operations, related to the substantial liquidation of a U.K. consumer legacy operation (for additional information, see "*Legacy Franchises*" above and Note 2).

Revenues were $1.4 billion, compared to $470 million in the prior year, driven by higher net interest income, partially offset by lower non-interest revenue. The higher net interest income was primarily due to the investment portfolio driven by higher balances, higher interest rates and lower mortgage-backed securities prepayments, partially offset by higher cost of funds related to higher institutional certificates of deposit. The lower non-interest revenue was primarily due to the absence of mark-to-market gains in the prior year as well as higher hedging costs.

Expenses decreased 31%, primarily driven by lower consulting expenses and the impact of certain legal settlements.

For additional information about trends, uncertainties and risks related to *Corporate/Other*'s future results, see "Executive Summary" above and "Risk Factors" below.

CAPITAL RESOURCES

Overview

Capital is used principally to support assets in Citi's businesses and to absorb potential losses, including credit, market and operational losses. Citi primarily generates capital through earnings from its operating businesses. Citi may augment its capital through issuances of common stock and noncumulative perpetual preferred stock, among other issuances. Further, Citi's capital levels may also be affected by changes in accounting and regulatory standards, as well as the impact of future events on Citi's business results, such as the signing or closing of divestitures and changes in interest and foreign exchange rates.

During 2022, Citi returned a total of $7.3 billion of capital to common shareholders in the form of $4.0 billion in dividends and $3.3 billion in share repurchases totaling approximately 56 million common shares. Citi has continued to pause common share repurchases in order to absorb any temporary capital impacts related to any potential signing of a sale agreement for its Mexico Consumer and Small Business and Middle-Market Banking (Mexico Consumer/SBMM) business (for additional information, see "Executive Summary —Macroeconomic and Other Risks and Uncertainties" above) and to continue to have ample capital to serve its clients. For additional information on capital-related trends, uncertainties and risks related to Citi's exit businesses, including the impact of CTA losses, see "Executive Summary" above and "Risk Factors—Strategic Risks" and "—Operational Risks" below.

Capital Management

Citi's capital management framework is designed to ensure that Citigroup and its principal subsidiaries maintain sufficient capital consistent with each entity's respective risk profile, management targets and all applicable regulatory standards and guidelines. Citi assesses its capital adequacy against a series of internal quantitative capital goals, designed to evaluate its capital levels in expected and stressed economic environments. Underlying these internal quantitative capital goals are strategic capital considerations, centered on preserving and building financial strength.

The Citigroup Capital Committee, with oversight from the Risk Management Committee of Citigroup's Board of Directors, has responsibility for Citi's aggregate capital structure, including the capital assessment and planning process, which is integrated into Citi's capital plan. Balance sheet management, including oversight of capital adequacy, for Citigroup and its subsidiaries is governed by each entity's Asset and Liability Committee, where applicable.

For additional information regarding Citi's capital planning and stress testing exercises, see "Stress Testing Component of Capital Planning" below.

Current Regulatory Capital Standards

Citi is subject to regulatory capital rules issued by the Federal Reserve Board (FRB), in coordination with the OCC and FDIC, including the U.S. implementation of the Basel III rules (for information on potential changes to the Basel III rules, see "Basel III Revisions" below). These rules establish an integrated capital adequacy framework, encompassing both risk-based capital ratios and leverage ratios.

Risk-Based Capital Ratios

The U.S. Basel III rules set forth the composition of regulatory capital (including the application of regulatory capital adjustments and deductions), as well as two comprehensive methodologies (a Standardized Approach and Advanced Approaches) for measuring total risk-weighted assets.

Total risk-weighted assets under the Standardized Approach include credit and market risk-weighted assets, which are generally prescribed supervisory risk weights. Total risk-weighted assets under the Advanced Approaches, which are primarily model based, include credit, market and operational risk-weighted assets. As a result, credit risk-weighted assets calculated under the Advanced Approaches are more risk sensitive than those calculated under the Standardized Approach. Market risk-weighted assets are currently calculated on a generally consistent basis under both the Standardized and Advanced Approaches. The Standardized Approach does not include operational risk-weighted assets.

Under the U.S. Basel III rules, Citigroup is required to maintain several regulatory capital buffers above the stated minimum capital requirements to avoid certain limitations on capital distributions and discretionary bonus payments to executive officers. Accordingly, for the fourth quarter of 2022, Citigroup's required regulatory CET1 Capital ratio was 11.5% under the Standardized Approach (incorporating its Stress Capital Buffer of 4.0% and GSIB (global systemically important bank) surcharge of 3.0%) and 10.0% under the Advanced Approaches (inclusive of the fixed 2.5% Capital Conservation Buffer and GSIB surcharge of 3.0%).

In addition, commencing January 1, 2023, Citi's GSIB surcharge increased from 3.0% to 3.5%, which is applicable to both the Standardized and Advanced Approaches, resulting in a required CET1 Capital ratio of 12.0% under the Standardized Approach and 10.5% under the Advanced Approaches, both as of such date (for additional information, see "*GSIB Surcharge*" below).

Similarly, Citigroup's primary subsidiary, Citibank, N.A. (Citibank), is required to maintain minimum regulatory capital ratios plus applicable regulatory buffers, as well as hold sufficient capital to be considered "well capitalized" under the Prompt Corrective Action framework. In effect, Citibank's required CET1 Capital ratio was 7.0% under both the Standardized and Advanced Approaches, which is the sum of the minimum 4.5% CET1 requirement and a fixed 2.5% Capital Conservation Buffer. For additional information, see "Regulatory Capital Buffers" and "Prompt Corrective Action Framework" below.

Further, the U.S. Basel III rules implement the "capital floor provision" of the Dodd-Frank Act (the so-called "Collins Amendment"), which requires banking organizations to calculate "generally applicable" capital requirements. As a result, Citi must calculate each of the three risk-based capital ratios (CET1 Capital, Tier 1 Capital and Total Capital) under both the Standardized Approach and the Advanced Approaches and comply with the more binding of each of the resulting risk-based capital ratios.

Tier 1 Leverage Ratio

Under the U.S. Basel III rules, Citigroup is also required to maintain a minimum Tier 1 Leverage ratio of 4.0%. Similarly, Citibank is required to maintain a minimum Tier 1 Leverage ratio of 5.0% to be considered "well capitalized" under the Prompt Corrective Action framework. The Tier 1 Leverage ratio, a non-risk-based measure of capital adequacy, is defined as Tier 1 Capital as a percentage of quarterly adjusted average total assets less amounts deducted from Tier 1 Capital.

Supplementary Leverage Ratio

Citi is also required to calculate a Supplementary Leverage ratio (SLR), which differs from the Tier 1 Leverage ratio by including certain off-balance sheet exposures within the denominator of the ratio (Total Leverage Exposure). The SLR represents end-of-period Tier 1 Capital to Total Leverage Exposure. Total Leverage Exposure is defined as the sum of (i) the daily average of on-balance sheet assets for the quarter and (ii) the average of certain off-balance sheet exposures calculated as of the last day of each month in the quarter, less applicable Tier 1 Capital deductions. Advanced Approaches banking organizations are required to maintain a stated minimum SLR of 3.0%.

Further, U.S. GSIBs, including Citigroup, are subject to a 2.0% leverage buffer in addition to the 3.0% stated minimum SLR requirement, resulting in a 5.0% SLR. If a U.S. GSIB fails to exceed this requirement, it will be subject to increasingly stringent restrictions (depending upon the extent of the shortfall) on capital distributions and discretionary executive bonus payments.

Similarly, Citibank is required to maintain a minimum SLR of 6.0% to be considered "well capitalized" under the Prompt Corrective Action framework.

Regulatory Capital Treatment—Modified Transition of the Current Expected Credit Losses Methodology

In 2020, the U.S. banking agencies issued a final rule that modified the regulatory capital transition provision related to the current expected credit losses (CECL) methodology. The rule does not have any impact on U.S. GAAP accounting.

The rule permitted banks to delay for two years the "Day One" adverse regulatory capital effects resulting from adoption of the CECL methodology on January 1, 2020 until January 1, 2022, followed by a three-year transition to phase out the regulatory capital benefit provided by the delay.

In addition, for the ongoing impact of CECL, the agencies utilized a 25% scaling factor as an approximation of the increased reserve build under CECL compared to the previous incurred loss model and, therefore, allowed banks to add back to CET1 Capital an amount equal to 25% of the change in CECL-based allowances in each quarter between January 1, 2020 and December 31, 2021. Beginning January 1, 2022, the cumulative 25% change in CECL-based allowances between January 1, 2020 and December 31, 2021 started to be phased in to regulatory capital (i) at 25% per year on January 1 of each year over the three-year transition period and (ii) along with the delayed Day One impact.

Citigroup and Citibank elected the modified CECL transition provision provided by the rule. Accordingly, the Day One regulatory capital effects resulting from adoption of the CECL methodology, as well as the ongoing adjustments for 25% of the change in CECL-based allowances in each quarter between January 1, 2020 and December 31, 2021, started to be phased in on January 1, 2022 and will be fully reflected in Citi's regulatory capital as of January 1, 2025.

As of December 31, 2022, Citigroup's reported CET1 Capital ratio of 13.0% benefited from the deferrals of the CECL transition provision by 24 basis points. For additional information on Citigroup's and Citibank's regulatory capital ratios excluding the impact of the CECL transition provision, see "Capital Resources (Full Adoption of CECL)" below.

Regulatory Capital Buffers

Citigroup and Citibank are required to maintain several regulatory capital buffers above the stated minimum capital requirements. These capital buffers would be available to absorb losses in advance of any potential impairment of regulatory capital below the stated minimum regulatory capital ratio requirements.

Banking organizations that fall below their regulatory capital buffers are subject to limitations on capital distributions and discretionary bonus payments to executive officers based on a percentage of "Eligible Retained Income" (ERI), with increasing restrictions based upon the severity of the breach. ERI is equal to the greater of (i) the bank's net income for the four calendar quarters preceding the current calendar quarter, net of any distributions and tax effects not already reflected in net income, and (ii) the average of the bank's net income for the four calendar quarters preceding the current calendar quarter.

As of December 31, 2022, Citi's regulatory capital ratios exceeded the regulatory capital requirements. Accordingly, Citi is not subject to payout limitations as a result of the U.S. Basel III requirements.

Stress Capital Buffer

Citigroup is subject to the FRB's Stress Capital Buffer (SCB) rule, which integrates the annual stress testing requirements with ongoing regulatory capital requirements. The SCB equals the peak-to-trough CET1 Capital ratio decline under the Supervisory Severely Adverse scenario over a nine-quarter period used in the Comprehensive Capital Analysis and Review (CCAR) and Dodd-Frank Act Stress Testing (DFAST), plus four quarters of planned common stock dividends, subject to a floor of 2.5%. SCB-based capital requirements are reviewed and updated annually by the FRB as part of the CCAR process. For additional information regarding CCAR and DFAST, see "Stress Testing Component of Capital Planning" below. The fixed 2.5% Capital Conservation Buffer will continue to apply under the Advanced Approaches (for additional information, see below).

In August 2022, the FRB finalized and announced Citi's SCB requirement of 4.0% for the four-quarter window starting from October 1, 2022 to September 30, 2023.

Accordingly, as of October 1, 2022, Citi is required to maintain an 11.5% required regulatory CET1 Capital ratio under the Standardized Approach, incorporating this SCB and its GSIB surcharge of 3.0%. Previously, from October 1, 2021 through September 30, 2022, Citi had been subject to a 3.0% SCB, and a 10.5% required regulatory CET1 Capital ratio

under the Standardized Approach. Citi's required regulatory CET1 Capital ratio under the Advanced Approaches (using the fixed 2.5% Capital Conservation Buffer) remains unchanged at 10.0%. The SCB applies to Citigroup only; the regulatory capital framework applicable to Citibank, including the Capital Conservation Buffer, is unaffected by Citigroup's SCB.

Capital Conservation Buffer and Countercyclical Capital Buffer

Citigroup is subject to a fixed 2.5% Capital Conservation Buffer under the Advanced Approaches. Citibank is subject to the fixed 2.5% Capital Conservation Buffer under both the Advanced Approaches and the Standardized Approach.

In addition, Advanced Approaches banking organizations, such as Citigroup and Citibank, are subject to a discretionary Countercyclical Capital Buffer. The Countercyclical Capital Buffer is currently set at 0% by the U.S. banking agencies.

GSIB Surcharge

The FRB imposes a risk-based capital surcharge upon U.S. bank holding companies that are identified as GSIBs, including Citi. The GSIB surcharge augments the SCB, Capital Conservation Buffer and, if invoked, any Countercyclical Capital Buffer.

A U.S. bank holding company that is designated a GSIB is required, on an annual basis, to calculate a surcharge using two methods and is subject to the higher of the resulting two surcharges. The first method ("method 1") is based on the Basel Committee's GSIB methodology. Under the second method ("method 2"), the substitutability category under the Basel Committee's GSIB methodology is replaced with a quantitative measure intended to assess a GSIB's reliance on short-term wholesale funding. In addition, method 1 incorporates relative measures of systemic importance across certain global banking organizations and a year-end spot foreign exchange rate, whereas method 2 uses fixed measures of systemic importance and application of an average foreign exchange rate over a three-year period. The GSIB surcharges calculated under both method 1 and method 2 are based on measures of systemic importance from the year immediately preceding that in which the GSIB surcharge calculations are being performed (e.g., the method 1 and method 2 GSIB surcharges calculated during 2022 will be based on 2021 systemic indicator data). Generally, Citi's surcharge determined under method 2 will result in a higher surcharge than its surcharge determined under method 1.

Should a GSIB's systemic importance change year-over-year, such that it becomes subject to a higher GSIB surcharge, the higher surcharge would become effective on January 1 of the year that is one full calendar year after the increased GSIB surcharge was calculated (e.g., a higher surcharge calculated in 2024 using data as of December 31, 2023 would not become effective until January 1, 2026). However, if a GSIB's systemic importance changes such that the GSIB would be subject to a lower surcharge, the GSIB would be subject to the lower surcharge on January 1 of the year immediately following the calendar year in which the decreased GSIB surcharge was calculated (e.g., a lower surcharge calculated in 2024 using data as of December 31, 2023 would become effective January 1, 2025).

The following table presents Citi's effective GSIB surcharge as determined under method 1 and method 2 during 2022 and 2021:

	2022	2021
Method 1	**2.0 %**	2.0 %
Method 2	**3.0**	3.0

Citi's GSIB surcharge effective during both 2022 and 2021 was 3.0%, as derived under the higher method 2 result. Citi's GSIB surcharge effective for 2023 has increased from 3.0% to 3.5%, as derived under the higher method 2 result.

Citi expects that its method 2 GSIB surcharge will continue to remain higher than its method 1 GSIB surcharge. Accordingly, based on Citi's method 2 result as of December 31, 2021 and its estimated method 2 result as of December 31, 2022, Citi's GSIB surcharge is expected to remain at 3.5% effective January 1, 2024. Citi's GSIB surcharge effective for 2025 will likely be based on the lower of its method 2 scores for year-end 2022 and 2023 and, therefore, is not expected to exceed 3.5%.

Prompt Corrective Action Framework

In general, the Prompt Corrective Action (PCA) regulations direct the U.S. banking agencies to enforce increasingly strict limitations on the activities of insured depository institutions that fail to meet certain regulatory capital thresholds. The PCA framework contains five categories of capital adequacy as measured by risk-based capital and leverage ratios: (i) "well capitalized," (ii) "adequately capitalized," (iii) "undercapitalized," (iv) "significantly undercapitalized" and (v) "critically undercapitalized."

Accordingly, an insured depository institution, such as Citibank, must maintain minimum CET1 Capital, Tier 1 Capital, Total Capital and Tier 1 Leverage ratios of 6.5%, 8.0%, 10.0% and 5.0%, respectively, to be considered "well capitalized." In addition, insured depository institution subsidiaries of U.S. GSIBs, including Citibank, must maintain a minimum Supplementary Leverage ratio of 6.0% to be considered "well capitalized." Citibank was "well capitalized" as of December 31, 2022.

Furthermore, to be "well capitalized" under current federal bank regulatory agency definitions, a bank holding company must have a Tier 1 Capital ratio of at least 6.0%, a Total Capital ratio of at least 10.0% and not be subject to a FRB directive to maintain higher capital levels.

Stress Testing Component of Capital Planning

Citi is subject to an annual assessment by the FRB as to whether Citigroup has effective capital planning processes as well as sufficient regulatory capital to absorb losses during stressful economic and financial conditions, while also meeting obligations to creditors and counterparties and continuing to serve as a credit intermediary. This annual assessment includes two related programs: the Comprehensive Capital Analysis and Review (CCAR) and Dodd-Frank Act Stress Testing (DFAST).

For the largest and most complex firms, such as Citi, CCAR includes a qualitative evaluation of a firm's abilities to determine its capital needs on a forward-looking basis. In conducting the qualitative assessment, the FRB evaluates firms' capital planning practices, focusing on six areas of capital planning: governance, risk management, internal controls, capital policies, incorporating stressful conditions and events, and estimating impact on capital positions. As part of the CCAR process, the FRB evaluates Citi's capital adequacy, capital adequacy process and its planned capital distributions, such as dividend payments and common share repurchases. The FRB assesses whether Citi has sufficient capital to continue operations throughout times of economic and financial market stress and whether Citi has robust, forward-looking capital planning processes that account for its unique risks.

All CCAR firms, including Citi, are subject to a rigorous evaluation of their capital planning process. Firms with weak practices may be subject to a deficient supervisory rating, and potentially an enforcement action, for failing to meet supervisory expectations. For additional information regarding CCAR, see "Risk Factors—Strategic Risks" below.

DFAST is a forward-looking quantitative evaluation of the impact of stressful economic and financial market conditions on Citi's regulatory capital. This program serves to inform the FRB and the general public as to how Citi's regulatory capital ratios might change using a hypothetical set of adverse economic conditions as designed by the FRB. In addition to the annual supervisory stress test conducted by the FRB, Citi is required to conduct annual company-run stress tests under the same adverse economic conditions designed by the FRB.

Both CCAR and DFAST include an estimate of projected revenues, losses, reserves, pro forma regulatory capital ratios and any other additional capital measures deemed relevant by Citi. Projections are required over a nine-quarter planning horizon under two supervisory scenarios (baseline and severely adverse conditions). All risk-based capital ratios reflect application of the Standardized Approach framework under the U.S. Basel III rules.

In addition, Citibank is required to conduct the annual Dodd-Frank Act Stress Test. The annual stress test consists of a forward-looking quantitative evaluation of the impact of stressful economic and financial market conditions under several scenarios on Citibank's regulatory capital. This program serves to inform the Office of the Comptroller of the Currency as to how Citibank's regulatory capital ratios might change during a hypothetical set of adverse economic conditions and to ultimately evaluate the reliability of Citibank's capital planning process.

Citigroup and Citibank are required to disclose the results of their company-run stress tests.

Citigroup's Capital Resources

The following table presents Citi's required risk-based capital ratios as of December 31, 2022, September 30, 2022 and December 31, 2021:

	Advanced Approaches			Standardized Approach		
	December 31, 2022	September 30, 2022	December 31, 2021	**December 31, 2022**	September 30, 2022	December 31, 2021
CET1 Capital ratio[1]	**10.0 %**	10.0 %	10.0 %	**11.5 %**	10.5 %	10.5 %
Tier 1 Capital ratio[1]	**11.5**	11.5	11.5	**13.0**	12.0	12.0
Total Capital ratio[1]	**13.5**	13.5	13.5	**15.0**	14.0	14.0

(1) Beginning October 1, 2022, Citi's required risk-based capital ratios included the 4.0% SCB and 3.0% GSIB surcharge under the Standardized Approach, and the 2.5% Capital Conservation Buffer and 3.0% GSIB surcharge under the Advanced Approaches (all of which must be composed of CET1 Capital). For prior periods presented, Citi's required risk-based capital ratios included the 3.0% SCB and 3.0% GSIB surcharge under the Standardized Approach, and the 2.5% Capital Conservation Buffer and 3.0% GSIB surcharge under the Advanced Approaches. Commencing January 1, 2023, Citi's GSIB surcharge increased from 3.0% to 3.5%, which is applicable to both the Standardized Approach and Advanced Approaches. See "Regulatory Capital Buffers" above for more information.

The following tables present Citi's capital components and ratios as of December 31, 2022, September 30, 2022 and December 31, 2021:

	Advanced Approaches			Standardized Approach		
In millions of dollars, except ratios	**December 31, 2022**	September 30, 2022	December 31, 2021	**December 31, 2022**	September 30, 2022	December 31, 2021
CET1 Capital[1]	**$ 148,930**	$ 144,567	$ 149,305	**$ 148,930**	$ 144,567	$ 149,305
Tier 1 Capital[1]	**169,145**	164,830	169,568	**169,145**	164,830	169,568
Total Capital (Tier 1 Capital + Tier 2 Capital)[1]	**188,839**	185,046	194,006	**197,543**	193,871	203,838
Total Risk-Weighted Assets	**1,221,538**	1,226,578	1,209,374	**1,142,985**	1,176,749	1,219,175
Credit Risk[1]	**$ 851,875**	$ 849,769	$ 840,483	**$ 1,069,992**	$ 1,096,384	$ 1,135,906
Market Risk	**71,889**	78,748	78,634	**72,993**	80,365	83,269
Operational Risk	**297,774**	298,061	290,257	**—**	—	—
CET1 Capital ratio[2]	**12.19 %**	11.79 %	12.35 %	**13.03 %**	12.29 %	12.25 %
Tier 1 Capital ratio[2]	**13.85**	13.44	14.02	**14.80**	14.01	13.91
Total Capital ratio[2]	**15.46**	15.09	16.04	**17.28**	16.48	16.72

In millions of dollars, except ratios	**Required Capital Ratios**	**December 31, 2022**	September 30, 2022	December 31, 2021
Quarterly Adjusted Average Total Assets[1][3]		**$ 2,395,863**	$ 2,364,564	$ 2,351,434
Total Leverage Exposure[1][4]		**2,906,773**	2,888,535	2,957,764
Tier 1 Leverage ratio	**4.0%**	**7.06 %**	6.97 %	7.21 %
Supplementary Leverage ratio	**5.0**	**5.82**	5.71	5.73

(1) Citi's regulatory capital ratios and components reflect certain deferrals based on the modified regulatory capital transition provision related to the CECL standard. For additional information, see "Capital Resources—Regulatory Capital Treatment—Modified Transition of the Current Expected Credit Losses Methodology" above.

(2) Citi's binding CET1 Capital and Tier 1 Capital ratios were derived under the Basel III Standardized Approach, whereas Citi's binding Total Capital ratio was derived under the Basel III Advanced Approaches framework for all periods presented.

(3) Tier 1 Leverage ratio denominator. Represents quarterly average total assets less amounts deducted from Tier 1 Capital.

(4) Supplementary Leverage ratio denominator.

Common Equity Tier 1 Capital Ratio

Citi's Common Equity Tier 1 (CET1) Capital ratio under the Basel III Standardized Approach was 13.0% as of December 31, 2022, relative to a required regulatory CET1 Capital ratio of 11.5% as of such date under the Standardized Approach. This compares to a CET1 Capital ratio of 12.3% as of September 30, 2022 and 12.2% as of December 31, 2021, relative to a required regulatory CET1 Capital ratio of 10.5% as of such dates under the Standardized Approach.

Citi's CET1 Capital ratio under the Basel III Advanced Approaches was 12.2% as of December 31, 2022, compared to 11.8% as of September 30, 2022 and 12.3% as of December 31, 2021, relative to a required regulatory CET1 Capital ratio of 10.0% as of such dates under the Advanced Approaches framework.

Citi's CET1 Capital ratio increased under both the Standardized Approach and Advanced Approaches from September 30, 2022, driven primarily by net income, business actions to reduce RWA, beneficial net movements in *AOCI* and impacts from the closing of Asia consumer banking business sales, partially offset by the payment of common dividends.

Citi's CET1 Capital ratio increased under the Standardized Approach from year-end 2021, due to the net income of $14.8 billion, impacts from the closing of the Australia, Philippines and other Asia consumer banking business sales and business actions to reduce RWA, partially offset by the return of capital to common shareholders and interest rate impacts on Citigroup's investment portfolio. The increase in Citi's CET1 Capital ratio was also partially offset by the impact of adopting the Standardized Approach for Counterparty Credit Risk (SA-CCR) on January 1, 2022.

Citi's CET1 Capital ratio decreased under the Advanced Approaches from year-end 2021, due to the return of capital to common shareholders, the interest rate impacts on Citigroup's investment portfolio and the impact of adopting the SA-CCR, partially offset by the net income of $14.8 billion and the impacts from the closing of the Australia, Philippines and other Asia consumer banking business sales.

For additional information on SA-CCR, see "Standardized Approach for Counterparty Credit Risk" below.

Components of Citigroup Capital

In millions of dollars	**December 31, 2022**	December 31, 2021
CET1 Capital		
Citigroup common stockholders' equity[1]	**$ 182,325**	$ 183,108
Add: Qualifying noncontrolling interests	**128**	143
Regulatory capital adjustments and deductions:		
Add: CECL transition provision[2]	**2,271**	3,028
Less: Accumulated net unrealized gains (losses) on cash flow hedges, net of tax	**(2,522)**	101
Less: Cumulative unrealized net gain (loss) related to changes in fair value of financial liabilities attributable to own creditworthiness, net of tax	**1,441**	(896)
Less: Intangible assets:		
Goodwill, net of related DTLs[3]	**19,007**	20,619
Identifiable intangible assets other than MSRs, net of related DTLs	**3,411**	3,800
Less: Defined benefit pension plan net assets; other	**1,935**	2,080
Less: DTAs arising from net operating loss, foreign tax credit and general business credit carry-forwards[4]	**12,197**	11,270
Less: Excess over 10%/15% limitations for other DTAs, certain common stock investments, and MSRs[4][5]	**325**	—
Total CET1 Capital (Standardized Approach and Advanced Approaches)	**$ 148,930**	$ 149,305
Additional Tier 1 Capital		
Qualifying noncumulative perpetual preferred stock[1]	**$ 18,864**	$ 18,864
Qualifying trust preferred securities[6]	**1,406**	1,399
Qualifying noncontrolling interests	**30**	34
Regulatory capital deductions:		
Less: Other	**85**	34
Total Additional Tier 1 Capital (Standardized Approach and Advanced Approaches)	**$ 20,215**	$ 20,263
Total Tier 1 Capital (CET1 Capital + Additional Tier 1 Capital) (Standardized Approach and Advanced Approaches)	**$ 169,145**	$ 169,568
Tier 2 Capital		
Qualifying subordinated debt	**$ 15,530**	$ 20,064
Qualifying trust preferred securities[7]	**—**	248
Qualifying noncontrolling interests	**37**	42
Eligible allowance for credit losses[2][8]	**13,426**	14,209
Regulatory capital deduction:		
Less: Other	**595**	293
Total Tier 2 Capital (Standardized Approach)	**$ 28,398**	$ 34,270
Total Capital (Tier 1 Capital + Tier 2 Capital) (Standardized Approach)	**$ 197,543**	$ 203,838
Adjustment for excess of eligible credit reserves over expected credit losses[2][8]	**$ (8,704)**	$ (9,832)
Total Tier 2 Capital (Advanced Approaches)	**$ 19,694**	$ 24,438
Total Capital (Tier 1 Capital + Tier 2 Capital) (Advanced Approaches)	**$ 188,839**	$ 194,006

(1) Issuance costs of $131 million related to outstanding noncumulative perpetual preferred stock at December 31, 2022 and 2021 were excluded from common stockholders' equity and netted against such preferred stock in accordance with FRB regulatory reporting requirements, which differ from those under U.S. GAAP.

(2) Citi's regulatory capital ratios and components reflect certain deferrals based on the modified regulatory capital transition provision related to the CECL standard. For additional information, see "Capital Resources—Regulatory Capital Treatment—Modified Transition of the Current Expected Credit Losses Methodology" above.

(3) Includes goodwill "embedded" in the valuation of significant common stock investments in unconsolidated financial institutions.

Footnotes continue on the following page.

(4) Of Citi's $27.7 billion of net DTAs at December 31, 2022, $12.2 billion of net DTAs arising from net operating loss, foreign tax credit and general business credit tax carry-forwards, as well as $0.3 billion of DTAs arising from temporary differences that exceeded 10%/15% limitations, were excluded from Citi's CET1 Capital as of December 31, 2022. DTAs arising from net operating loss, foreign tax credit and general business credit tax carry-forwards are required to be entirely deducted from CET1 Capital under the U.S. Basel III rules. DTAs arising from temporary differences are required to be deducted from capital only if they exceed 10%/15% limitations under the U.S. Basel III rules.

(5) Assets subject to 10%/15% limitations include MSRs, DTAs arising from temporary differences and significant common stock investments in unconsolidated financial institutions. At December 31, 2022, this deduction related only to DTAs arising from temporary differences that exceeded the 10% limitation. At December 31, 2021, none of these assets were in excess of the 10%/15% limitations.

(6) Represents Citigroup Capital XIII trust preferred securities, which are permanently grandfathered as Tier 1 Capital under the U.S. Basel III rules.

(7) Represents the amount of non-grandfathered trust preferred securities that were previously eligible for inclusion in Tier 2 Capital under the U.S. Basel III rules. Commencing January 1, 2022, non-grandfathered trust preferred securities have been fully phased out of Tier 2 Capital.

(8) Under the Standardized Approach, the allowance for credit losses is eligible for inclusion in Tier 2 Capital up to 1.25% of credit risk-weighted assets, with any excess allowance for credit losses being deducted in arriving at credit risk-weighted assets, which differs from the Advanced Approaches framework, in which eligible credit reserves that exceed expected credit losses are eligible for inclusion in Tier 2 Capital to the extent that the excess reserves do not exceed 0.6% of credit risk-weighted assets. The total amount of eligible credit reserves in excess of expected credit losses that were eligible for inclusion in Tier 2 Capital, subject to limitation, under the Advanced Approaches framework were $4.7 billion and $4.4 billion at December 31, 2022 and December 31, 2021, respectively.

Citigroup Capital Rollforward

In millions of dollars	Three months ended December 31, 2022	Twelve months ended December 31, 2022
CET1 Capital, beginning of period	**$ 144,567**	**$ 149,305**
Net income	**2,513**	**14,845**
Common and preferred dividends declared	**(1,241)**	**(5,060)**
Net change in treasury stock	**10**	**(2,727)**
Net increase in common stock and additional paid-in capital	**111**	**455**
Net change in CTA net of hedges, net of tax	**1,571**	**(2,472)**
Net change in unrealized gains (losses) on debt securities AFS, net of tax	**974**	**(5,384)**
Net change in defined benefit plans liability adjustment, net of tax	**(22)**	**97**
Net change in adjustment related to change in fair value of financial liabilities attributable to own creditworthiness, net of tax	**168**	**(307)**
Net change in excluded component of fair value hedges	**(32)**	**55**
Net change in goodwill, net of related DTLs	**(211)**	**1,612**
Net decrease in identifiable intangible assets other than MSRs, net of related DTLs	**81**	**389**
Net change in defined benefit pension plan net assets	**(7)**	**61**
Net increase in DTAs arising from net operating loss, foreign tax credit and general business credit carry-forwards	**(507)**	**(927)**
Net change in excess over 10%/15% limitations for other DTAs, certain common stock investments and MSRs	**936**	**(325)**
Net decrease in CECL 25% provision deferral	**—**	**(757)**
Other	**19**	**70**
Net change in CET1 Capital	**$ 4,363**	**$ (375)**
CET1 Capital, end of period (Standardized Approach and Advanced Approaches)	**$ 148,930**	**$ 148,930**
Additional Tier 1 Capital, beginning of period	**$ 20,263**	**$ 20,263**
Net increase in qualifying trust preferred securities	**2**	**7**
Other	**(50)**	**(55)**
Net decrease in Additional Tier 1 Capital	**$ (48)**	**$ (48)**
Tier 1 Capital, end of period (Standardized Approach and Advanced Approaches)	**$ 169,145**	**$ 169,145**
Tier 2 Capital, beginning of period (Standardized Approach)	**$ 29,041**	**$ 34,270**
Net decrease in qualifying subordinated debt	**(149)**	**(4,534)**
Net decrease in eligible allowance for credit losses	**(326)**	**(783)**
Other	**(168)**	**(555)**
Net decrease in Tier 2 Capital (Standardized Approach)	**$ (643)**	**$ (5,872)**
Tier 2 Capital, end of period (Standardized Approach)	**$ 28,398**	**$ 28,398**
Total Capital, end of period (Standardized Approach)	**$ 197,543**	**$ 197,543**
Tier 2 Capital, beginning of period (Advanced Approaches)	**$ 20,216**	**$ 24,438**
Net decrease in qualifying subordinated debt	**(149)**	**(4,534)**
Net increase in excess of eligible credit reserves over expected credit losses	**(205)**	**345**
Other	**(168)**	**(555)**
Net decrease in Tier 2 Capital (Advanced Approaches)	**$ (522)**	**$ (4,744)**
Tier 2 Capital, end of period (Advanced Approaches)	**$ 19,694**	**$ 19,694**
Total Capital, end of period (Advanced Approaches)	**$ 188,839**	**$ 188,839**

Citigroup Risk-Weighted Assets Rollforward (Basel III Standardized Approach)

In millions of dollars	Three months ended December 31, 2022	Twelve months ended December 31, 2022
Total Risk-Weighted Assets, beginning of period	**$ 1,176,749**	**$ 1,219,175**
Changes in Credit Risk-Weighted Assets		
General credit risk exposures[1]	**(4,243)**	**(26,061)**
Repo-style transactions[2]	**(225)**	**(15,302)**
Securitization exposures[3]	**2,928**	**4,886**
Equity exposures[4]	**3,751**	**453**
Over-the-counter (OTC) derivatives[5]	**(27,320)**	**(4,619)**
Other exposures[6]	**(1,911)**	**(10,718)**
Off-balance sheet exposures[7]	**628**	**(14,553)**
Net decrease in Credit Risk-Weighted Assets	**$ (26,392)**	**$ (65,914)**
Changes in Market Risk-Weighted Assets		
Risk levels	**$ (8,974)**	**$ (15,961)**
Model and methodology updates	**1,602**	**5,685**
Net decrease in Market Risk-Weighted Assets[8]	**$ (7,372)**	**$ (10,276)**
Total Risk-Weighted Assets, end of period	**$ 1,142,985**	**$ 1,142,985**

(1) General credit risk exposures include cash and balances due from depository institutions, securities, and loans and leases. General credit risk exposures decreased during the three and 12 months ended December 31, 2022 primarily due to Asia consumer divestitures and a decrease in corporate lending, partially offset by an increase in card activities.

(2) Repo-style transactions include repurchase and reverse repurchase transactions, as well as securities borrowing and securities lending transactions. Repo-style transactions decreased during the 12 months ended December 31, 2022 primarily due to reduced exposure in repurchase agreements and securities lending, as well as a decrease in margin loans.

(3) Securitization exposures increased during the three and 12 months ended December 31, 2022 primarily due to new exposures.

(4) Equity exposures increased during the three months ended December 31, 2022 primarily due to increases in market value of various investments.

(5) OTC derivatives decreased during the three months ended December 31, 2022 primarily due to decreases across FX, commodities and equities. OTC derivatives decreased during the 12 months ended December 31, 2022 primarily due to decreases in rates, FX, commodities and equities, partially offset by the impact from the adoption of SA-CCR. For additional information on SA-CCR, see “Standardized Approach for Counterparty Credit Risk” below.

(6) Other exposures include cleared transactions, unsettled transactions and other assets. Other exposures decreased during the 12 months ended December 31, 2022 primarily due to decreases in centrally cleared derivatives and default fund contributions, partially offset by an increase in fixed assets.

(7) Off-balance sheet exposures decreased during the 12 months ended December 31, 2022 primarily due to a decrease in loan commitments.

(8) Market risk-weighted assets decreased during the three and 12 months ended December 31, 2022 primarily due to exposure changes, partially offset by changes in model inputs regarding volatility and the correlation between market risk factors.

Citigroup Risk-Weighted Assets Rollforward (Basel III Advanced Approaches)

In millions of dollars	Three months ended December 31, 2022	Twelve months ended December 31, 2022
Total Risk-Weighted Assets, beginning of period	**$ 1,226,578**	**$ 1,209,374**
Changes in Credit Risk-Weighted Assets		
Retail exposures[(1)]	**4,610**	**12,633**
Wholesale exposures[(2)]	**2,094**	**(14,843)**
Repo-style transactions[(3)]	**390**	**(10,694)**
Securitization exposures[(4)]	**2,916**	**5,057**
Equity exposures[(5)]	**3,795**	**948**
Over-the-counter (OTC) derivatives[(6)]	**(11,929)**	**(2,667)**
Derivatives CVA[(7)]	**(2,067)**	**19,667**
Other exposures[(8)]	**2,026**	**1,725**
Supervisory 6% multiplier	**271**	**(434)**
Net increase in Credit Risk-Weighted Assets	**$ 2,106**	**$ 11,392**
Changes in Market Risk-Weighted Assets		
Risk levels	**$ (8,461)**	**$ (12,430)**
Model and methodology updates	**1,602**	**5,685**
Net decrease in Market Risk-Weighted Assets[(9)]	**$ (6,859)**	**$ (6,745)**
Net change in Operational Risk-Weighted Assets[(10)]	**$ (287)**	**$ 7,517**
Total Risk-Weighted Assets, end of period	**$ 1,221,538**	**$ 1,221,538**

(1) Retail exposures increased during the three months ended December 31, 2022 primarily due to an increase in card activities, partially offset by a decrease from divestitures. Retail exposures increased during the 12 months ended December 31, 2022 primarily due to increases in card activities, consumer loans and model recalibrations, partially offset by a decrease from divestitures.

(2) Wholesale exposures decreased during the 12 months ended December 31, 2022 primarily due to decreases in wholesale loans and available-for-sale securities.

(3) Repo-style transactions include repurchase and reverse repurchase transactions as well as securities borrowing and securities lending transactions. Repo-style transactions decreased during the 12 months ended December 31, 2022 primarily due to reduced exposure in repurchase agreements and securities lending, as well as a decrease in margin loans.

(4) Securitization exposures increased during the three and 12 months ended December 31, 2022 primarily driven by new exposures.

(5) Equity exposures increased during the three months ended December 31, 2022 primarily due to increases in market value of various investments.

(6) OTC derivatives decreased during the three months ended December 31, 2022 primarily due to exposure decreases across FX and commodities. OTC derivatives decreased during the 12 months ended December 31, 2022 primarily due to exposure decreases across FX and commodities, partially offset by the impact from the adoption of SA-CCR. For additional information on SA-CCR, see "Standardized Approach for Counterparty Credit Risk" below.

(7) Derivatives CVA increased during the 12 months ended December 31, 2022 primarily due to the adoption of SA-CCR. For additional information on SA-CCR, see "Standardized Approach for Counterparty Credit Risk" below.

(8) Other exposures include cleared transactions, unsettled transactions, assets other than those reportable in specific exposure categories and non-material portfolios. Other exposures increased during the three and 12 months ended December 31, 2022 primarily due to an increase in fixed assets.

(9) Market risk-weighted assets decreased during the three and 12 months ended December 31, 2022 primarily due to exposure changes, partially offset by changes in model inputs regarding volatility and the correlation between market risk factors.

(10) Operational risk-weighted assets increased during the 12 months ended December 31, 2022 primarily due to new model severity updates.

Supplementary Leverage Ratio

The following table presents Citi's Supplementary Leverage ratio and related components as of December 31, 2022, September 30, 2022 and December 31, 2021:

In millions of dollars, except ratios	**December 31, 2022**	September 30, 2022	December 31, 2021
Tier 1 Capital	**$ 169,145**	$ 164,830	$ 169,568
Total Leverage Exposure			
On-balance sheet assets[1][2]	**$ 2,432,823**	$ 2,401,767	$ 2,389,237
Certain off-balance sheet exposures[3]			
Potential future exposure on derivative contracts	**133,071**	153,842	222,241
Effective notional of sold credit derivatives, net[4]	**34,117**	32,768	23,788
Counterparty credit risk for repo-style transactions[5]	**17,169**	16,997	25,775
Other off-balance sheet exposures	**326,553**	320,364	334,526
Total of certain off-balance sheet exposures	**$ 510,910**	$ 523,971	$ 606,330
Less: Tier 1 Capital deductions	**36,960**	37,203	37,803
Total Leverage Exposure	**$ 2,906,773**	$ 2,888,535	$ 2,957,764
Supplementary Leverage ratio	**5.82 %**	5.71 %	5.73 %

(1) Represents the daily average of on-balance sheet assets for the quarter.
(2) Citi's regulatory capital ratios and components reflect certain deferrals based on the modified regulatory capital transition provision related to the CECL standard. For additional information, see "Capital Resources—Regulatory Capital Treatment—Modified Transition of the Current Expected Credit Losses Methodology" above.
(3) Represents the average of certain off-balance sheet exposures calculated as of the last day of each month in the quarter.
(4) Under the U.S. Basel III rules, banking organizations are required to include in Total Leverage Exposure the effective notional amount of sold credit derivatives, with netting of exposures permitted if certain conditions are met.
(5) Repo-style transactions include repurchase and reverse repurchase transactions as well as securities borrowing or securities lending transactions.

As presented in the table above, Citigroup's Supplementary Leverage ratio was 5.8% at December 31, 2022, compared to 5.7% at September 30, 2022 and December 31, 2021. The quarter-over-quarter increase was primarily driven by an increase in Tier 1 Capital due to net income in the fourth quarter of 2022 and beneficial net movements in *AOCI*, partially offset by an increase in Total Leverage Exposure. The year-over-year increase was primarily driven by a decrease in Total Leverage Exposure.

Capital Resources of Citigroup's Subsidiary U.S. Depository Institutions

Citigroup's subsidiary U.S. depository institutions are also subject to regulatory capital standards issued by their respective primary bank regulatory agencies, which are similar to the standards of the FRB.

The following tables present the capital components and ratios for Citibank, Citi's primary subsidiary U.S. depository institution, as of December 31, 2022, September 30, 2022 and December 31, 2021:

		Advanced Approaches			Standardized Approach		
In millions of dollars, except ratios	**Required Capital Ratios[1]**	**December 31, 2022**	September 30, 2022	December 31, 2021	**December 31, 2022**	September 30, 2022	December 31, 2021
CET1 Capital[2]		**$ 149,593**	$ 147,938	$ 148,548	**$ 149,593**	$ 147,938	$ 148,548
Tier 1 Capital[2]		**151,720**	150,062	150,679	**151,720**	150,062	150,679
Total Capital (Tier 1 Capital + Tier 2 Capital)[2][3]		**165,131**	165,171	166,921	**172,647**	172,916	175,427
Total Risk-Weighted Assets		**1,003,747**	1,046,884	1,017,774	**982,914**	1,024,923	1,066,015
Credit Risk[2]		**$ 728,082**	$ 762,660	$ 737,802	**$ 948,150**	$ 983,949	$ 1,016,293
Market Risk		**34,403**	40,676	48,089	**34,764**	40,974	49,722
Operational Risk		**241,262**	243,548	231,883	**—**	—	—
CET1 Capital ratio[4][5]	**7.0 %**	**14.90 %**	14.13 %	14.60 %	**15.22 %**	14.43 %	13.93 %
Tier 1 Capital ratio[4][5]	**8.5**	**15.12**	14.33	14.80	**15.44**	14.64	14.13
Total Capital ratio[4][5]	**10.5**	**16.45**	15.78	16.40	**17.56**	16.87	16.46

In millions of dollars, except ratios	**Required Capital Ratios**	**December 31, 2022**	September 30, 2022	December 31, 2021
Quarterly Adjusted Average Total Assets[2][6]		**$ 1,738,744**	$ 1,694,381	$ 1,716,596
Total Leverage Exposure[2][7]		**2,189,541**	2,147,923	2,236,839
Tier 1 Leverage ratio[5]	**5.0 %**	**8.73 %**	8.86 %	8.78 %
Supplementary Leverage ratio[5]	**6.0**	**6.93**	6.99	6.74

(1) Citibank's required risk-based capital ratios are inclusive of the 2.5% Capital Conservation Buffer (all of which must be composed of CET1 Capital).

(2) Citibank's regulatory capital ratios and components reflect certain deferrals based on the modified regulatory capital transition provision related to the CECL standard. For additional information, see "Capital Resources—Regulatory Capital Treatment—Modified Transition of the Current Expected Credit Losses Methodology" above.

(3) Under the Advanced Approaches framework, eligible credit reserves that exceed expected credit losses are eligible for inclusion in Tier 2 Capital to the extent that the excess reserves do not exceed 0.6% of credit risk-weighted assets, which differs from the Standardized Approach in which the ACL is eligible for inclusion in Tier 2 Capital up to 1.25% of credit risk-weighted assets, with any excess ACL being deducted in arriving at credit risk-weighted assets.

(4) Citibank's binding CET1 Capital and Tier 1 Capital ratios were derived under the Basel III Advanced Approaches framework as of December 31, 2022 and September 30, 2022, and under the Basel III Standardized Approach as of December 31, 2021, whereas Citibank's binding Total Capital ratio was derived under the Basel III Advanced Approaches framework for all periods presented.

(5) Citibank must maintain required CET1 Capital, Tier 1 Capital, Total Capital and Tier 1 Leverage ratios of 6.5%, 8.0%, 10.0% and 5.0%, respectively, to be considered "well capitalized" under the revised Prompt Corrective Action (PCA) regulations applicable to insured depository institutions as established by the U.S. Basel III rules. Citibank must also maintain a required Supplementary Leverage ratio of 6.0% to be considered "well capitalized."

(6) Tier 1 Leverage ratio denominator. Represents quarterly average total assets less amounts deducted from Tier 1 Capital.

(7) Supplementary Leverage ratio denominator.

As indicated in the table above, Citibank's capital ratios at December 31, 2022 were in excess of the regulatory capital requirements under the U.S. Basel III rules. In addition, Citibank was "well capitalized" as of December 31, 2022.

As presented in the table above, Citibank's Supplementary Leverage ratio was 6.9% at December 31, 2022, compared to 7.0% at September 30, 2022 and 6.7% at December 31, 2021. The quarter-over-quarter decrease was primarily driven by an increase in Total Leverage Exposure, partially offset by an increase in Tier 1 Capital due to net income in the fourth quarter of 2022 and beneficial net movements in *AOCI*. The year-over-year increase was primarily driven by a decrease in Total Leverage Exposure.

Impact of Changes on Citigroup and Citibank Capital Ratios

The following tables present the estimated sensitivity of Citigroup's and Citibank's capital ratios to changes of $100 million in CET1 Capital, Tier 1 Capital and Total Capital (numerator), and changes of $1 billion in Advanced Approaches and Standardized Approach risk-weighted assets and quarterly adjusted average total assets, as well as Total Leverage Exposure (denominator), as of December 31, 2022. This information is provided for the purpose of analyzing the impact that a change in Citigroup's or Citibank's financial position or results of operations could have on these ratios. These sensitivities only consider a single change to either a component of capital, risk-weighted assets, quarterly adjusted average total assets or Total Leverage Exposure. Accordingly, an event that affects more than one factor may have a larger basis point impact than is reflected in these tables.

	Common Equity Tier 1 Capital ratio		Tier 1 Capital ratio		Total Capital ratio	
In basis points	**Impact of $100 million change in Common Equity Tier 1 Capital**	**Impact of $1 billion change in risk-weighted assets**	**Impact of $100 million change in Tier 1 Capital**	**Impact of $1 billion change in risk-weighted assets**	**Impact of $100 million change in Total Capital**	**Impact of $1 billion change in risk-weighted assets**
Citigroup						
Advanced Approaches	**0.8**	**1.0**	**0.8**	**1.1**	**0.8**	**1.3**
Standardized Approach	**0.9**	**1.1**	**0.9**	**1.3**	**0.9**	**1.5**
Citibank						
Advanced Approaches	**1.0**	**1.5**	**1.0**	**1.5**	**1.0**	**1.6**
Standardized Approach	**1.0**	**1.5**	**1.0**	**1.6**	**1.0**	**1.8**

	Tier 1 Leverage ratio		Supplementary Leverage ratio	
In basis points	**Impact of $100 million change in Tier 1 Capital**	**Impact of $1 billion change in quarterly adjusted average total assets**	**Impact of $100 million change in Tier 1 Capital**	**Impact of $1 billion change in Total Leverage Exposure**
Citigroup	**0.4**	**0.3**	**0.3**	**0.2**
Citibank	**0.6**	**0.5**	**0.5**	**0.3**

Citigroup Broker-Dealer Subsidiaries

At December 31, 2022, Citigroup Global Markets Inc., a U.S. broker-dealer registered with the SEC that is an indirect wholly owned subsidiary of Citigroup, had net capital, computed in accordance with the SEC's net capital rule, of $13 billion, which exceeded the minimum requirement by $8 billion.

Moreover, Citigroup Global Markets Limited, a broker-dealer registered with the United Kingdom's Prudential Regulation Authority (PRA) that is also an indirect wholly owned subsidiary of Citigroup, had total regulatory capital of $27 billion at December 31, 2022, which exceeded the PRA's minimum regulatory capital requirements.

In addition, certain of Citi's other broker-dealer subsidiaries are subject to regulation in the countries in which they do business, including requirements to maintain specified levels of net capital or its equivalent. Citigroup's other principal broker-dealer subsidiaries were in compliance with their regulatory capital requirements at December 31, 2022.

Total Loss-Absorbing Capacity (TLAC)

U.S. GSIBs, including Citi, are required to maintain minimum levels of TLAC and eligible long-term debt (LTD), each set by reference to the GSIB's consolidated risk-weighted assets (RWA) and total leverage exposure.

Minimum External TLAC Requirement

The minimum external TLAC requirement is the greater of (i) 18% of the GSIB's RWA plus the then-applicable RWA-based TLAC buffer (see below) and (ii) 7.5% of the GSIB's total leverage exposure plus a leverage-based TLAC buffer of 2% (i.e., 9.5%).

The RWA-based TLAC buffer equals the 2.5% Capital Conservation Buffer, plus any applicable Countercyclical Capital Buffer (currently 0%), plus the GSIB's capital surcharge as determined under method 1 of the GSIB surcharge rule (2.0% for Citi for 2022). Accordingly, Citi's total current minimum TLAC requirement was 22.5% of RWA for 2022.

Minimum Long-Term Debt (LTD) Requirement

The minimum LTD requirement is the greater of (i) 6% of the GSIB's RWA plus its capital surcharge as determined under method 2 of the GSIB surcharge rule (3.0% for Citi for 2022), for a total current requirement of 9% of RWA for Citi, and (ii) 4.5% of the GSIB's total leverage exposure.

The table below details Citi's eligible external TLAC and LTD amounts and ratios, and each TLAC and LTD regulatory requirement, as well as the surplus amount in dollars in excess of each requirement.

	December 31, 2022	
In billions of dollars, except ratios	External TLAC	LTD
Total eligible amount	$ 334	$ 160
% of Advanced Approaches risk-weighted assets	27.3 %	13.1 %
Regulatory requirement[1][2]	22.5	9.0
Surplus amount	$ 59	$ 50
% of Total Leverage Exposure	11.5 %	5.5 %
Regulatory requirement	9.5	4.5
Surplus amount	$ 58	$ 29

(1) External TLAC includes method 1 GSIB surcharge of 2.0%.
(2) LTD includes method 2 GSIB surcharge of 3.0%.

As of December 31, 2022, Citi exceeded each of the TLAC and LTD regulatory requirements, resulting in a $29 billion surplus above its binding TLAC requirement of LTD as a percentage of Total Leverage Exposure.

For additional information on Citi's TLAC-related requirements, see "Liquidity Risk—Total Loss-Absorbing Capacity (TLAC)" below.

Capital Resources (Full Adoption of CECL)[1]

The following tables present Citigroup's and Citibank's capital components and ratios under a hypothetical scenario where the full impact of CECL is reflected as of December 31, 2022:

	Citigroup				Citibank		
	Required Capital Ratios, Advanced Approaches	Required Capital Ratios, Standardized Approach	Advanced Approaches	Standardized Approach	Required Capital Ratios[2]	Advanced Approaches	Standardized Approach
CET1 Capital ratio	10.0 %	11.5 %	11.96 %	12.79 %	7.0 %	14.70 %	15.01 %
Tier 1 Capital ratio	11.5	13.0	13.62	14.56	8.5	14.91	15.23
Total Capital ratio	13.5	15.0	15.24	17.06	10.5	16.25	17.36

	Required Capital Ratios	Citigroup	Required Capital Ratios	Citibank
Tier 1 Leverage ratio	4.0 %	6.94 %	5.0 %	8.61 %
Supplementary Leverage ratio	5.0	5.71	6.0	6.84

(1) See footnote 2 on the "Components of Citigroup Capital" table above.
(2) Citibank's required capital ratios were the same under the Standardized Approach and the Advanced Approaches framework.

Standardized Approach for Counterparty Credit Risk

In 2020, the U.S. banking agencies adopted the Standardized Approach for Counterparty Credit Risk (SA-CCR) to calculate exposure for all derivative contracts at the netting set level. In addition, SA-CCR is used in numerous other instances throughout the regulatory framework, including but not limited to the Supplementary Leverage ratio, certain components of the GSIB score, single counterparty credit limits and legal lending limits.

As previously disclosed, Citi adopted SA-CCR as of the mandatory compliance date of January 1, 2022. Adoption of SA-CCR increased Citigroup's Standardized RWA by approximately $51 billion, which resulted in a 49 basis points decrease to Citigroup's CET1 Capital ratio under the Standardized Approach on January 1, 2022.

Adoption of SA-CCR also increased Citigroup's Advanced RWA by approximately $29 billion, which resulted in a 29 basis points decrease to Citigroup's CET1 Capital ratio under the Advanced Approaches on January 1, 2022.

Regulatory Capital Standards Developments

Basel III Revisions

As described above, the U.S. banking agencies implemented a number of international capital standards adopted by the Basel Committee on Banking Supervision (Basel Committee), following the Global Financial Crisis regulatory reforms (see the U.S. Basel III rules discussion above). The Basel Committee finalized the Basel III reforms in December 2017, which included revisions to the methodologies in deriving credit, market and operational risk-weighted assets, the imposition of a new aggregate output floor for risk-weighted assets and revisions to the leverage ratio framework.

The U.S. banking agencies may revise the U.S. Basel III rules in the future, in response to the Basel Committee's final Basel III reforms. For information about risks related to changes in regulatory capital requirements, see "Risk Factors —Strategic Risks" below.

Tangible Common Equity, Book Value Per Share, Tangible Book Value Per Share and Return on Equity

Tangible common equity (TCE), as defined by Citi, represents common stockholders' equity less goodwill and identifiable intangible assets (other than mortgage servicing rights (MSRs)). RoTCE represents annualized net income available to common shareholders as a percentage of average TCE. Tangible book value per share represents average TCE divided by average common shares outstanding. Other companies may calculate these measures differently. TCE, RoTCE and tangible book value per share are non-GAAP financial measures. Citi believes TCE, TBV and RoTCE provide alternative measures of capital strength and performance for investors, industry analysts and others.

	At December 31,				
In millions of dollars or shares, except per share amounts	**2022**	2021	2020	2019	2018
Total Citigroup stockholders' equity	**$ 201,189**	$ 201,972	$ 199,442	$ 193,242	$ 196,220
Less: Preferred stock	**18,995**	18,995	19,480	17,980	18,460
Common stockholders' equity	**$ 182,194**	$ 182,977	$ 179,962	$ 175,262	$ 177,760
Less:					
Goodwill	**19,691**	21,299	22,162	22,126	22,046
Identifiable intangible assets (other than MSRs)	**3,763**	4,091	4,411	4,327	4,636
Goodwill and identifiable intangible assets (other than MSRs) related to assets held-for-sale (HFS)	**589**	510	—	—	—
Tangible common equity (TCE)	**$ 158,151**	$ 157,077	$ 153,389	$ 148,809	$ 151,078
Common shares outstanding (CSO)	**1,937.0**	1,984.4	2,082.1	2,114.1	2,368.5
Book value per share (common stockholders' equity/ CSO)	**$ 94.06**	$ 92.21	$ 86.43	$ 82.90	$ 75.05
Tangible book value per share (TCE/CSO)	**81.65**	79.16	73.67	70.39	63.79

	For the year ended December 31,				
In millions of dollars	**2022**	2021	2020	2019	2018
Net income available to common shareholders	**$ 13,813**	$ 20,912	$ 9,952	$ 18,292	$ 16,871
Average common stockholders' equity	**180,093**	182,421	175,508	177,363	179,497
Average TCE	**155,943**	156,253	149,892	150,994	153,343
Return on average common stockholders' equity	**7.7 %**	11.5 %	5.7 %	10.3 %	9.4 %
RoTCE	**8.9**	13.4	6.6	12.1	11.0

RISK FACTORS

The following discussion presents what management currently believes could be the material risks and uncertainties that could impact Citi's businesses, results of operations and financial condition. Other risks and uncertainties, including those not currently known to Citi or its management, could also negatively impact Citi's businesses, results of operations and financial condition. Thus, the following should not be considered a complete discussion of all of the risks and uncertainties that Citi may face. For additional information about risks and uncertainties that could impact Citi, see "Executive Summary" and each respective business' results of operations above and "Managing Global Risk" below. The following risk factors are categorized to improve the readability and usefulness of the risk factor disclosure, and, while the headings and risk factors generally align with Citi's risk categorization, in certain instances the risk factors may not directly correspond with how Citi categorizes or manages its risks.

MARKET-RELATED RISKS

Macroeconomic, Geopolitical and Other Challenges and Uncertainties Could Continue to Have a Negative Impact on Citi.

Citi has experienced, and could experience in the future, negative impacts to its businesses, results of operations and financial condition as a result of various macroeconomic, geopolitical and other challenges, uncertainties and volatility. These include, among other things, significantly elevated levels of inflation, higher interest rates, global supply shocks and lower economic growth rates, as well as an increasing risk of recession in Europe, the U.S. and other countries.

For example, in 2022, the U.S., the U.K., the EU and other economies experienced significantly higher levels of widespread inflation. As a result, the Federal Reserve Board (FRB) and other central banks have substantially raised interest rates, reduced the size of their balance sheets and taken other actions in an aggressive effort to curb inflation. These actions are expected to slow economic growth, increase the risk of recession and increase the unemployment rate in the U.S. and other countries, all of which would likely adversely affect Citi's consumer and institutional clients, businesses and results of operations. Elevated levels of inflation are also expected to continue to result in higher labor and other costs, thus putting further pressure on Citi's expenses.

Interest rates on loans Citi makes are typically based off or set at a spread over a benchmark interest rate and would likely decline or rise as benchmark rates decline or rise, respectively. While Citi expects its overall net interest income would generally increase due to higher interest rates, higher rates could adversely affect its funding costs, levels of deposits in its consumer and institutional businesses and certain business or product revenues. Citi's net interest income could be adversely affected due to a flattening (a lower spread between shorter-term versus longer-term interest rates) or longer lasting or more severe inversion (shorter-term interest rates exceeding longer-term interest rates) of the interest rate yield curve, as Citi, similar to other banks, typically pays interest on deposits based on shorter-term interest rates and earns money on loans based on longer-term interest rates. For additional information on Citi's interest rate risk, see "Managing Global Risk—Market Risk—Banking Book Interest Rate Risk" below. Additionally, Citi's balance sheet includes interest-rate sensitive fixed-rate assets such as U.S. Treasuries, U.S. agency securities and residential mortgages, among others, whose valuation would be adversely impacted in a rising-rate environment and/or whose hedging costs may increase.

Russia's war in Ukraine has caused supply shocks in energy, food and other commodities markets, worsened inflation, increased cybersecurity risks, increased the risk of recession in Europe and heightened geopolitical tensions. Actions by Russia, and any further measures taken by the U.S. or its allies, could continue to have negative impacts on regional and global energy and other commodities and financial markets and macroeconomic conditions, adversely impacting jurisdictions where Citi operates and Citi's customers, clients and employees. Citi's ability to continue to reduce its operations and exposure in Russia, including completion of the wind-down of its consumer and local commercial banking operations and nearly all of its institutional banking services in the country, may be negatively impacted by macroeconomic challenges and uncertainties, local market conditions, and sanctions and other governmental regulations or actions.

Moreover, Citi's remaining operations in Russia subject Citi to various other risks, among which are foreign currency volatility, including appreciations or devaluations; restrictions arising from retaliatory Russian laws and regulations on the conduct of its business, including, without limitation, its provision to its customers of certain securities services; sanctions or asset freezes; and other deconsolidation events. Examples of triggers that may result in deconsolidation of Citi's subsidiary bank in Russia, AO Citibank, include voluntary or forced sale of ownership or loss of control due to actions of relevant governmental authorities, including expropriation (i.e., the entity becomes subject to the complete control of a government, court, administrator, trustee or regulator); revocation of banking license; and loss of ability to elect a board of directors or appoint members of senior management. In the event of a loss of control of AO Citibank, Citi would be required to write off its net investment in the entity, recognize a CTA loss through earnings and recognize a loss on intercompany liabilities owed by AO Citibank to other Citi entities outside of Russia. In the sole event of a substantial liquidation, as opposed to a loss of control, Citi would be required to recognize the CTA loss through earnings and would evaluate its remaining net investment as circumstances evolve. Additionally, Citi may incur reputational harm if its actions are perceived to be misaligned with Citi's announced reductions of its operations and exposure in Russia. For additional information about these risks, see the operational processes and systems, cybersecurity and emerging markets risk factors and "Managing Global Risk—Other Risks—Country Risk—Russia" below.

COVID-19 is expected to continue to adversely affect global health and could negatively impact macroeconomic conditions in 2023. The extent of the impact remains uncertain

and will largely depend on future developments in China, the U.S. and other countries, such as the severity and duration of the public health consequences, including the course of variants; the public response; and government actions. COVID-19 could again disrupt supply chains, worsen inflation and reduce economic activity. These factors could adversely impact Citi's businesses and results of operations and financial condition.

Additional areas of uncertainty include, among others, economic and geopolitical challenges related to China, including related policy actions, distress in Chinese real estate finance and other credit markets, tensions or conflicts between China and Taiwan and/or between China and the U.S.; significant disruptions and volatility in financial markets, including foreign currency volatility and devaluations and continued strength in the U.S. dollar; other geopolitical tensions and conflicts; protracted or widespread trade tensions; financial market, other economic and political disruption driven by populist movements and governments; natural disasters; other pandemics; and election outcomes, including the effects of divided government in the U.S., such as with respect to raising of the federal debt limit. For example, Citi's market-making businesses can suffer losses resulting from the widening of credit spreads due to unanticipated changes in financial markets. Moreover, adverse developments or downturns in one or more of the world's larger economies would likely have a significant impact on the global economy or the economies of other countries because of global financial and economic linkages.

STRATEGIC RISKS

Citi's Ability to Return Capital to Common Shareholders Substantially Depends on Regulatory Capital Requirements, Including the Results of the CCAR Process and Dodd-Frank Act Regulatory Stress Tests.

Citi's ability to return capital to its common shareholders consistent with its capital planning efforts and targets, whether through its common stock dividend or through a share repurchase program, substantially depends, among other things, on regulatory capital requirements, including the annual recalibration of the Stress Capital Buffer (SCB), which is based upon the results of the CCAR process required by the FRB, and recalibration of the GSIB surcharge.

Citi's ability to return capital also depends on its results of operations and financial condition, including the capital impact related to its remaining divestitures, such as, among other things, any temporary capital impact from CTA losses (net of hedges) between transaction signings and closings and achievement of the expected capital benefits from the divestitures (for additional information, see "Executive Summary" above and the continued investments risk factor below); Citi's effectiveness in planning, managing and calculating its level of risk-weighted assets under both the Advanced Approaches and the Standardized Approach, Supplementary Leverage ratio (SLR) and GSIB surcharge; its implementation and maintenance of an effective capital planning process and management framework; forecasts of macroeconomic conditions; and deferred tax asset (DTA) utilization (see the ability to utilize DTA risk factor below).

Changes in regulatory capital rules, requirements or interpretations could continue to have a material impact on Citi's regulatory capital. For example, on October 1, 2022, Citi's required regulatory CET1 Capital ratio increased to 11.5% from 10.5% due to an increase in the SCB requirement (see below for information on calculation of the SCB). In addition, on January 1, 2023, Citi's required regulatory CET1 Capital ratio further increased to 12% from 11.5% under the Standardized Approach, as the current GSIB surcharge increased to 3.5% from 3.0%. Due to these increases as well as macroeconomic uncertainty, Citi paused common share repurchases beginning as of the third quarter of 2022. In addition, the U.S. banking agencies are considering a number of changes to the U.S. regulatory capital framework in the future, including, but not limited to, revisions to the U.S. Basel III rules, and potential changes to the GSIB surcharge, SLR and discretionary Countercyclical Capital Buffer. All of these potential changes could negatively impact Citi's regulatory capital position or increase Citi's regulatory capital requirements.

All firms subject to CCAR requirements, including Citi, will continue to be subject to a rigorous regulatory evaluation of capital planning practices, including, but not limited to, governance, risk management, data quality and internal controls. Citi's ability to return capital may be adversely impacted if such an evaluation of Citi results in negative findings. The FRB has stated that it expects capital adequacy practices to continue to evolve and to likely be determined by its yearly cross-firm review of capital plan submissions. Similarly, the FRB has indicated that, as part of its stated goal to continually evolve its annual stress testing requirements, several parameters of the annual stress testing process may continue to be altered, including the severity of the stress test scenario, the FRB modeling of Citi's balance sheet, pre-provision net revenue and stress losses, and the addition of components deemed important by the FRB. For information on limitations on Citi's ability to return capital to common shareholders, as well as the CCAR process, supervisory stress test requirements and GSIB surcharge, see "Capital Resources—Overview" and "Capital Resources—Stress Testing Component of Capital Planning" above and the risk management risk factor below.

Beginning January 1, 2022, Citi was required to phase into regulatory capital, at 25% per year, the changes in retained earnings, DTAs and ACL determined upon the January 1, 2020 CECL adoption date, as well as subsequent changes in the ACL through December 31, 2021. The FRB has stated that it plans to maintain its current framework for calculating allowances on loans in the supervisory stress test through the 2023 supervisory stress test cycle, while continuing to evaluate appropriate future enhancements to this framework. The impacts on Citi's capital adequacy of the FRB's incorporation of CECL into its supervisory stress tests on an ongoing basis, and of other potential regulatory changes in the FRB's stress testing methodologies, remain unclear. For additional information regarding the CECL methodology, including the transition provisions related to the adverse regulatory capital effects resulting from adoption of the CECL methodology, see "Capital Resources—Current Regulatory Capital Standards—Regulatory Capital Treatment—Modified

Transition of the Current Expected Credit Losses Methodology" above and Note 1.

In addition, the annual stress testing requirements are integrated into ongoing regulatory capital requirements. Citi's SCB equals the maximum decline in its CET1 Capital ratio under the supervisory severely adverse scenario over a nine-quarter CCAR measurement period, plus four quarters of planned common stock dividends, subject to a minimum requirement of 2.5%. The SCB is calculated by the FRB using its proprietary data and modeling of each firm's results. Accordingly, Citi's SCB may change annually, based on the supervisory stress test results, thus potentially resulting in additional volatility in the calculation of Citi's required regulatory CET1 Capital ratio under the Standardized Approach. Similar to the other regulatory capital buffers, a breach of the SCB may result in graduated limitations on capital distributions. For additional information on the SCB, see "Capital Resources—Regulatory Capital Buffers" above.

Although various uncertainties exist regarding the extent of, and the ultimate impact to Citi from, these changes to the FRB's regulatory capital, stress testing and CCAR regimes, these changes could increase the level of capital Citi is required or elects to hold, including as part of Citi's management buffer, thus potentially impacting the extent to which Citi is able to return capital to shareholders.

Citi Must Continually Review, Analyze and Successfully Adapt to Ongoing Regulatory and Legislative Uncertainties and Changes in the U.S. and Globally.

Citi, its management and its businesses continue to face ongoing regulatory and legislative uncertainties and changes, both in the U.S. and globally. While the areas of ongoing regulatory and legislative uncertainties and changes facing Citi are too numerous to list completely, examples include, but are not limited to (i) potential fiscal, monetary, tax, sanctions and other changes promulgated by the U.S. federal government and other governments, including as a result of priority shifts depending on individuals, political parties and other groups in governmental positions; (ii) potential changes to various aspects of the regulatory capital framework and requirements applicable to Citi, including the Basel III rules (see the capital return risk factor and "Capital Resources—Regulatory Capital Standards Developments" above); and (iii) rapidly evolving legislative and regulatory requirements and other government initiatives in the U.S. and globally related to climate change and other ESG areas that vary, and may conflict, across jurisdictions, including any new disclosure requirements (see the climate change risk factor below). References to "regulatory" refer to both formal regulation and the views and expectations of Citi's regulators in their supervisory roles.

For example, in February 2023, the Consumer Financial Protection Bureau proposed significant changes to the maximum amounts on credit card late fees, which, if adopted as proposed, would reduce credit card fee revenues in Branded cards and Retail services in *PBWM*. In addition, U.S. and international regulatory and legislative initiatives have not always been undertaken or implemented on a coordinated basis, and areas of divergence have developed and continue to develop with respect to their scope, interpretation, timing, structure or approach, leading to inconsistent or even conflicting requirements, including within a single jurisdiction. For example, in 2019, the European Commission adopted, as part of Capital Requirements Directive V (CRD V), a new requirement for major banking groups headquartered outside the EU (which would include Citi) to establish an intermediate EU holding company where the foreign bank has two or more institutions (broadly meaning banks, broker-dealers and similar financial firms) established in the EU. While in some respects the requirement mirrors an existing U.S. requirement for non-U.S. banking organizations to form U.S. intermediate holding companies, the implementation of the EU holding company requirement could lead to additional complexity with respect to Citi's resolution planning, capital and liquidity allocation and efficiency in various jurisdictions.

Further, ongoing regulatory and legislative uncertainties and changes make Citi's and its management's long-term business, balance sheet and strategic budget planning difficult, subject to change and potentially more costly and may impact its results of operations. U.S. and other regulators globally have implemented and continue to discuss various changes to certain regulatory requirements, which would require ongoing assessment by management as to the impact to Citi, its businesses and business planning. For example, while the Basel III regulatory reforms and revised market risk framework have been finalized at the international level, there remain significant uncertainties with respect to the integration of these revisions into the U.S. regulatory capital framework. Business planning is required to be based on possible or proposed rules or outcomes, which can change dramatically upon finalization, or upon implementation or interpretive guidance from numerous regulatory bodies worldwide, and such guidance can change. Regulatory and legislative changes have also significantly increased Citi's compliance risks and costs (see the implementation and interpretation of regulatory changes risk factor below) and can adversely affect Citi's businesses, results of operations and financial condition.

Citi's Continued Investment and Other Initiatives as Part of Its Transformation and Strategic Refresh May Not Be as Successful as It Projects or Expects.

As part of its transformation and other strategic initiatives, Citi continues to make significant investments to improve its risk and control environment, modernize its data and technology infrastructure and further enhance safety and soundness (for additional information on these investments, see "Executive Summary" above and the legal and regulatory proceedings risk factor below). Citi also continues to make business-led investments, as part of the execution of its strategic refresh. For example, Citi has been making investments across the Company, including, for example, hiring front office colleagues and enhancing product capabilities and platforms to improve client digital experiences and add scalability and implementing new capabilities and partnerships. Citi has also been pursuing productivity improvements through various technology and digital initiatives, organizational simplification and location strategies.

Citi's multiyear transformation initiatives involve significant execution complexity, and there is inherent risk that these will not be as productive or effective as Citi expects,

or at all. Conversely, failure to properly invest in and upgrade Citi's technology and processes could result in Citi's inability to meet regulatory expectations, be sufficiently competitive, serve clients effectively and avoid operational errors (for additional information, see the operational processes and systems and legal and regulatory proceedings risk factors below). Moreover, Citi's ability to achieve expected returns on its investments and productivity improvements depends, in part, on factors that it cannot control, including, among others, macroeconomic challenges and uncertainties; customer, client and competitor actions; and ongoing regulatory requirements or changes.

Citi's strategic refresh also includes the divestiture of its remaining consumer banking businesses in *Legacy Franchises*, including Mexico Consumer/SBMM, in order to simplify the Company and enhance its allocation of resources. These divestitures involve significant uncertainty and execution complexity, and may result in additional CTA or other losses, charges or other negative financial or strategic impacts, which could be material (for information about risks related to Citi's operations in Russia, see the macroeconomic challenges and uncertainties risk factor above and "Managing Global Risk—Other Risks—Country Risk—Russia" below). For additional information about CTA losses, see "Executive Summary" and the capital return risk factor above and the incorrect assumptions or estimates risk factor below.

Citi's investment and other initiatives may continue to evolve as its business strategies, the market environment and regulatory expectations change, which could make the initiatives more costly and more challenging to implement, and limit their effectiveness.

Climate Change Presents Various Financial and Non-Financial Risks to Citi and its Customers and Clients.

Climate change presents both immediate and long-term risks to Citi and its customers and clients, with the risks expected to increase over time. Climate risks can arise from both physical risks (those risks related to the physical effects of climate change) and transition risks (risks related to regulatory, market, technological, stakeholder and legal changes from a transition to a low-carbon economy). Physical and transition risks can manifest themselves differently across Citi's risk categories in the short, medium and long terms. Physical risks from climate change include acute risks, such as hurricanes and floods, as well as consequences of chronic changes in climate, such as rising sea levels, prolonged droughts and systemic changes to geographies and any resulting population migration. Such physical risks could have adverse financial, operational and other impacts on Citi, both directly on its business and operations, and indirectly as a result of impacts to Citi's clients, customers, vendors and other counterparties. These impacts can include destruction, damage or impairment of properties and other assets, disruptions to business operations and supply chains and reduced availability or increase in the cost of insurance. Physical risks can also impact Citi's credit risk exposures, for example, in its mortgage and commercial real estate lending businesses.

Transition risks may arise from changes in regulations or market preferences toward low-carbon industries or sectors, which in turn could have negative impacts on asset values, results of operations or the reputations of Citi and its customers and clients. For example, Citi's corporate credit exposures include oil and gas, power and other industries that may experience reduced demand for carbon-intensive products due to the transition to a low-carbon economy. Failure to adequately consider transition risk in developing and executing on its business strategy could lead to a loss of market share, lower revenues and higher credit costs.

Additionally, if Citi's response to climate change is perceived to be ineffective or insufficient or Citi is unable to achieve its objectives or commitments relating to climate change, its businesses, reputation, attractiveness to certain investors and efforts to recruit and retain employees may suffer. For example, the need to decarbonize in a gradual and orderly way, while promoting energy security, may lead to continued exposure to carbon-intensive activity that in turn may raise such reputational risks.

Even as some regulators seek to mandate additional disclosure of climate-related information, Citi's ability to comply with such requirements and conduct more robust climate-related risk analyses may be hampered by lack of information and reliable data. Data on climate-related risks is limited in availability, often based on estimated or unverified figures, collected and reported on a lag, and variable in quality. Modeling capabilities to analyze climate-related risks and interconnections are improving, but remain incomplete. Moreover, U.S. and non-U.S. banking regulators and others are increasingly focusing on the issue of climate risk at financial institutions, both directly and with respect to their clients. For example, in December 2022, the FRB requested comment on draft principles that would provide a high-level framework for the safe and sound management of exposures to climate-related financial risks for FRB-supervised financial institutions with more than $100 billion in assets.

Legislative and regulatory changes and uncertainties regarding climate-related risk management and disclosures are likely to result in higher regulatory, compliance, credit, reputational and other risks and costs for Citi (for additional information, see the ongoing regulatory and legislative uncertainties and changes risk factor above). In addition, Citi could face increased regulatory, reputational and legal scrutiny as a result of its climate risk, sustainability and other ESG-related commitments and disclosures. Citi also faces potentially conflicting anti-ESG initiatives from certain U.S. state governments that may impact its ability to conduct certain business within those jurisdictions, as well as from Congress.

For information on Citi's climate and other sustainability initiatives, see "Sustainability and Other ESG Matters" below. For additional information on Citi's management of climate risk, see "Managing Global Risk—Strategic Risks—Climate Risk" below.

Citi's Ability to Utilize Its DTAs, and Thus Reduce the Negative Impact of the DTAs on Citi's Regulatory Capital, Will Be Driven by Its Ability to Generate U.S. Taxable Income.

At December 31, 2022, Citi's net DTAs were $27.7 billion, net of a valuation allowance of $2.4 billion, of which $10.9 billion was deducted from Citi's CET1 Capital under the U.S.

Basel III rules, primarily relating to net operating losses, foreign tax credit and general business credit carry-forwards. Of the net DTAs at December 31, 2022, $1.9 billion related to foreign tax credit (FTC) carry-forwards, net of a valuation allowance. The carry-forward utilization period for FTCs is 10 years and represents the most time-sensitive component of Citi's DTAs. The FTC carry-forwards at December 31, 2022 expire over the period of 2025–2029. Citi must utilize any FTCs generated in the then-current-year tax return prior to utilizing any carry-forward FTCs.

The accounting treatment for realization of DTAs, including FTCs, is complex and requires significant judgment and estimates regarding future taxable earnings in the jurisdictions in which the DTAs arise and available tax planning strategies. Forecasts of future taxable earnings will depend upon various factors, including, among others, macroeconomic conditions. In addition, any future increase in U.S. corporate tax rates could result in an increase in Citi's DTA, which may subject more of Citi's existing DTA to exclusion from regulatory capital while improving Citi's ability to utilize its FTC carry-forwards.

Citi's overall ability to realize its DTAs will primarily be dependent upon its ability to generate U.S. taxable income in the relevant tax carry-forward periods. Although utilization of FTCs in any year is generally limited to 21% of foreign source taxable income in that year, overall domestic losses (ODL) that Citi has incurred in the past allow it to reclassify domestic source income as foreign source. Failure to realize any portion of the net DTAs would have a corresponding negative impact on Citi's net income and financial returns. Citi has not been and does not expect to be subject to the Base Erosion Anti-Abuse Tax (BEAT), which, if applicable to Citi in any given year, would have a significantly adverse effect on both Citi's net income and regulatory capital. For additional information on Citi's DTAs, including FTCs, see "Significant Accounting Policies and Significant Estimates—Income Taxes" below and Notes 1 and 9.

Citi's Interpretation or Application of the Complex Tax Laws to Which It Is Subject Could Differ from Those of Governmental Authorities, Which Could Result in Litigation or Examinations and the Payment of Additional Taxes, Penalties or Interest.

Citi is subject to various income-based tax laws of the U.S. and its states and municipalities, as well as the numerous non-U.S. jurisdictions in which it operates. These tax laws are inherently complex, and Citi must make judgments and interpretations about the application of these laws to its entities, operations and businesses.

For example, the Organization for Economic Cooperation and Development (OECD) Pillar 2 initiative contemplates a 15% global minimum tax with respect to earnings in each separate country. EU member states are required to adopt the OECD Pillar 2 rules in 2023, and other non-U.S. countries are expected to follow suit. Under these rules, Citi will be required to pay a "top-up" tax to the extent that Citi's effective tax rate in any given country is below 15%. The U.S. is not expected to pass Pillar 2 legislation in the near term, but the top-up tax can be collected by other countries. While many aspects of the application of the rules remain uncertain, Citi does not expect a material effect to its earnings.

In addition, Citi is subject to litigation or examinations with U.S. and non-U.S. tax authorities regarding non-income-based tax matters. While Citi has appropriately reserved for such matters where there is a probable loss, and has disclosed, as reasonably possible, matters that are more-likely-than-not, the outcome from the matters may be different than Citi's expectations. Citi's interpretations or application of the tax laws, including with respect to withholding, stamp, service and other non-income taxes, could differ from that of the relevant governmental taxing authority, which could result in the requirement to pay additional taxes, penalties or interest, which could be material. See Note 29 for additional information on litigation and examinations involving non-U.S. tax authorities.

A Deterioration in or Failure to Maintain Citi's Co-Branding or Private Label Credit Card Relationships Could Have a Negative Impact on Citi.

Citi has co-branding and private label relationships through its Branded cards and Retail services credit card businesses with various retailers and merchants, whereby in the ordinary course of business Citi issues credit cards to customers of the retailers or merchants. The five largest relationships across both businesses in U.S. Personal Banking constituted an aggregate of approximately 10% of Citi's revenues in 2022 (for additional information, see "*Personal Banking and Wealth Management*" above). Citi's co-branding and private label agreements often provide for shared economics between the parties and generally have a fixed term.

Competition among card issuers, including Citi, for these relationships is significant, and Citi may not be able to maintain such relationships on existing terms or at all. Citi's co-branding and private label relationships could also be negatively impacted by, among other things, the general economic environment, including the impacts of significantly elevated levels of inflation, higher interest rates, global supply shocks and lower economic growth rates, as well as an increasing risk of recession; changes in consumer sentiment, spending patterns and credit card usage behaviors; a decline in sales and revenues, partner store closures, any reduction in air and business travel, or other operational difficulties of the retailer or merchant; early termination due to a contractual breach or exercise of other early termination right; or other factors, including bankruptcies, liquidations, restructurings, consolidations or other similar events, whether due to the challenging macroeconomic environment or otherwise.

These events, particularly early termination and bankruptcies or liquidations, could negatively impact the results of operations or financial condition of Branded cards, Retail services or Citi as a whole, including as a result of loss of revenues, increased expenses, higher cost of credit, impairment of purchased credit card relationships and contract-related intangibles or other losses (see Note 16 for information on Citi's credit card related intangibles generally).

Citi's Inability in Its Resolution Plan Submissions to Address Any Shortcomings or Deficiencies or Guidance Provided Could Subject Citi to More Stringent Capital, Leverage or Liquidity Requirements, or Restrictions on Its Growth, Activities or Operations, and Could Eventually Require Citi to Divest Assets or Operations.

Title I of the Dodd-Frank Act requires Citi to prepare and submit a plan to the FRB and the FDIC for the orderly resolution of Citigroup (the bank holding company) and its significant legal entities under the U.S. Bankruptcy Code in the event of future material financial distress or failure. On November 22, 2022, the FRB and FDIC issued feedback on the resolution plans filed on July 1, 2021 by the eight U.S. GSIBs, including Citi. The FRB and FDIC identified one shortcoming, but no deficiencies, in Citi's 2021 resolution plan. The shortcoming related to data integrity and data quality management issues, specifically, weaknesses in Citi's processes and practices for producing certain data that could materially impact its resolution capabilities. If a shortcoming is not satisfactorily explained or addressed before, or in, the submission of the next resolution plan, the shortcoming may be found to be a deficiency in the next resolution plan. For additional information on Citi's resolution plan submissions, see "Managing Global Risk—Liquidity Risk" below.

Under Title I, if the FRB and the FDIC jointly determine that Citi's resolution plan is not "credible" (which, although not defined, is generally believed to mean the regulators do not believe the plan is feasible or would otherwise allow Citi to be resolved in a way that protects systemically important functions without severe systemic disruption), or would not facilitate an orderly resolution of Citi under the U.S. Bankruptcy Code, and Citi fails to resubmit a resolution plan that remedies any identified deficiencies, Citi could be subjected to more stringent capital, leverage or liquidity requirements, or restrictions on its growth, activities or operations. If within two years from the imposition of any such requirements or restrictions Citi has still not remediated any identified deficiencies, then Citi could eventually be required to divest certain assets or operations. Any such restrictions or actions would negatively impact Citi's reputation, market and investor perception, operations and strategy.

Citi's Performance and Its Ability to Effectively Execute Its Transformation and Other Strategic Initiatives Could Be Negatively Impacted if It Is Not Able to Compete for, Retain and Motivate Highly Qualified Colleagues.

Recent employment conditions and inflationary pressures have made the competition to hire and retain qualified employees significantly more challenging and costly. Citi's performance and the performance of its individual businesses largely depend on the talents and efforts of its diverse and highly qualified colleagues. Specifically, Citi's continued ability to compete in each of its lines of business, to manage its businesses effectively and to execute its transformation and other strategic initiatives, including, for example, hiring front office colleagues to grow businesses or hiring colleagues to support transformation of its risk, controls, data and finance infrastructure and compliance, depends on its ability to attract new colleagues and to retain and motivate its existing colleagues. If Citi is unable to continue to attract, retain and motivate the most highly qualified colleagues, Citi's performance, including its competitive position, the execution of its transformation and other strategic initiatives and its results of operations could be negatively impacted.

Citi's ability to attract, retain and motivate colleagues depends on numerous factors, some of which are outside of its control. For example, the competition for talent recently has been particularly intense, and attrition rates have risen due to factors such as low unemployment, a strong job market with a large number of open positions, and changes in worker's expectations, concerns and preferences, in part due to the pandemic, including an increased demand for remote work options and other job flexibility. Also, the banking industry generally is subject to more comprehensive regulation of employee compensation than other industries, including deferral and clawback requirements for incentive compensation, which can make it unusually challenging for Citi to compete in labor markets against businesses, including for example technology companies, that are not subject to such regulation. Other factors that could impact its ability to attract, retain and motivate colleagues include, among other things, Citi's presence in a particular market or region, the professional and development opportunities and employee benefits it offers, its reputation and its diversity. For information on Citi's colleagues and workforce management, see "Human Capital Resources and Management" below.

Citi Faces Increased Competitive Challenges, Including from Financial Services and Other Companies and Emerging Technologies.

Citi operates in an increasingly evolving and competitive business environment, which includes both financial and non-financial services firms, such as traditional banks, online banks, financial technology companies and others. These companies compete on the basis of, among other factors, size, reach, quality and type of products and services offered, price, technology and reputation. Certain competitors may be subject to different and, in some cases, less stringent legal and regulatory requirements, whether due to size, jurisdiction, entity type or other factors, placing Citi at a competitive disadvantage.

For example, Citi competes with other financial services companies in the U.S. and globally that continue to develop and introduce new products and services. In recent years, non-traditional financial services firms, such as financial technology companies, have begun to offer services traditionally provided by financial institutions, such as Citi, and have sought bank charters to provide these services. These firms attempt to use technology and mobile platforms to enhance the ability of companies and individuals to borrow, save and invest money. Emerging technologies have the potential to intensify competition and accelerate disruption in the financial services industry. For example, despite recent turmoil in the digital asset market, there is sustained interest from clients and investors in digital assets. Financial services firms and other market participants have begun to offer services related to those assets. However, Citi may not be able to provide the same or similar services for legal or regulatory reasons and due to increased compliance and other risks. In

addition, changes in the payments space (e.g., instant and 24x7 payments) are accelerating, and, as a result, certain of Citi's products and services could become less competitive.

Increased competition and emerging technologies have required and could require Citi to change or adapt its products and services to attract and retain customers or clients or to compete more effectively with competitors, including new market entrants. Simultaneously, as Citi develops new products and services leveraging emerging technologies, new risks may emerge that, if not designed and governed adequately, may result in control gaps and in Citi operating outside of its risk appetite. For example, instant and 24x7 payments products could be accompanied by challenges to forecasting and managing liquidity, as well as increased operational and compliance risks.

Moreover, Citi relies on third parties to support certain of its product and service offerings, which may put Citi at a disadvantage to competitors who may directly offer a broader array of products and services. Also, Citi's businesses, results of operations and reputation may suffer if any third party is unable to provide adequate support for such product and service offerings, whether due to operational incidents or otherwise (for additional information, see the operational processes and systems, cybersecurity and emerging markets risk factors below).

To the extent that Citi is not able to compete effectively with financial technology companies and other firms, Citi could be placed at a competitive disadvantage, which could result in loss of customers and market share, and its businesses, results of operations and financial condition could suffer. For additional information on Citi's competitors, see the co-brand and private label cards and qualified colleagues risk factors above and "Supervision, Regulation and Other—Competition" below.

OPERATIONAL RISKS

A Failure or Disruption of Citi's Operational Processes or Systems Could Negatively Impact Its Reputation, Customers, Clients, Businesses or Results of Operations and Financial Condition.

Citi's global operations rely heavily on its technology, including the accurate, timely and secure processing, management, storage and transmission of confidential transactions, data and other information as well as the monitoring of a substantial amount of data and complex transactions in real time. Citi obtains and stores an extensive amount of personal and client-specific information for its consumer and institutional customers and clients, and must accurately record and reflect their extensive account transactions. Citi's operations must also comply with complex and evolving laws and regulations in the countries in which it operates. With the evolving proliferation of new technologies and the increasing use of the internet, mobile devices and cloud technologies to conduct financial transactions and customers' and clients' increasing use of online banking and trading systems and other platforms, large global financial institutions such as Citi have been, and will continue to be, subject to an ever-increasing risk of operational loss, failure or disruption, including as a result of cyber or information security incidents (for additional information, see the cybersecurity risk factor below).

Although Citi has continued to upgrade its technology, including systems to automate processes and enhance efficiencies, operational incidents are unpredictable and can arise from numerous sources, not all of which are fully within Citi's control. These include, among others, human error, such as manual transaction processing errors, which can be exacerbated by staffing challenges and processing backlogs; fraud or malice on the part of employees or third parties; operational or execution failures or deficiencies by third parties; insufficient (or limited) straight-through processing between legacy systems and any failure to design and effectively operate controls that mitigate operational risks associated with those legacy systems leading to potential risk of errors and operating losses; accidental system or technological failure; electrical or telecommunication outages; failures of or cyber incidents involving computer servers or infrastructure; or other similar losses or damage to Citi's property or assets (see also the climate change risk factor above).

For example, Citi has experienced and could experience further losses associated with manual transaction processing errors, including erroneous payments to lenders or manual errors by Citi traders that cause system and market disruptions and losses for Citi and its clients. Irrespective of the sophistication of the technology utilized by Citi, there will always be some room for human error. In view of the large transactions in which Citi engages, such errors could result in significant losses. While Citi has change management processes in place to appropriately upgrade its operational processes and systems to ensure that any changes introduced do not adversely impact security and operational continuity, such change management can fail or be ineffective. Operational incidents can also arise as a result of failures by third parties with which Citi does business, such as failures by internet, mobile technology and cloud service providers or other vendors to adequately follow procedures or processes, safeguard their systems or prevent system disruptions or cyberattacks.

Incidents that impact information security and/or technology operations may cause disruptions and/or malfunctions within Citi's businesses (e.g., the temporary loss of availability of Citi's online banking system or mobile banking platform), as well as the operations of its clients, customers or other third parties. In addition, operational incidents could involve the failure or ineffectiveness of internal processes or controls. Given Citi's global footprint and the high volume of transactions processed by Citi, certain failures, errors or actions may be repeated or compounded before they are discovered and rectified, which would further increase the consequences and costs. Operational incidents could result in financial losses as well as misappropriation, corruption or loss of confidential and other information or assets, which could significantly negatively impact Citi's reputation, customers, clients, businesses or results of operations and financial condition. Cyber-related and other operational incidents can also result in legal and regulatory actions or proceedings, fines and other costs (see the legal and regulatory proceedings risk factor below).

For information on Citi's management of operational risk, see "Managing Global Risk—Operational Risk" below.

Citi's and Third Parties' Computer Systems and Networks Will Continue to Be Susceptible to an Increasing Risk of Continually Evolving, Sophisticated Cybersecurity Incidents That Could Result in the Theft, Loss, Misuse or Disclosure of Confidential Client or Customer Information, Damage to Citi's Reputation, Additional Costs to Citi, Regulatory Penalties, Legal Exposure and Financial Losses.

Citi's computer systems, software and networks are subject to ongoing cyber incidents, such as unauthorized access, loss or destruction of data (including confidential client information), account takeovers, disruptions of service, phishing, malware, ransomware, computer viruses or other malicious code, cyberattacks and other similar events. These threats can arise from external parties, including cyber criminals, cyber terrorists, hacktivists (individuals or groups using cyberattacks to promote a political or social agenda) and nation-state actors, as well as insiders who knowingly or unknowingly engage in or enable malicious cyber activities.

The increasing use of mobile and other digital banking platforms and services, cloud technologies and connectivity solutions to facilitate remote working for Citi's employees all increase Citi's exposure to cybersecurity risks. Citi's wind-down of its businesses in Russia could also increase its susceptibility to cyberattacks (for additional information about Citi's exposures related to its Russia operations, see the macroeconomic and geopolitical risk factor above and "Managing Global Risk—Other Risks—Country Risk—Russia" below).

Third parties with which Citi does business, as well as retailers and other third parties with which Citi's customers do business, may also be sources of cybersecurity risks, particularly where activities of customers are beyond Citi's security and control systems. For example, Citi outsources certain functions, such as processing customer credit card transactions, uploading content on customer-facing websites and developing software for new products and services. These relationships allow for the storage and processing of customer information by third-party hosting of, or access to, Citi websites, which could lead to compromise or the potential to introduce vulnerable or malicious code, resulting in security breaches impacting Citi customers. Furthermore, because financial institutions are becoming increasingly interconnected with central agents, exchanges and clearing houses, including as a result of derivatives reforms over the last few years, Citi has increased exposure to cyberattacks through third parties. While many of Citi's agreements with third parties include indemnification provisions, Citi may not be able to recover sufficiently, or at all, under these provisions to adequately offset any losses Citi may incur from third-party cyber incidents.

Citi and some of its third-party partners have been subject to attempted and sometimes successful cyberattacks from external sources over the last several years, including (i) denial of service attacks, which attempt to interrupt service to clients and customers; (ii) hacking and malicious software installations intended to gain unauthorized access to information systems or to disrupt those systems; (iii) data breaches due to unauthorized access to customer account data; and (iv) malicious software attacks on client systems, in attempts to gain unauthorized access to Citi systems or client data under the guise of normal client transactions. While Citi's monitoring and protection services were able to detect and respond to the incidents targeting its systems before they became significant, they still resulted in limited losses in some instances as well as increases in expenditures to monitor against the threat of similar future cyber incidents. There can be no assurance that such cyber incidents will not occur again, and they could occur more frequently, via novel tactics and on a more significant scale.

Further, although Citi devotes significant resources to implement, maintain, monitor and regularly upgrade its systems and networks with measures such as intrusion detection and prevention and firewalls to safeguard critical business applications, there is no guarantee that these measures or any other measures can provide absolute security. Because the techniques used to initiate cyberattacks change frequently or, in some cases, are not recognized until launched or even later, Citi may be unable to implement effective preventive measures or otherwise proactively address these methods. In addition, given the evolving nature of cyber threat actors and the frequency and sophistication of the cyber activities they carry out, the determination of the severity and potential impact of a cyber incident may not become apparent for a substantial period of time following discovery of the incident. Also, while Citi engages in certain actions to reduce the exposure resulting from outsourcing, such as performing security control assessments of third-party vendors and limiting third-party access to the least privileged level necessary to perform job functions, these actions cannot prevent all third-party-related cyberattacks or data breaches.

Cyber incidents can result in the disclosure of personal, confidential or proprietary customer, client or employee information, damage to Citi's reputation with its clients and the market, customer dissatisfaction and additional costs to Citi, including expenses such as repairing systems, replacing customer payment cards, credit monitoring or adding new personnel or protection technologies. Cyber incidents can also result in regulatory penalties, loss of revenues, exposure to litigation and other financial losses, including loss of funds, to both Citi and its clients and customers and disruption to Citi's operational systems (for additional information on the potential impact of operational disruptions, see the operational processes and systems risk factor above). Moreover, the increasing risk of cyber incidents has resulted in increased legislative and regulatory scrutiny of firms' cybersecurity protection services and calls for additional laws and regulations to further enhance protection of consumers' personal data.

While Citi maintains insurance coverage that may, subject to policy terms and conditions including significant self-insured deductibles, cover certain aspects of cyber risks, such insurance coverage may be insufficient to cover all losses and may not take into account reputational harm, the costs of which are impossible to quantify.

For additional information about Citi's management of cybersecurity risk, see "Managing Global Risk—Operational Risk—Cybersecurity Risk" below.

Changes or Errors in Accounting Assumptions, Judgments or Estimates, or the Application of Certain Accounting Principles, Could Result in Significant Losses or Other Adverse Impacts.

U.S. GAAP requires Citi to use certain assumptions, judgments and estimates in preparing its financial statements, including, among other items, the estimate of the ACL; reserves related to litigation, regulatory and tax matters; valuation of DTAs; the fair values of certain assets and liabilities; and the assessment of goodwill and other assets for impairment. These assumptions, judgments and estimates are inherently limited because they involve techniques, including the use of historical data in many circumstances, that cannot anticipate every economic and financial outcome in the markets in which Citi operates, nor can they anticipate the specifics and timing of such outcomes. For example, many models used by Citi include assumptions about correlation or lack thereof among prices of various asset classes or other market indicators that may not hold in times of market stress, limited liquidity or other unforeseen circumstances. If Citi's assumptions, judgments or estimates underlying its financial statements are incorrect or differ from actual or subsequent events, Citi could experience unexpected losses or other adverse impacts, some of which could be significant. Citi could also experience declines in its stock price, be subject to legal and regulatory proceedings and incur fines and other losses. For additional information on the key areas for which assumptions and estimates are used in preparing Citi's financial statements, see "Significant Accounting Policies and Significant Estimates" below and Notes 1 and 15.

For example, the CECL methodology requires that Citi provide reserves for a current estimate of lifetime expected credit losses for its loan portfolios and other financial assets, as applicable, at the time those assets are originated or acquired. This estimate is adjusted each period for changes in expected lifetime credit losses. Citi's ACL estimate depends upon its CECL models and assumptions; forecasted macroeconomic conditions, including, among other things, the U.S. unemployment rate and U.S. inflation-adjusted gross domestic product (real GDP); and the credit indicators, composition and other characteristics of Citi's loan portfolios and other applicable financial assets. These model assumptions and forecasted macroeconomic conditions will change over time, resulting in variability in Citi's ACL, and, thus, impact its results of operations and financial condition, as well as regulatory capital due to the CECL phase-in (for additional information on the CECL phase-in, see the capital return risk factor above).

Moreover, Citi has incurred losses related to its foreign operations that are reported in the CTA components of *Accumulated other comprehensive income (loss) (AOCI)*. In accordance with U.S. GAAP, a sale, substantial liquidation or other deconsolidation event of any foreign operations, such as those related to Citi's remaining divestitures or legacy businesses, would result in reclassification of any foreign CTA component of *AOCI* related to that foreign operation, including related hedges and taxes, into Citi's earnings. For example, in the second quarter of 2022, Citi incurred a CTA loss (net of hedges) in *AOCI* released to earnings of approximately $400 million ($345 million after-tax) related to the substantial liquidation of a legacy U.K. consumer operation (for additional information, see "*Legacy Franchises*" and "*Corporate/Other*" above and Note 2). For additional information on Citi's accounting policy for foreign currency translation and its foreign CTA components of *AOCI*, see Notes 1 and 20.

Changes to Financial Accounting and Reporting Standards or Interpretations Could Have a Material Impact on How Citi Records and Reports Its Financial Condition and Results of Operations.

Periodically, the Financial Accounting Standards Board (FASB) issues financial accounting and reporting standards that govern key aspects of Citi's financial statements or interpretations thereof when those standards become effective, including those areas where Citi is required to make assumptions or estimates. Changes to financial accounting or reporting standards or interpretations, whether promulgated or required by the FASB, the SEC, banking regulators or others, could present operational challenges and could also require Citi to change certain of the assumptions or estimates it previously used in preparing its financial statements, which could negatively impact how it records and reports its financial condition and results of operations generally and/or with respect to particular businesses. See Note 1 for additional information on Citi's accounting policies and changes in accounting, including the expected impacts on Citi's results of operations and financial condition.

If Citi's Risk Management Processes, Strategies or Models Are Deficient or Ineffective, Citi May Incur Significant Losses and Its Regulatory Capital and Capital Ratios Could Be Negatively Impacted.

Citi utilizes a broad and diversified set of risk management and mitigation processes and strategies, including the use of models in enacting processes and strategies as well as in analyzing and monitoring the various risks Citi assumes in conducting its activities. For example, Citi uses models as part of its comprehensive stress testing initiatives across the Company. Citi also relies on data to aggregate, assess and manage various risk exposures. Management of these risks is made more challenging within a global financial institution such as Citi, particularly given the complex, diverse and rapidly changing financial markets and conditions in which Citi operates as well as that losses can occur unintentionally from untimely, inaccurate or incomplete processes and data. As discussed below, in October 2020, Citigroup and Citibank entered into consent orders with the FRB and OCC that require Citigroup and Citibank to make improvements in various aspects of enterprise-wide risk management, compliance, data quality management and governance and internal controls (see "Citi's Consent Order Compliance" above and the legal and regulatory proceedings risk factor below).

Citi's risk management processes, strategies and models are inherently limited because they involve techniques, including the use of historical data in many circumstances, assumptions and judgments that cannot anticipate every economic and financial outcome in the markets in which Citi operates, nor can they anticipate the specifics and timing of

such outcomes. For example, many models used by Citi include assumptions about correlation or lack thereof among prices of various asset classes or other market indicators that may not necessarily hold in times of market stress, limited liquidity or other unforeseen circumstances. Citi could incur significant losses, and its regulatory capital and capital ratios could be negatively impacted, if Citi's risk management processes, including its ability to manage and aggregate data in a timely and accurate manner, strategies or models are deficient or ineffective. Such deficiencies or ineffectiveness could also result in inaccurate financial, regulatory or risk reporting.

Moreover, Citi's Basel III regulatory capital models, including its credit, market and operational risk models, currently remain subject to ongoing regulatory review and approval, which may result in refinements, modifications or enhancements (required or otherwise) to these models. Citi is required to notify and obtain preapproval from both the OCC and FRB prior to implementing certain risk-weighted asset treatments, as well as certain model changes, resulting in a more challenging environment within which Citi must operate in managing its risk-weighted assets. Modifications or requirements resulting from these ongoing reviews, as well as any future changes or guidance provided by the U.S. banking agencies regarding the regulatory capital framework applicable to Citi, have resulted in, and could continue to result in, significant changes to Citi's risk-weighted assets. These changes can negatively impact Citi's capital ratios and its ability to achieve its regulatory capital requirements.

CREDIT RISKS

Credit Risk and Concentrations of Risk Can Increase the Potential for Citi to Incur Significant Losses.

Citi has credit exposures to consumer, corporate and public sector borrowers and other counterparties in the U.S. and various countries and jurisdictions globally, including end-of-period consumer loans of $368 billion and end-of-period corporate loans of $289 billion at December 31, 2022. For additional information on Citi's corporate and consumer loan portfolios, see "Managing Global Risk—Corporate Credit" and "—Consumer Credit" below.

A default by a borrower or other counterparty, or a decline in the credit quality or value of any underlying collateral, exposes Citi to credit risk. Despite Citi's target client strategy, various macroeconomic, geopolitical and other factors, among other things, can increase Citi's credit risk and credit costs, particularly for certain sectors, industries or countries (for additional information, see the co-branding and private label credit card and macroeconomic challenges and uncertainties risk factors above and the emerging markets risk factor below). For example, a weakening of economic conditions can adversely affect borrowers' ability to repay their obligations, as well as result in Citi being unable to liquidate the collateral it holds or forced to liquidate the collateral at prices that do not cover the full amount owed to Citi. Citi is also a member of various central clearing counterparties and could incur financial losses as a result of defaults by other clearing members due to the requirements of clearing members to share losses. Additionally, due to the interconnectedness among financial institutions, concerns about the creditworthiness of or defaults by a financial institution could spread to other financial market participants and result in market-wide losses.

While Citi provides reserves for expected losses for its credit exposures, as applicable, such reserves are subject to judgments and estimates that could be incorrect or differ from actual future events. Under the CECL accounting standard, the ACL reflects expected losses, which has resulted in and could lead to additional volatility in the allowance and the provision for credit losses as forecasts of economic conditions change. For additional information, see the incorrect assumptions or estimates and changes to financial accounting and reporting standards risk factors above. For additional information on Citi's ACL, see "Significant Accounting Policies and Significant Estimates" below and Notes 1 and 15. For additional information on Citi's credit and country risk, see each respective business's results of operations above and "Managing Global Risk—Credit Risk" and "Managing Global Risk—Other Risks—Country Risk" below and Notes 14 and 15.

Concentrations of risk to clients or counterparties engaged in the same or related industries or doing business in a particular geography, especially credit and market risks, can also increase Citi's risk of significant losses. For example, Citi routinely executes a high volume of securities, trading, derivative and foreign exchange transactions with non-U.S. sovereigns and with counterparties in the financial services industry, including banks, insurance companies, investment banks, governments, central banks and other financial institutions. Moreover, Citi has indemnification obligations in connection with various transactions that expose it to concentrations of risk, including credit risk from hedging or reinsurance arrangements related to those obligations (for additional information about these exposures, see Note 27). A rapid deterioration of a large borrower or other counterparty or within a sector or country in which Citi has large exposures or indemnifications or unexpected market dislocations could lead to concerns about the creditworthiness of other borrowers or counterparties in related or dependent industries, and such conditions could cause Citi to incur significant losses.

LIQUIDITY RISKS

Citi's Businesses, Results of Operations and Financial Condition Could Be Negatively Impacted if It Does Not Effectively Manage Its Liquidity.

As a large, global financial institution, adequate liquidity and sources of funding are essential to Citi's businesses. Citi's liquidity and sources of funding can be significantly and negatively impacted by factors it cannot control, such as general disruptions in the financial markets, governmental fiscal and monetary policies, regulatory changes or negative investor perceptions of Citi's creditworthiness, unexpected increases in cash or collateral requirements and the consequent inability to monetize available liquidity resources. Citi competes with other banks and financial institutions for both institutional and consumer deposits, which represent Citi's most stable and lowest cost source of long-term funding. The competition for deposits has continued to increase in recent

years, including as a result of online banks and digital banking and fixed income alternatives for customer funds. Furthermore, it is expected that the market for deposits will become more competitive in the current higher interest rate environment.

Citi's costs to obtain and access wholesale funding are directly related to changes in interest and currency exchange rates and its credit spreads. For example, during 2022, interest rates in the U.S. increased significantly, thus, affecting Citi's cost of funding. Changes in Citi's credit spreads are driven by both external market factors and factors specific to Citi, such as negative views by investors of the financial services industry or Citi's financial prospects, and can be highly volatile. For additional information on Citi's primary sources of funding, see "Managing Global Risk—Liquidity Risk" below.

Citi's ability to obtain funding may be impaired and its cost of funding could also increase if other market participants are seeking to access the markets at the same time or to a greater extent than expected, or if market appetite for corporate debt securities declines, as is likely to occur in a liquidity stress event or other market crisis. Citi's ability to sell assets may also be impaired if other market participants are seeking to sell similar assets at the same time or a liquid market does not exist for such assets. A sudden drop in market liquidity could also cause a temporary or protracted dislocation of underwriting and capital markets activity. In addition, clearing organizations, central banks, clients and financial institutions with which Citi interacts may exercise the right to require additional collateral during challenging market conditions, which could further impair Citi's liquidity. If Citi fails to effectively manage its liquidity, its businesses, results of operations and financial condition could be negatively impacted.

In addition, as a holding company, Citigroup Inc. relies on interest, dividends, distributions and other payments from its subsidiaries to fund dividends as well as to satisfy its debt and other obligations. Several of Citi's U.S. and non-U.S. subsidiaries are or may be subject to capital adequacy or other liquidity, regulatory or contractual restrictions on their ability to provide such payments, including any local regulatory stress test requirements and inter-affiliate arrangements entered into in connection with Citigroup Inc.'s resolution plan. Citigroup Inc.'s broker-dealer and bank subsidiaries are subject to restrictions on their ability to lend or transact with affiliates, as well as restrictions on their ability to use funds deposited with them in brokerage or bank accounts to fund their businesses. Limitations on the payments that Citigroup Inc. receives from its subsidiaries could also impact its liquidity. A bank holding company is required by law to act as a source of financial and managerial strength for its subsidiary banks. As a result, the FRB may require Citigroup Inc. to commit resources to its subsidiary banks even if doing so is not otherwise in the interests of Citigroup Inc. or its shareholders or creditors, reducing the amount of funds available to meet its obligations.

Credit Rating Agencies Continuously Review the Credit Ratings of Citi and Certain of Its Subsidiaries, and a Ratings Downgrade Could Adversely Impact Citi's Funding and Liquidity.

The credit rating agencies, such as Fitch Ratings, Moody's Investors Services and S&P Global Ratings, continuously evaluate Citi and certain of its subsidiaries. Their ratings of Citi and its rated subsidiaries' long-term debt and short-term obligations are based on several factors, including the financial strength of Citi and such subsidiaries, as well as factors that are not entirely within the control of Citi and its subsidiaries, such as the agencies' proprietary rating methodologies and assumptions, and conditions affecting the financial services industry and markets generally.

Citi and its subsidiaries may not be able to maintain their current respective ratings and outlooks. Rating downgrades could negatively impact Citi and its rated subsidiaries' ability to access the capital markets and other sources of funds as well as the costs of those funds. A ratings downgrade could also have a negative impact on Citi and its rated subsidiaries' ability to obtain funding and liquidity due to reduced funding capacity and the impact from derivative triggers, which could require Citi and its rated subsidiaries to meet cash obligations and collateral requirements. In addition, a ratings downgrade could have a negative impact on other funding sources such as secured financing and other margined transactions for which there may be no explicit triggers, and on contractual provisions and other credit requirements of Citi's counterparties and clients that may contain minimum ratings thresholds in order for Citi to hold third-party funds.

Furthermore, a credit ratings downgrade could have impacts that may not be currently known to Citi or are not possible to quantify. Some of Citi's counterparties and clients could have ratings limitations on their permissible counterparties, of which Citi may or may not be aware. Certain of Citi's corporate customers and trading counterparties, among other clients, could re-evaluate their business relationships with Citi and limit the trading of certain contracts or market instruments with Citi in response to ratings downgrades. Changes in customer and counterparty behavior could impact not only Citi's funding and liquidity but also the results of operations of certain Citi businesses. For additional information on the potential impact of a reduction in Citi's or Citibank's credit ratings, see "Managing Global Risk—Liquidity Risk" below.

COMPLIANCE RISKS

Ongoing Interpretation and Implementation of Regulatory and Legislative Requirements and Changes and Heightened Regulatory Scrutiny and Expectations in the U.S. and Globally Have Increased Citi's Compliance, Regulatory and Other Risks and Costs.

Citi is continually required to interpret and implement extensive and frequently changing regulatory and legislative requirements in the U.S. and other jurisdictions in which it does business, which may overlap or conflict across jurisdictions, resulting in substantial compliance, regulatory and other risks and costs. In addition, there are heightened regulatory scrutiny and expectations in the U.S. and globally

for large financial institutions, as well as their employees and agents, with respect to governance, infrastructure, data, climate and risk management practices and controls. These requirements and expectations also include, among other things, those related to customer and client protection, market practices, anti-money laundering and increasingly complex sanctions and disclosure regimes. A failure to comply with these requirements and expectations, even if inadvertent, or resolve any identified deficiencies, could result in increased regulatory oversight and restrictions, enforcement proceedings, penalties and fines (for additional information on such regulatory consequences, see the legal and regulatory proceedings risk factor below).

Over the past several years, Citi has been required to implement a significant number of regulatory and legislative changes, including new regulatory or legislative requirements or regimes, across its businesses and functions, and these changes continue. The changes themselves may be complex and subject to interpretation, and will require continued investments in Citi's global operations and technology solutions. In some cases, Citi's implementation of a regulatory or legislative requirement is occurring simultaneously with changing or conflicting regulatory guidance, legal challenges or legislative action to modify or repeal existing rules or enact new rules. Examples of regulatory or legislative changes that have resulted in increased compliance risks and costs include (i) various laws relating to the limitation of cross-border data movement and/or collection and use of customer information, including data localization and protection and privacy laws, which also can conflict with or increase compliance complexity with respect to other laws, including anti-money laundering laws; and (ii) the U.S. banking agencies' regulatory capital rules and requirements, which have continued to evolve (for additional information, see the capital return risk factor and "Capital Resources" above). In addition, certain U.S. regulatory agencies and non-U.S. authorities have prioritized issues of social, economic and racial justice, and are in the process of considering ways in which these issues can be mitigated, including through rulemaking, supervision and other means, even while Congress is signaling, and certain U.S. state governments are pursuing potentially conflicting anti-ESG priorities.

Citi Is Subject to Extensive Legal and Regulatory Proceedings, Examinations, Investigations, Consent Orders and Related Compliance Efforts and Other Inquiries That Could Result in Significant Monetary Penalties, Supervisory or Enforcement Orders, Business Restrictions, Limitations on Dividends, Changes to Directors and/or Officers and Collateral Consequences Arising from Such Outcomes.
At any given time, Citi is a party to a significant number of legal and regulatory proceedings and is subject to numerous governmental and regulatory examinations. Additionally, Citi remains subject to governmental and regulatory investigations, consent orders and related compliance efforts, and other inquiries. Citi could also be subject to enforcement proceedings not only because of violations of laws and regulations, but also due to failures, as determined by its regulators, to have adequate policies and procedures, or to remedy deficiencies on a timely basis.

As previously disclosed, the October 2020 FRB and OCC consent orders require Citigroup and Citibank to implement targeted action plans and submit quarterly progress reports detailing the results and status of improvements relating principally to various aspects of enterprise-wide risk management, compliance, data quality management and governance and internal controls. These improvements will result in continued significant investments by Citi during 2023 and beyond, as an essential part of Citi's broader transformation efforts to enhance its risk, controls, data and finance infrastructure and compliance.

Although there are no restrictions on Citi's ability to serve its clients, the OCC consent order requires Citibank to obtain prior approval of any significant new acquisition, including any portfolio or business acquisition, excluding ordinary course transactions. Moreover, the OCC consent order provides that the OCC has the right to assess future civil money penalties or take other supervisory and/or enforcement actions. Such actions by the OCC could include imposing business restrictions, including possible limitations on the declaration or payment of dividends and changes in directors and/or senior executive officers. More generally, the OCC and/or the FRB could take additional enforcement or other actions if the regulatory agency believes that Citi has not met regulatory expectations regarding compliance with the consent orders. For additional information regarding the consent orders, see "Citi's Consent Order Compliance" above.

The global judicial, regulatory and political environment has generally been challenging for large financial institutions, and financial institutions have been subject to continued regulatory scrutiny. The complexity of the federal and state regulatory and enforcement regimes in the U.S., coupled with the global scope of Citi's operations, also means that a single event or issue may give rise to a large number of overlapping investigations and regulatory proceedings, either by multiple federal and state agencies and authorities in the U.S. or by multiple regulators and other governmental entities in foreign jurisdictions, as well as multiple civil litigation claims in multiple jurisdictions. Violations of law by other financial institutions may also result in regulatory scrutiny of Citi. Responding to regulatory inquiries and proceedings can be time consuming and costly.

U.S. and non-U.S. regulators have been increasingly focused on the culture of financial services firms, including Citi, as well as "conduct risk," a term used to describe the risks associated with behavior by employees and agents, including third parties, that could harm clients, customers, employees or the integrity of the markets, such as improperly creating, selling, marketing or managing products and services or improper incentive compensation programs with respect thereto, failures to safeguard a party's personal information, or failures to identify and manage conflicts of interest.

In addition to the greater focus on conduct risk, the general heightened scrutiny and expectations from regulators could lead to investigations and other inquiries, as well as remediation requirements, more regulatory or other enforcement proceedings, civil litigation and higher compliance and other risks and costs. Further, while Citi takes numerous steps to prevent and detect conduct by employees and agents that could potentially harm clients, customers,

employees or the integrity of the markets, such behavior may not always be deterred or prevented. In addition to regulatory restrictions or structural changes that could result from perceived deficiencies in Citi's culture, such focus could also lead to additional regulatory proceedings. Moreover, the severity of the remedies sought in legal and regulatory proceedings to which Citi is subject has remained elevated. U.S. and certain non-U.S. governmental entities have increasingly brought criminal actions against, or have sought criminal convictions from, financial institutions and individual employees, and criminal prosecutors in the U.S. have increasingly sought and obtained criminal guilty pleas or deferred prosecution agreements against financial entities and individuals and other criminal sanctions for those institutions and individuals. These types of actions by U.S. and international governmental entities may, in the future, have significant collateral consequences for a financial institution, including loss of customers and business, and the inability to offer certain products or services and/or operate certain businesses. Citi may be required to accept or be subject to similar types of criminal remedies, consent orders, sanctions, substantial fines and penalties, remediation and other financial costs or other requirements in the future, including for matters or practices not yet known to Citi, any of which could materially and negatively affect Citi's businesses, business practices, financial condition or results of operations, require material changes in Citi's operations or cause Citi reputational harm.

Additionally, many large claims—both private civil and regulatory—asserted against Citi are highly complex, slow to develop and may involve novel or untested legal theories. The outcome of such proceedings is difficult to predict or estimate until late in the proceedings. Although Citi establishes accruals for its legal and regulatory matters according to accounting requirements, Citi's estimates of, and changes to, these accruals involve significant judgment and may be subject to significant uncertainty, and the amount of loss ultimately incurred in relation to those matters may be substantially higher than the amounts accrued (see the incorrect assumptions or estimates risk factor above). In addition, certain settlements are subject to court approval and may not be approved. For further information on Citi's legal and regulatory proceedings, see Note 29.

OTHER RISKS

Citi's Emerging Markets Presence Subjects It to Various Risks as well as Increased Compliance and Regulatory Risks and Costs.

During 2022, emerging markets revenues accounted for approximately 37% of Citi's total revenues (Citi generally defines emerging markets as countries in Latin America, Asia (other than Japan, Australia and New Zealand), and central and Eastern Europe, the Middle East and Africa in EMEA). Citi's presence in the emerging markets subjects it to various risks, such as limitations or unavailability of hedges on foreign investments; foreign currency volatility, including devaluations and continued strength in the U.S. dollar; sustained increases in interest rates; sovereign debt volatility; election outcomes, regulatory changes and political events; foreign exchange controls, including inability to access indirect foreign exchange mechanisms; macroeconomic and geopolitical challenges and uncertainties and volatility, including with respect to Russia and China (see the macroeconomic and geopolitical risk factor above and "Managing Global Risk—Other Risks—Country Risk—Russia" and "—Ukraine" below); limitations on foreign investment; sociopolitical instability (including from hyperinflation); fraud; nationalization or loss of licenses; restrictions arising from retaliatory Russian laws and regulations on the conduct of its business; sanctions or asset freezes; potential criminal charges; closure of branches or subsidiaries; and confiscation of assets, and these risks can be exacerbated in the event of a deterioration in relationships between the U.S. and an emerging market country.

For example, Citi operates in several countries that have, or have had in the past, strict capital controls, currency controls and/or sanctions, such as Argentina and Russia, that limit its ability to convert local currency into U.S. dollars and/or transfer funds outside of those countries. For instance, due to currency controls in Argentina, Citi faces a risk of devaluation on its unhedged Argentine peso-denominated assets, which continue to increase (for additional information on Argentina-related risks, see "Managing Global Risk—Other Risks—Country Risk—Argentina" below). Moreover, if the economic situation in a country in which Citi operates were to deteriorate below a certain level, U.S. regulators through the Interagency Country Exposure Review Committee (ICERC) may impose mandatory loan loss or other reserve requirements on Citi, which would increase its credit costs and decrease its earnings.

In addition, political turmoil and instability and geopolitical tensions and conflicts (such as the Russia–Ukraine war) have occurred in various regions and emerging market countries across the globe which have required, and may continue to require, management time and attention and other resources, such as monitoring the impact of sanctions on certain emerging market economies as well as impacting Citi's businesses, results of operations and financial conditions in affected countries.

The Transition Away from and Discontinuance of LIBOR or Any Other Interest Rate Benchmark Could Have Adverse Consequences for Citi.

LIBOR and other rates or indices deemed to be benchmarks have been the subject of ongoing U.S. and non-U.S. regulatory scrutiny and reform. The LIBOR administrator ceased publication of non-USD LIBOR and one-week and two-month USD LIBOR on a permanent or representative basis on December 31, 2021, with plans for all other USD LIBOR tenors to permanently cease or become non-representative after June 30, 2023. As a result, Citi ceased entering into new contracts referencing USD LIBOR as of January 1, 2022, other than for limited circumstances where regulators recognized that it may be appropriate for banks to enter into new USD LIBOR contracts, including with respect to market-making, hedging or novations of USD transactions executed before January 1, 2022.

Through a global effort by the financial services industry and regulators, alternative reference rates have been identified

and/or developed and are being used to replace LIBOR and other benchmark rates. Alternative reference rates, such as the Secured Overnight Financing Rate (SOFR), are calculated using components different from those used in the calculation of LIBOR and may fluctuate differently than, and not be representative of, LIBOR. In order to compensate for these differences, certain of Citi's financial instruments and commercial agreements allow for a benchmark replacement adjustment. However, there can be no assurance that any benchmark replacement adjustment will be sufficient to produce the economic equivalent of LIBOR, either at the benchmark replacement date or over the life of such instruments and agreements.

Moreover, the transition presents challenges related to contractual mechanics of existing contracts that reference USD LIBOR and are governed by non-U.S. law or reference the USD LIBOR Ice Swap Rate. Certain of these legacy instruments and contracts are not covered by any legislative solution and do not provide for fallbacks to alternative reference rates, which makes it unclear what the applicable future replacement benchmark rates and associated payments might be after the current benchmark's cessation. Citi may be unable to amend certain instruments and contracts due to an inability to obtain sufficient levels of consent from counterparties or security holders. Although this will depend on the precise contractual terms of the instrument, such consent requirements are often conditions of securities, such as floating rate notes. The Financial Conduct Authority (FCA), a U.K. regulator, has proposed that one-, three- and six-month USD LIBOR be published on a synthetic basis, which would only be available through September 2024.

In addition, the transition away from and discontinuance of LIBOR and other benchmark rates have subjected financial institutions, including Citi, to heightened scrutiny from regulators. Failure to successfully transition away from LIBOR and other benchmark rates could result in adverse regulatory actions, disputes, including potential litigation involving holders of outstanding products and contracts that reference LIBOR and other benchmark rates, and reputational harm to Citi. See "Managing Global Risk—Other Risks—LIBOR Transition Risk" for Citi's ongoing actions to prepare for the transition away from LIBOR.

SUSTAINABILITY AND OTHER ESG MATTERS

Introduction

Citi has worked on Environmental, Social and Governance (ESG) issues for more than 20 years and has a demonstrated record of ESG progress, including participating in the creation and adoption of ESG-related principles and standards. This section summarizes some of Citi's key ESG initiatives, including its Sustainable Progress Strategy, Net Zero, and Financial Inclusion and Racial Equity commitments.

Citi's ESG Report provides information on a broad set of ESG-related efforts. Citi's Task Force on Climate-Related Financial Disclosures (TCFD) Report provides its stakeholders with information on Citi's continued progress to manage climate risk and its Net Zero plan, including information on financed emissions and 2030 emissions targets.

For information regarding Citi's management of climate risk, see "Managing Global Risk—Strategic Risks—Climate Risk" below.

ESG and Climate-Related Governance

Citi's Board of Directors (Board) provides oversight of Citi's management activities (for additional information, see "Managing Global Risk—Risk Governance" below). For example, the Nomination, Governance and Public Affairs Committee of the Board oversees many of Citi's ESG activities, including reviewing Citi's policies and programs for environmental and social sustainability, climate change, human rights, diversity and other ESG issues, as well as overseeing engagement with external stakeholders.

The Risk Management Committee of the Board provides oversight of Citi's Independent Risk Management function and reviews Citi's risk policies and frameworks, including receiving climate risk-related updates.

The Audit Committee of the Board has recently been chartered to provide oversight of controls and procedures pertaining to the ESG-related metrics and related disclosures in Citi's SEC filed reports and voluntary ESG reporting, as well as management's evaluation of Citi's disclosure controls and procedures for ESG reporting.

Citi's Global ESG Council consists of senior members of its management team and certain subject matter experts who provide oversight of Citi's ESG goals and activities. In addition, a number of teams and senior managers contribute to the oversight and management of areas such as environmental sustainability; community investing; talent and diversity; ethics and business practices; and remuneration.

Citi's climate governance structure continues to evolve as Citi advances its understanding of its climate risk and its progress under the Net Zero plan. In addition to the expansion of the Board's oversight of climate matters (see Risk Management Committee and Audit Committee descriptions above), Citi has:

- Expanded and realigned its climate risk team to be part of the Enterprise Risk Management function within Risk;
- Further built out its Clean Energy Transition (CET) team (formed in 2021 and expanded in 2022 to include Corporate Banking), which focuses on providing advisory and capital-raising services to companies involved in energy transition; and
- Launched two climate training pilots for its BCMA (Banking, Capital Markets and Advisory), Risk Management and Global Functions teams involving in-person workshops focused on providing foundational knowledge of climate risks and client engagement.

Key ESG Initiatives

Sustainable Progress Strategy

Citi's Sustainable Progress Strategy is summarized in its Environmental and Social Policy Framework. The three pillars of the strategy each have climate-related elements and serve as the foundation for Citi's climate commitments:

- The first pillar, “Low-Carbon Transition,” focuses on financing and facilitating environmental and social finance, including low-carbon solutions, and supporting Citi’s clients in their decarbonization and transition strategies.
- The second pillar, “Climate Risk,” focuses on Citi’s efforts to measure, manage and reduce the climate risk and impact of its client portfolio. Areas of activity include portfolio analysis and stakeholder engagement as well as enhancing TCFD implementation and disclosure.
- The third pillar, “Sustainable Operations,” focuses on Citi’s efforts to reduce the environmental footprint of its facilities and strengthen its sustainability culture. This includes minimizing the impact of its global operations through operational footprint goals and further integrates sustainable practices across the countries in which Citi operates.

Net Zero Emissions by 2050

Citi is a member of several initiatives that enhance its understanding of climate-related issues, improve its access to data and promote a common understanding and terminology across various climate efforts. These initiatives include the Partnership for Carbon Accounting Financials, the Glasgow Financial Alliance for Net Zero and the Net Zero Banking Alliance.

As previously disclosed, Citi has committed to achieving net zero greenhouse gas (GHG) emissions associated with its financing by 2050, and net zero GHG emissions for its own operations by 2030; both are significant targets given the size and breadth of Citi’s lending portfolios, businesses and operational footprint. Citi made this commitment as part of its ongoing work to reduce its climate risk and impact, grow its business in the clean energy transition and help address the challenges that climate change poses to the global economy and broader society. Citi’s net zero commitment demonstrates how identifying, assessing and managing climate-related risks and opportunities remains a top business priority for Citi.

While many financial institutions, including Citi, face increasing public pressure to divest from carbon-intensive sectors, Citi believes it has an important role to play in advising and financing the transition to net zero, and it plans to work closely with clients in this effort. Citi recognizes that large-scale, rapid divestment could result in an abrupt and disorderly transition to a low-carbon economy, creating both economic and social upheaval. Citi believes that an orderly, responsible and equitable transition, which accounts for the immediate economic needs of communities and workers, continued access to energy, environmental justice considerations and broader economic development concerns, is essential for the retention of political and social support to move to a low-carbon economy.

The 2050 net zero commitment includes the following framework, delineating the key areas required to achieve its targets:

- Calculate Emissions: Calculate baseline financed emissions for each carbon-intensive sector
- Transition Pathway: Identify the appropriate climate scenario transition pathway
- Target Setting: Establish emissions reduction targets for 2030 and beyond
- Implementation Strategy: Engage with and assess clients to determine transition opportunities
- External Engagement: Solicit feedback from clients, investors and other stakeholders, as the work continues to evolve and the parties collectively define net zero for the banking sector

Citi’s Net Zero plan includes:

- *Net Zero Metrics and Target Setting*: Assess targets for carbon-intensive sectors and explore methodologies for calculating financed emissions beyond lending portfolios
- *Client Engagement and Assessment*: Seek to understand clients’ GHG emissions and work with them to develop their transition plans and advise on capacity building
- *Risk Management*: Assess climate risk exposure across Citi’s lending portfolios and review client carbon reduction progress, with ongoing review and refining of Citi’s risk appetite and thresholds and policies related to Climate Risk Management
- *Clean Technology and Transition Finance*: Support existing and, where possible, new technologies to accelerate commercialization and provide transition advisory and finance, via debt and equity underwriting
- *Portfolio Management*: Active portfolio management to align with net zero targets, including considerations of transition measures taken by clients
- *Public Policy and Regulatory Engagement*: Support enabling public policy and regulation in the U.S. and other countries where relevant

In 2022, Citi took the following steps to operationalize its Net Zero plan:

- In addition to the energy and power targets established last year, Citi has set 2030 emissions reduction targets for four additional loan portfolio sectors: automotive manufacturing, commercial real estate, steel and thermal coal mining.
- Citi has begun piloting a Net Zero Review Template for its energy and power clients to better understand their transition plans.
- Citi worked with RMI to help develop and launch the Sustainable STEEL Principles, a solution for measuring and disclosing the alignment of steel lending portfolios with 1.5°C climate targets.

Financial Inclusion and Racial Equity

Building on Citi’s longstanding focus on advancing financial inclusion and economic opportunity for communities of color, in September 2020, Citi and the Citi Foundation announced Action for Racial Equity (ARE), a set of strategic initiatives to help close the racial wealth gap and increase economic mobility in the U.S. As part of ARE, Citi and the Citi Foundation have invested more than $1 billion in strategic initiatives to provide greater access to banking and credit in communities of color, increase investment in Black-owned businesses, expand access to affordable housing and

homeownership among Black Americans and advance anti-racist practices within Citi and across the financial services industry.

Consistent with its commitment to transparently report on ARE, in December 2022 Citi released the results of a racial equity audit of ARE, which it had commissioned from the law firm Covington & Burling. The audit assessed ARE as an effort to help address various drivers of the racial wealth gap by evaluating ARE's design, implementation and extent of integration into Citi's business. The audit's overall assessment was that ARE was a well-designed and credible effort to help address the racial wealth gap in the U.S., given the dimensions of Citi's business. More specifically, it concluded that:

- ARE's design effectively leveraged Citi's expertise, network of business partners and resources to address some of the key factors contributing to the racial wealth gap.
- Citi has made progress toward many of the objectives committed to under ARE, although at the time of the audit (the end of the first two years of its three-year commitment) it had not yet accomplished every objective or commitment.
- There are opportunities to further institutionalize ARE efforts into Citi's core business, building upon the creation of dedicated business units in both *PBWM* and *ICG*.
- There are opportunities for Citi to further support consumers from underrepresented communities to build and maintain healthy credit scores and access credit.

In addition to Citi's ongoing work and focus on ARE and in line with its continued commitment to expand access to banking products and services that can help advance economic progress—especially for underbanked and unbanked communities—Citi eliminated overdraft fees, returned item fees and overdraft protection fees beginning in June 2022. In addition to eliminating these fees, Citi will continue to offer a robust suite of free overdraft protection services for its customers.

Additional Information

For additional information on Citi's environmental and social policies and priorities, click on "Our Impact" on Citi's website at www.citigroup.com. For information on Citi's ESG and Sustainability (including climate change) governance, see Citi's 2023 Annual Meeting Proxy Statement to be filed with the SEC in March 2023, as well as its 2022 TCFD Report to be published and available on Citi's investor relations website in March 2023.

The 2022 TCFD Report and any other ESG-related reports and information included elsewhere on Citi's investor relations website are not incorporated by reference into, and do not form any part of, this 2022 Annual Report on Form 10-K.

HUMAN CAPITAL RESOURCES AND MANAGEMENT

Attracting and retaining a highly qualified and motivated workforce is a strategic priority for Citi. Citi seeks to enhance the competitive strength of its workforce through the following efforts:

- Continuously innovating the recruitment, training, compensation, promotion and engagement of colleagues
- Actively seeking and listening to diverse perspectives at all levels of the organization
- Optimizing transparency concerning workforce goals to promote accountability, credibility and effectiveness in achieving those goals
- Providing compensation programs that are competitive in the market and aligned to strategic objectives

Workforce Size and Distribution

As of December 31, 2022, Citi employed approximately 240,000 colleagues in over 90 countries. The Company's workforce is constantly evolving and developing, benefiting from a strong mix of internal and external hiring into new and existing positions. In 2022, Citi welcomed nearly 60,000 new colleagues in addition to the roles filled by colleagues through internal mobility. The following table shows the geographic distribution of Citi's employee population by segment, region and gender:

Segment or component[1]	North America	EMEA	Latin America	Asia	Total[2]	Women[3]	Men[3]	Unspecified[3]
Institutional Clients Group	**19,162**	**19,635**	**7,569**	**27,882**	**74,248**	**44.1 %**	**55.9 %**	**0.03 %**
Personal Banking and Wealth Management	**39,952**	**2,227**	**452**	**14,084**	**56,715**	**56.8**	**43.2**	**0.02**
Legacy Franchises	**58**	**21**	**35,776**	**14,392**	**50,247**	**55.1**	**44.9**	**—**
Corporate/Other	**27,690**	**10,894**	**7,281**	**12,828**	**58,693**	**46.8**	**53.2**	**0.02**
Total	**86,862**	**32,777**	**51,078**	**69,186**	**239,903**	**50.1 %**	**49.9 %**	**0.02 %**

(1) Colleague distribution is based on assigned business and region, which may not reflect where the colleague physically resides.
(2) Part-time colleagues represented less than 1.5% of Citi's global workforce.
(3) Information regarding gender is self-identified by colleagues.

Driving a Culture of Excellence and Accountability

Citi continues to embark on a talent and culture transformation to drive a culture of excellence and accountability that is supported by strong risk and controls management.

Citi's new Leadership Principles of "taking ownership, delivering with pride and succeeding together" have been reinforced through a behavioral science-led campaign, Citi's New Way, that reinforces the key working habits that support Citi's leadership culture.

Citi's performance management approach also emphasizes the Leadership Principles through a new four-pillar system, evaluating what colleagues deliver against financial performance, risk and controls, and client and franchise goals as well as how colleagues deliver from a leadership perspective. The performance management and incentive compensation processes and associated policies and frameworks have been redesigned to enhance accountability through increased rigor and consistency, in particular for risk and controls.

The culture shift is also being supported by changes in the way Citi identifies, assesses, develops and promotes talent, particularly at the most senior levels of the organization. In 2022, the first Company-wide approach for promotions to the critical leadership role of Managing Director was launched, with common eligibility criteria across Citi, including risk and control performance. Further, all potential successors to Executive Management Team roles are evaluated by the Board and are now subject to a risk and controls assessment.

Diversity, Equity and Inclusion

Citigroup's Board is committed to ensuring that the Board and Citi's Executive Management Team are composed of individuals whose backgrounds reflect the diversity of Citi's employees, customers and other stakeholders. In addition, Citi has increased its efforts to diversify its workforce, including, among other things, taking actions with respect to pay equity, setting representation goals and the use of diverse slates in recruiting.

Pay Transparency and Pay Equity

Citi values pay transparency and has taken significant action to ensure that both managers and employees have greater clarity around Citi's compensation philosophy. Over the past two years, Citi introduced market-based salary structures and bonus opportunity guidelines in various countries worldwide. In addition, Citi recently began posting salary ranges on all

external U.S. job postings, which aligns with strategic objectives of pay equity and transparency. Citi also raised its U.S. minimum wage in 2022, the second broad-based increase in less than two years.

Citi has focused on measuring and addressing pay equity within the organization:

- In 2018, Citi was the first major U.S. financial institution to publicly release the results of a pay equity review comparing its compensation of women to that of men, as well as U.S. minorities to U.S. non-minorities. Since 2018, Citi has continued to be transparent about pay equity, including disclosing its unadjusted or "raw" pay gap for both women and U.S. minorities. The raw gap measures the difference in median compensation. The existence of Citi's raw pay gap reflects a need to increase representation of women and U.S. minorities in senior and higher-paying roles.
- Citi's 2022 pay equity review determined that on an adjusted basis, women globally are paid on average more than 99% of what men are paid at Citi, and that there was not a statistically significant difference in adjusted compensation for U.S. minorities and non-minorities.
- Citi's 2022 raw pay gap analysis showed that the median pay for women globally is 78% of the median for men, up from 74% in 2021 and 2020. The median pay for U.S. minorities is more than 97% of the median for non-minorities, which is up from just above 96% in 2021 and 94% in 2020.

Representation Goals

Citi's management believes that a diverse workforce is key to the Company's success in serving diverse clients and communities. In 2022, Citi announced that it exceeded its Company-wide, aspirational diversity representation goals for 2018–2021 to increase its percentages of women colleagues globally and Black talent in the U.S.

Recognizing that this was just a starting point, Citi has set new goals for 2025. The new goals are more global, embrace more dimensions of diversity and include all levels of the Company.

Citi's 2025 aspirational representation goals are embedded in its business strategy. Citi has goals for hiring and promoting colleagues into roles at the Assistant Vice President to Managing Director levels across the organization, as well as goals for campus hiring from colleges and universities. Having aspirational goals across all levels—from early career through senior leadership roles—will help ensure Citi not only has diverse talent in leadership roles, but will also help the Company build a diverse talent pipeline for the future.

Workforce Development

Citi's numerous programmatic offerings aim to reinforce its culture and values, foster understanding of compliance requirements and develop competencies required to deliver excellence to its clients. Citi encourages career growth and development by offering broad and diverse opportunities to colleagues, including the following:

- Citi provides a range of internal development and rotational programs to colleagues at all levels, including an extensive leadership curriculum, allowing the opportunity to build the skills needed to transition to supervisory and managerial roles. Citi's tuition assistance program further enables colleagues in North America to pursue their educational goals.
- Citi has a focus on internal talent development and aims to provide colleagues with career growth opportunities, with more than 33,000 open positions filled internally in 2022. These opportunities are particularly important as Citi focuses on providing career paths for its internal talent base as part of its efforts to increase organic growth and promotions within the organization.

Wellness and Benefits

Citi is proud to provide a wide range of benefits that support its colleagues mentally, emotionally, physically and financially and through various life stages and events. The Company is focused on providing equitable benefits that are designed to attract, engage and retain colleagues.

Citi has significantly enhanced mental well-being programs by offering free counseling sessions for colleagues and their family members and adding real-time text, video and message-based counseling in the U.S., as well as offering an online tool so that all colleagues around the globe can easily find their local Employee Assistance Programs and resources. Citi also continues to value the importance of physical well-being—providing employees in several office locations and countries access to onsite medical care clinics, fitness centers, subsidized gym memberships and virtual fitness programs.

Citi continues expanding employee benefits to support colleagues and their families. In early 2020, Citi expanded its Paid Parental Leave Policy to include Citi colleagues around the world. Citi also began to offer additional leave opportunities to eligible colleagues, including the "Refresh, Recharge, Reenergize" program, whereby employees are able to take up to 12 weeks for a sabbatical to pursue a personal interest, and the "Giving Back" program, allowing employees to take up to four weeks to work with a charitable institution.

In 2022, Citi implemented a global, flexible work approach to provide colleagues with the ability to balance the demands of their home lives with the work conditions that are necessary for success. The "How We Work" approach includes a new work model for Citi, defined by three role designations for colleagues globally: Resident, Hybrid or Remote. By embracing a flexible model of work, Citi has focused on keeping its approach consistent and aligned with its values and priorities.

For additional information about Citi's human capital management initiatives and goals, see Citi's 2021 ESG report available at www.citigroup.com. The 2021 ESG report and other information included elsewhere on Citi's investor relations website are not incorporated by reference into, and do not form any part of, this 2022 Annual Report on Form 10-K.

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(1) For additional information regarding certain credit risk, market risk and other quantitative and qualitative information, refer to Citi's Pillar 3 Basel III Advanced Approaches Disclosures, as required by the rules of the Federal Reserve Board, on Citi's Investor Relations website.

MANAGING GLOBAL RISK

Overview

For Citi, effective risk management is of primary importance to its overall operations. Accordingly, Citi has established an Enterprise Risk Management (ERM) Framework to ensure that all of Citi's risks are managed appropriately and consistently across the Company and at an aggregate, enterprise-wide level. Citi's culture drives a strong risk and control environment, and is at the heart of the ERM Framework, underpinning the way Citi conducts business. The activities that Citi engages in, and the risks those activities generate, must be consistent with Citi's Mission and Value Proposition and the key Leadership Principles that support it, as well as Citi's risk appetite. As discussed above, Citi also continues its efforts to comply with the FRB and OCC consent orders, relating principally to various aspects of risk management, compliance, data quality management and governance, and internal controls (see "Citi's Consent Order Compliance" and "Risk Factors—Compliance Risks" above).

Under Citi's Mission and Value Proposition, which was developed by its senior leadership and distributed throughout the Company, Citi strives to serve its clients as a trusted partner by responsibly providing financial services that enable growth and economic progress while earning and maintaining the public's trust by constantly adhering to the highest ethical standards. As such, Citi asks all colleagues to ensure that their decisions pass three tests: they are in Citi's clients' best interests, create economic value and are always systemically responsible.

As discussed in "Human Capital Resources and Management" above, Citi has designed Leadership Principles that represent the qualities, behaviors and expectations all employees must exhibit to deliver on Citi's mission of enabling growth and economic progress. The Leadership Principles inform Citi's ERM Framework and will contribute to creating a culture that drives client, control and operational excellence. Citi colleagues share a common responsibility to uphold these leadership principles and hold themselves to the highest standards of ethics and professional behavior in dealing with Citi's clients, business colleagues, shareholders, communities and each other.

Citi's ERM Framework details the principles used to support effective enterprise-wide risk management across the end-to-end risk management lifecycle. The ERM Framework covers the risk management roles and responsibilities of the Citigroup Board of Directors (the Board), Citi's Executive Management Team (see "Risk Governance—Executive Management Team" below) and employees across the lines of defense. The underlying pillars of the framework encompass:

- *Culture*—the core principles and behaviors that underpin a strong culture of risk awareness, in line with Citi's Mission and Value Proposition, and Leadership Principles;
- *Governance*—the committee structure and reporting arrangements that support the appropriate oversight of risk management activities at the Board and Executive Management Team levels;
- *Risk Management*—the end-to-end risk management cycle including the identification, measurement, monitoring, controlling and reporting of all risks including top, material, growing, idiosyncratic and emerging risks, and aggregated to an enterprise-wide level; and
- *Enterprise Programs*—the key risk management programs performed across the risk management lifecycle for all risk categories; these programs also outline the specific roles played by each of the lines of defense in these processes.

Each of these pillars is underpinned by supporting capabilities, which are the infrastructure, people, technology and data, and modelling and analytical capabilities that are in place to enable the execution of the ERM Framework.

Citi's approach to risk management requires that its risk-taking be consistent with its risk appetite. The risk appetite is the aggregate level and types of risk Citi is willing to take or tolerate in order to meet its strategic objectives and business plan. Citi's risk appetite framework is the overall firm-wide approach, including policies, processes, controls and systems through which the risk appetite is established, communicated and monitored. In addition, underlying risk limits and thresholds are designed to control concentrations and operationalize risk appetite.

Citi's risks are generally categorized and summarized as follows:

- *Credit risk* is the risk of loss resulting from the decline in credit quality (or downgrade risk) or failure of a borrower, counterparty, third party or issuer to honor its financial or contractual obligations.
- *Liquidity risk* is the risk that Citi will not be able to efficiently meet both expected and unexpected current and future cash flow and collateral needs without adversely affecting either daily operations or financial conditions of Citi.
- *Market risk* (*Trading and Non-Trading*): Market risk of trading portfolios is the risk of loss arising from changes in the value of Citi's assets and liabilities resulting from changes in market variables, such as interest rates, exchange rates, equity and commodity prices or credit spreads. Market risk of non-trading portfolios is the risk to current or projected financial condition and resilience arising from movements in interest rates resulting from repricing risk, basis risk, yield curve risk and options risk.
- *Operational risk* is the risk of loss resulting from inadequate or failed internal processes, people and systems, or from external events. It includes legal risk, which is the risk of loss (including litigation costs, settlements and regulatory fines) resulting from Citi's failure to comply with laws, regulations, prudent ethical standards or contractual obligations in any aspect of Citi's business, but excludes strategic and reputation risks (see below).
- *Compliance risk* is the risk to current or projected financial condition and resilience arising from violations of laws, rules or regulations, or from non-conformance

with prescribed practices, internal policies and procedures or ethical standards.

- *Reputation risk* is the risk to current or projected financial conditions and resilience from negative opinion held by stakeholders.
- *Strategic risk* is the risk of a sustained impact (not episodic impact) to Citi's core strategic objectives as measured by impacts on anticipated earnings, market capitalization or capital, arising from the external factors affecting the Company's operating environment; as well as the risks associated with defining the strategy and executing the strategy, which are identified, measured and managed as part of the Strategic Risk Framework at the Enterprise Level.

Citi uses a lines of defense model as a key component of its ERM Framework to manage its risks. As discussed below, the lines of defense model brings together risk-taking, risk oversight and risk assurance under one umbrella and provides an avenue for risk accountability of first line of defense, a construct for effective challenge by the second line of defense (Independent Risk Management and Independent Compliance Risk Management), and empowers independent risk assurance by the third line of defense (Internal Audit). In addition, the lines of defense model includes organizational units tasked with supporting a strong control environment ("enterprise support functions"). The first, second and third lines of defense, along with enterprise support functions, have distinct roles and responsibilities and are empowered to perform relevant risk management processes and responsibilities in order to manage Citi's risks in a consistent and effective manner.

First Line of Defense: Front Line Units and Front Line Unit Activities

Citi's first line of defense owns the risks and associated controls inherent in, or arising from, the execution of its business activities and is responsible for identifying, measuring, monitoring, controlling and reporting those risks consistent with Citi's strategy, Mission and Value Proposition, Leadership Principles and risk appetite.

Front line units are responsible and held accountable for managing the risks associated with their activities within the boundaries set by independent risk management. They are also responsible for designing and implementing effective internal controls and maintaining processes for managing their risk profile, including through risk mitigation, so that it remains consistent with Citi's established risk appetite.

Front line unit activities are considered part of the first line of defense and are subject to the oversight and challenge of independent risk management.

The first line of defense is composed of Citi's Business Management, Regional Management, certain Corporate Functions (Enterprise Operations and Technology, Chief Administrative Office, Global Public Affairs, Office of the Citibank Chief Executive Officer (CEO) and Finance), as well as other front line unit activities. Front line units may also include enterprise support units and/or conduct enterprise support activities—see "Enterprise Support Functions" below.

Second Line of Defense: Independent Risk Management

Independent risk management units are independent of the first line of defense. They are responsible for overseeing the risk-taking activities of the first line of defense and challenging the first line of defense in the execution of its risk management responsibilities. They are also responsible for independently identifying, measuring, monitoring, controlling and reporting aggregate risks and for setting standards for the management and oversight of risk. Independent risk management is composed of Independent Risk Management (IRM) and Independent Compliance Risk Management (ICRM), which are led by the Group Chief Risk Officer (CRO) and Group Chief Compliance Officer (CCO) who have unrestricted access to the Board and its Risk Management Committee to facilitate the ability to execute their specific responsibilities pertaining to escalation to the Board.

Independent Risk Management

The IRM organization sets risk and control standards for the first line of defense and actively manages and oversees aggregate credit, market (trading and non-trading), liquidity, strategic, operational and reputation risks across Citi, including risks that span categories, such as concentration risk, country risk and climate risk.

IRM is organized to align to risk categories, legal entities/regions and Company-wide, cross-risk functions or processes. Each of these units reports to a member of the Risk Management Executive Council, who are all direct reports to the Citigroup CRO.

Independent Compliance Risk Management

The ICRM organization actively oversees compliance risk across Citi, sets compliance risk and control standards for the first line of defense to manage compliance risk and promotes business conduct and activity that is consistent with Citi's Mission and Value Proposition and the compliance risk appetite. Citi's objective is to embed an enterprise-wide compliance risk management framework and culture that identifies, measures, monitors, controls and escalates compliance risk across Citi.

ICRM is aligned by product line, function and geography to provide compliance risk management advice and credible challenge on day-to-day matters and strategic decision-making for key initiatives. ICRM also has program-level Enterprise Compliance units responsible for setting standards and establishing priorities for program-related compliance efforts. These Compliance Risk Management heads report directly to the CCO. The CCO reports to Citi's General Counsel and ICRM is organizationally part of the Global Legal Affairs & Compliance group. In addition, the CCO has matrix reporting into the CRO and is part of the Risk Management Executive Council.

Third Line of Defense: Internal Audit

Internal Audit is independent of the first line, second line and enterprise support functions. The role of Internal Audit is to provide independent, objective, reliable, valued and timely assurance to the Board, its Audit Committee, Citi senior management and regulators over the effectiveness of governance, risk management and controls that mitigate

current and evolving risks and enhance the control culture within Citi. The Citi Chief Auditor manages Internal Audit and reports functionally to the Chairman of the Citi Audit Committee and administratively to the Citi Chief Executive Officer. The Citi Chief Auditor has unrestricted access to the Board and the Board Audit Committee to address risks and issues identified through Internal Audit's activities.

Enterprise Support Functions

Enterprise support functions engage in activities that support safety and soundness across Citi. These functions provide advisory services and/or design, implement, maintain and oversee Company-wide programs that support Citi in maintaining an effective control environment.

Enterprise support functions are composed of Human Resources and Legal (including Citi Security and Investigative Services). Front line units may also include enterprise support units and/or conduct enterprise support activities (e.g., the Controllers Group within Finance).

Enterprise support functions, units and activities are subject to the relevant Company-wide independent oversight processes specific to the risks for which they are accountable (e.g., operational risk, compliance risk, reputation risk).

Risk Governance

Citi's ERM Framework encompasses risk management processes to address risks undertaken by Citi through identification, measurement, monitoring, controlling and reporting of all risks. The ERM Framework integrates these processes with appropriate governance to complement Citi's commitment to maintaining strong and consistent risk management practices.

Board Oversight

The Board is responsible for oversight of Citi and holds the Executive Management Team accountable for implementing the ERM Framework, meeting strategic objectives within Citi's risk appetite.

Executive Management Team

The Board delegates authority to an Executive Management Team for directing and overseeing day-to-day management of Citi. The Executive Management Team is led by the Citigroup CEO and provides oversight of group activities, both directly and through authority delegated to committees it has established to oversee the management of risk, to ensure continued alignment with Citi's risk strategy.

Board and Executive Management Committees

The Board executes its responsibilities either directly or through its committees. The Board has delegated authority to the following Board standing committees to help fulfill its oversight and risk management responsibilities:

- *Risk Management Committee (RMC)*: assists the Board in fulfilling its responsibility with respect to (i) oversight of Citi's risk management framework, including the significant policies and practices used in managing credit, market, liquidity, strategic, operational, compliance, reputation and certain other risks, including those pertaining to capital management, and (ii) performance oversight of the Global Risk Review—credit, capital and collateral review functions.
- *Audit Committee*: provides oversight of Citi's financial reporting and internal control risk, as well as Internal Audit and Citi's external independent accountants.
- *Compensation, Performance Management and Culture Committee*: provides oversight of compensation of Citi's employees and Citi management's sustained focus on fostering a principled culture of sound ethics, responsible conduct and accountability within the organization.
- *Nomination, Governance and Public Affairs Committee*: provides oversight of reputational issues, Environmental, Social and Governance (ESG) and sustainability matters, and legal and regulatory compliance risks as they relate to corporate governance matters.
- *Technology Committee*: assists the Board in fulfilling its responsibility with respect to oversight of (i) Citigroup's technology strategy and operating plan and the development of Citi's target operating model and architecture, (ii) technology-based risk management, including Cyber Security, (iii) technology-related resource and talent planning and (iv) third-party management policies, practices and standards.

In addition to the above, the Board has established the following ad hoc committee:

- *Transformation Oversight Committee*: provides oversight of the actions of Citi's management to develop and execute a transformation of Citi's risk and control environment pursuant to the recent regulatory consent orders (for additional information see "Citi's Consent Order Compliance" above).

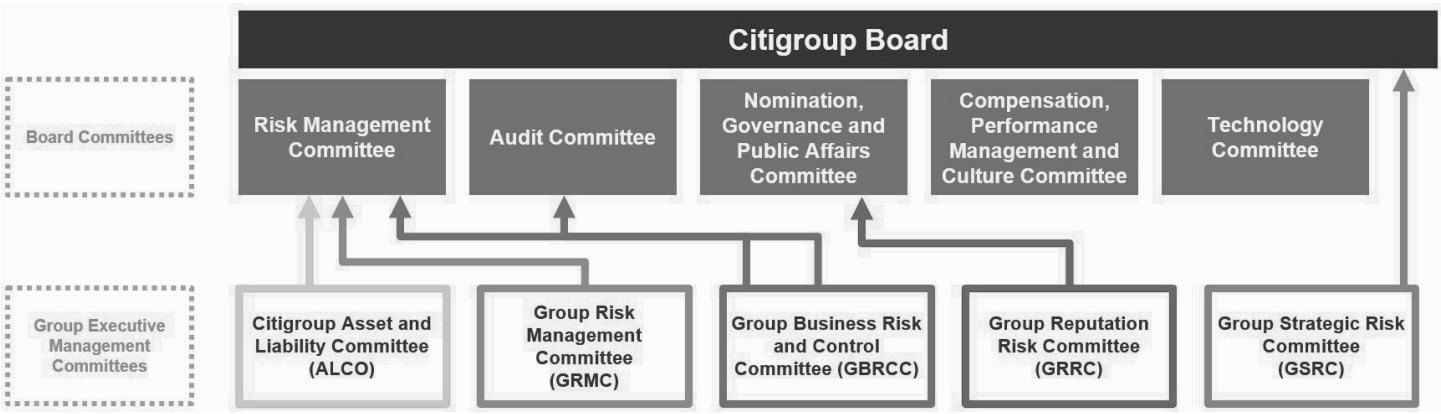
The Executive Management Team has established five standing committees that cover the primary risks to which Citi (i.e., Group) is exposed. These consist of:

- *Group Strategic Risk Committee (GSRC)*: provides governance oversight of Citi's management actions to adequately identify, monitor, report, manage and escalate all material strategic risks facing Citi.
- *Citigroup Asset and Liability Committee (ALCO)*: responsible for governance over management's Liquidity Risk and Market Risk (non-trading) management and for monitoring and influencing the balance sheet, investment securities and capital management activities of Citigroup.
- *Group Risk Management Committee (GRMC)*: the primary senior executive level committee responsible for (i) overseeing the execution of Citigroup's ERM Framework, (ii) monitoring Citi's risk profile at an aggregate level inclusive of individual risk categories, (iii) ensuring that Citi's risk profile remains consistent with its approved risk appetite and (iv) discussing material and emerging risk issues facing the Company. The Committee also provides comprehensive Group-wide coverage of all risk categories, including Credit Risk and Market Risk (trading).
- *Group Business Risk and Control Committee (GBRCC)*: provides governance oversight of Citi's Compliance and Operational Risks.

- *Group Reputation Risk Committee (GRRC)*: provides governance oversight for Reputation Risk management across Citi.

In addition to the Executive Management committees listed above, management may establish ad-hoc committees in response to regulatory feedback or to manage additional activities when deemed necessary.

The figure below illustrates the reporting lines between the Board and Executive Management committees:



CREDIT RISK

Overview

Credit risk is the risk of loss resulting from the decline in credit quality of a client, customer or counterparty (or downgrade risk) or the failure of a borrower, counterparty, third party or issuer to honor its financial or contractual obligations. Credit risk is one of the most significant risks Citi faces as an institution. For additional information, see "Risk Factors—Credit Risk" above. Credit risk arises in many of Citigroup's business activities, including:

- consumer, commercial and corporate lending;
- capital markets derivative transactions;
- structured finance; and
- securities financing transactions (repurchase and reverse repurchase agreements, and securities loaned and borrowed).

Credit risk also arises from clearing and settlement activities, when Citi transfers an asset in advance of receiving its counter-value or advances funds to settle a transaction on behalf of a client. Concentration risk, within credit risk, is the risk associated with having credit exposure concentrated within a specific client, industry, region or other category.

Citi has an established framework in place for managing credit risk across all businesses that includes a defined risk appetite, credit limits and credit policies. Citi's credit risk management framework also includes policies and procedures to manage problem exposures.

To manage concentration risk, Citi has in place a framework consisting of industry limits, single-name concentrations for each business and across Citigroup and a specialized product limit framework.

Credit exposures are generally reported in notional terms for accrual loans, reflecting the value at which the loans as well as other off-balance sheet commitments are carried on the Consolidated Balance Sheet. Credit exposure arising from capital markets activities is generally expressed as the current mark-to-market, net of margin, reflecting the net value owed to Citi by a given counterparty.

The credit risk associated with Citi's credit exposures is a function of the idiosyncratic creditworthiness of the obligor, as well as the terms and conditions of the specific obligation. Citi assesses the credit risk associated with its credit exposures on a regular basis through its allowance for credit losses (ACL) process (see "Significant Accounting Policies and Significant Estimates—Allowance for Credit Losses" below and Notes 1 and 15), as well as through regular stress testing at the company, business, geography and product levels. These stress-testing processes typically estimate potential incremental credit costs that would occur as a result of either downgrades in the credit quality or defaults of the obligors or counterparties. See Note 14 for additional information on Citi's credit risk management.

CORPORATE CREDIT

Consistent with its overall strategy, Citi's corporate clients are typically corporations that value the depth and breadth of Citi's global network. Citi aims to establish relationships with these clients whose needs encompass multiple products, including cash management and trade services, foreign exchange, lending, capital markets and M&A advisory.

Corporate Credit Portfolio

The following table details Citi's corporate credit portfolio within *ICG* and the Mexico SBMM component of *Legacy Franchises* (excluding certain loans managed on a delinquency basis, loans carried at fair value and loans held-for-sale), and before consideration of collateral or hedges, by remaining tenor for the periods indicated:

	December 31, 2022				September 30, 2022				December 31, 2021			
In billions of dollars	**Due within 1 year**	**Greater than 1 year but within 5 years**	**Greater than 5 years**	**Total exposure**	Due within 1 year	Greater than 1 year but within 5 years	Greater than 5 years	Total exposure	Due within 1 year	Greater than 1 year but within 5 years	Greater than 5 years	Total exposure
Direct outstandings (on-balance sheet)[1]	**$ 134**	**$ 122**	**$ 27**	**$ 283**	$ 143	$ 114	$ 27	$ 284	$ 145	$ 119	$ 20	$ 284
Unfunded lending commitments (off-balance sheet)[2]	**140**	**256**	**10**	**406**	133	248	10	391	147	269	13	429
Total exposure	**$ 274**	**$ 378**	**$ 37**	**$ 689**	$ 276	$ 362	$ 37	$ 675	$ 292	$ 388	$ 33	$ 713

(1) Includes drawn loans, overdrafts, bankers' acceptances and leases.
(2) Includes unused commitments to lend, letters of credit and financial guarantees.

Portfolio Mix—Geography and Counterparty

Citi's corporate credit portfolio is diverse across geography and counterparty. The following table shows the percentage of this portfolio by region based on Citi's internal management geography:

	December 31, 2022	September 30, 2022	December 31, 2021
North America	**56 %**	56 %	56 %
EMEA	**25**	25	25
Asia	**12**	12	13
Latin America	**7**	7	6
Total	**100 %**	100 %	100 %

The maintenance of accurate and consistent risk ratings across the corporate credit portfolio facilitates the comparison of credit exposure across all lines of business, geographic regions and products. Counterparty risk ratings reflect an estimated probability of default for a counterparty, and internal risk ratings are derived by leveraging validated statistical models and scorecards in combination with consideration of factors specific to the obligor or market, such as management experience, competitive position, regulatory environment and commodity prices. Facility risk ratings are assigned that reflect the probability of default of the obligor and factors that affect the loss given default of the facility, such as support or collateral. Internal obligor ratings that generally correspond to BBB and above are considered investment grade, while those below are considered non-investment grade.

The following table presents the corporate credit portfolio by facility risk rating as a percentage of the total corporate credit portfolio:

	Total exposure		
	December 31, 2022	September 30, 2022	December 31, 2021
AAA/AA/A	**50 %**	50 %	48 %
BBB	**34**	33	34
BB/B	**14**	15	16
CCC or below	**2**	2	2
Total	**100 %**	100 %	100 %

Note: Total exposure includes direct outstandings and unfunded lending commitments.

In addition to the obligor and facility risk ratings assigned to all exposures, Citi may classify exposures in the corporate credit portfolio. These classifications are consistent with Citi's interpretation of the U.S. banking regulators' definition of criticized exposures, which may categorize exposures as special mention, substandard, doubtful or loss.

Risk ratings and classifications are reviewed regularly and adjusted as appropriate. The credit review process incorporates quantitative and qualitative factors, including financial and non-financial disclosures or metrics, idiosyncratic events or changes to the competitive, regulatory or macroeconomic environment. This includes but is not limited to exposures in those sectors significantly impacted by the COVID-19

pandemic (including consumer retail, commercial real estate and transportation).

Citi believes the corporate credit portfolio to be appropriately rated and classified as of December 31, 2022. Citigroup has taken action to adjust internal ratings and classifications of exposures as both the macroeconomic environment and obligor-specific factors have changed, particularly where additional stress has been seen.

As obligor risk ratings are downgraded, the probability of default increases. Downgrades of obligor risk ratings tend to result in a higher provision for credit losses. In addition, downgrades may result in the purchase of additional credit derivatives or other risk mitigants to hedge the incremental credit risk, or may result in Citi's seeking to reduce exposure to an obligor or an industry sector. Citi will continue to review exposures to ensure that the appropriate probability of default is incorporated into all risk assessments.

See Note 14 for additional information on Citi's corporate credit portfolio.

Portfolio Mix—Industry

Citi's corporate credit portfolio is diversified by industry. The following table details the allocation of Citi's total corporate credit portfolio by industry:

	Total exposure		
	December 31, 2022	September 30, 2022	December 31, 2021
Transportation and industrials	**20 %**	20 %	20 %
Technology, media and telecom	**12**	12	12
Consumer retail	**11**	11	11
Real estate	**10**	10	10
Power, chemicals, metals and mining	**9**	9	9
Banks and finance companies[(1)]	**10**	9	8
Energy and commodities	**7**	7	7
Asset managers and funds	**5**	7	8
Health	**6**	5	5
Insurance	**4**	4	4
Public sector	**3**	3	3
Financial markets infrastructure	**2**	2	2
Other industries	**1**	1	1
Total	**100 %**	100 %	100 %

(1) As of the periods in the table, Citi had less than 1% exposure to securities firms. See corporate credit portfolio by industry, below.

The following table details Citi's corporate credit portfolio by industry as of December 31, 2022:

					Non-investment grade			Selected metrics		
In millions of dollars	Total credit exposure	Funded[1]	Unfunded[1]	Investment grade	Non-criticized	Criticized performing	Criticized non-performing[2]	30 days or more past due and accruing	Net credit losses (recoveries)	Credit derivative hedges[3]
Transportation and industrials	**$ 139,225**	**$ 57,271**	**$ 81,954**	**$ 109,197**	**$ 19,697**	**$ 9,850**	**$ 481**	**$ 403**	**$ —**	**$ (8,459)**
Autos[4]	47,482	21,995	25,487	40,795	5,171	1,391	125	52	—	(3,084)
Transportation	24,843	10,374	14,469	18,078	3,156	3,444	165	57	(30)	(1,270)
Industrials	66,900	24,902	41,998	50,324	11,370	5,015	191	294	30	(4,105)
Technology, media and telecom	**81,211**	**28,931**	**52,280**	**65,386**	**12,308**	**3,308**	**209**	**169**	**11**	**(6,050)**
Consumer retail	**78,255**	**32,687**	**45,568**	**60,215**	**14,830**	**2,910**	**300**	**195**	**28**	**(5,395)**
Real estate	**70,676**	**48,539**	**22,137**	**63,023**	**4,722**	**2,881**	**50**	**138**	**2**	**(739)**
Power, chemicals, metals and mining	**59,404**	**18,326**	**41,078**	**47,395**	**10,466**	**1,437**	**106**	**226**	**34**	**(5,063)**
Power	22,718	4,827	17,891	18,822	3,325	512	59	129	(3)	(2,306)
Chemicals	23,147	7,765	15,382	19,033	3,534	564	16	55	30	(2,098)
Metals and mining	13,539	5,734	7,805	9,540	3,607	361	31	42	7	(659)
Banks and finance companies	**65,623**	**42,276**	**23,347**	**57,368**	**5,718**	**2,387**	**150**	**266**	**65**	**(1,113)**
Energy and commodities[5]	**46,309**	**13,069**	**33,240**	**38,918**	**6,076**	**1,200**	**115**	**180**	**11**	**(3,852)**
Asset managers and funds	**35,983**	**13,162**	**22,821**	**34,431**	**1,492**	**60**	**—**	**95**	**—**	**(759)**
Health	**41,836**	**8,771**	**33,065**	**36,954**	**3,737**	**978**	**167**	**84**	**7**	**(2,855)**
Insurance	**29,932**	**4,417**	**25,515**	**29,090**	**801**	**41**	**—**	**44**	**—**	**(3,884)**
Public sector	**23,705**	**11,736**	**11,969**	**20,663**	**2,084**	**956**	**2**	**77**	**4**	**(1,633)**
Financial markets infrastructure	**8,742**	**60**	**8,682**	**8,672**	**70**	**—**	**—**	**—**	**—**	**(18)**
Securities firms	**1,462**	**569**	**893**	**625**	**678**	**157**	**2**	**2**	**—**	**(2)**
Other industries	**6,697**	**3,651**	**3,046**	**4,842**	**1,568**	**238**	**49**	**19**	**16**	**(8)**
Total	**$ 689,060**	**$ 283,465**	**$ 405,595**	**$ 576,779**	**$ 84,247**	**$ 26,403**	**$ 1,631**	**$ 1,898**	**$ 178**	**$ (39,830)**

(1) Excludes $0.6 billion and $0.1 billion of funded and unfunded exposure at December 31, 2022, respectively, primarily related to the delinquency-managed loans and unearned income. Funded balances also exclude loans carried at fair value of $5.1 billion at December 31, 2022.

(2) Includes non-accrual loan exposures and criticized unfunded exposures.

(3) Represents the amount of purchased credit protection in the form of derivatives to economically hedge funded and unfunded exposures. Of the $39.8 billion of purchased credit protection, $36.6 billion represents the total notional amount of purchased credit derivatives on individual reference entities. The remaining $3.2 billion represents the first loss tranche of portfolios of purchased credit derivatives with a total notional of $27.6 billion, where the protection seller absorbs the first loss on the referenced loan portfolios.

(4) Autos total credit exposure includes securitization financing facilities secured by auto loans and leases, extended mainly to the finance company subsidiaries of global auto manufacturers, bank subsidiaries and independent auto finance companies, of approximately $17.4 billion ($10.3 billion in funded, with more than 99% rated investment grade) as of December 31, 2022.

(5) In addition to this exposure, Citi has energy-related exposure within the public sector (e.g., energy-related state-owned entities) and the transportation and industrials sector (e.g., off-shore drilling entities) included in the table above. As of December 31, 2022, Citi's total exposure to these energy-related entities was approximately $4.7 billion, of which approximately $2.4 billion consisted of direct outstanding funded loans.

The following table details Citi's corporate credit portfolio by industry as of December 31, 2021:

					Non-investment grade			Selected metrics		
In millions of dollars	Total credit exposure	Funded[1]	Unfunded[1]	Investment grade	Non-criticized	Criticized performing	Criticized non-performing[2]	30 days or more past due and accruing	Net credit losses (recoveries)	Credit derivative hedges[3]
Transportation and industrials	$ 143,445	$ 51,502	$ 91,943	$ 110,047	$ 19,051	$ 13,196	$ 1,151	$ 384	$ 127	$ (8,791)
Autos[4]	48,210	18,662	29,548	39,824	5,365	2,906	115	49	2	(3,228)
Transportation	26,897	12,085	14,812	19,233	2,344	4,447	873	105	104	(1,334)
Industrials	68,338	20,755	47,583	50,990	11,342	5,843	163	230	21	(4,229)
Technology, media and telecom	84,333	28,542	55,791	64,676	15,873	3,587	197	156	11	(6,875)
Consumer retail	78,994	32,894	46,100	60,686	13,590	4,311	407	224	100	(5,115)
Real estate	69,808	46,220	23,588	58,089	6,761	4,923	35	116	50	(798)
Power, chemicals, metals and mining	65,641	20,224	45,417	53,575	10,708	1,241	117	292	22	(5,808)
Power	26,199	5,610	20,589	22,860	2,832	420	87	100	17	(3,032)
Chemicals	25,550	8,525	17,025	20,788	4,224	528	10	88	6	(2,141)
Metals and mining	13,892	6,089	7,803	9,927	3,652	293	20	104	(1)	(635)
Banks and finance companies	58,252	36,804	21,448	49,465	4,892	3,890	5	150	(5)	(680)
Energy and commodities[5]	48,973	13,485	35,488	38,972	7,517	2,220	264	224	78	(3,679)
Asset managers and funds	55,517	26,879	28,638	54,119	1,019	377	2	211	—	(869)
Health	33,393	8,826	24,567	27,600	4,702	942	149	95	—	(2,465)
Insurance	28,495	3,162	25,333	27,447	987	61	—	2	1	(2,711)
Public sector	23,842	12,464	11,378	21,035	1,527	1,275	5	37	(3)	(1,282)
Financial markets infrastructure	14,341	109	14,232	14,323	18	—	—	—	—	(22)
Securities firms	1,472	613	859	605	816	51	—	4	—	(5)
Other industries	6,591	2,803	3,788	4,151	1,890	489	61	—	5	(169)
Total	$ 713,097	$ 284,527	$ 428,570	$ 584,790	$ 89,351	$ 36,563	$ 2,393	$ 1,895	$ 386	$ (39,269)

(1) Excludes $0.6 billion and $0.1 billion of funded and unfunded exposure at December 31, 2021, respectively, primarily related to the delinquency-managed loans and unearned income. Funded balances also excludes loans carried at fair value of $6.1 billion at December 31, 2021.

(2) Includes non-accrual loan exposures and criticized unfunded exposures.

(3) Represents the amount of purchased credit protection in the form of derivatives to economically hedge funded and unfunded exposures. Of the $39.3 billion of purchased credit protection, $36.0 billion represents the total notional amount of purchased credit derivatives on individual reference entities. The remaining $3.3 billion represents the first loss tranche of portfolios of purchased credit derivatives with a total notional of $28.4 billion, where the protection seller absorbs the first loss on the referenced loan portfolios.

(4) Autos total credit exposure includes securitization financing facilities secured by auto loans and leases, extended mainly to the finance company subsidiaries of global auto manufacturers, bank subsidiaries and independent auto finance companies, of approximately $17.9 billion ($6.5 billion in funded, with more than 99% rated investment grade) at December 31, 2021.

(5) In addition to this exposure, Citi has energy-related exposure within the public sector (e.g., energy-related state-owned entities) and the transportation and industrials sector (e.g., off-shore drilling entities) included in the table above. As of December 31, 2021, Citi's total exposure to these energy-related entities was approximately $5.1 billion, of which approximately $2.6 billion consisted of direct outstanding funded loans.

Credit Risk Mitigation

As part of its overall risk management activities, Citigroup uses credit derivatives and other risk mitigants to hedge portions of the credit risk in its corporate credit portfolio, in addition to outright asset sales. Citi may enter into partial-term hedges as well as full-term hedges. In advance of the expiration of partial-term hedges, Citi will determine, among other factors, the economic feasibility of hedging the remaining life of the instrument. The results of the mark-to-market and any realized gains or losses on credit derivatives are reflected primarily in *Principal transactions* in the Consolidated Statement of Income.

At December 31, 2022, September 30, 2022 and December 31, 2021, *ICG* had economic hedges on the corporate credit portfolio of $39.8 billion, $36.5 billion and $39.3 billion, respectively. Citi's expected credit loss model used in the calculation of its ACL does not include the favorable impact of credit derivatives and other mitigants that are marked-to-market. In addition, the reported amounts of direct outstandings and unfunded lending commitments in the tables above do not reflect the impact of these hedging transactions. The credit protection was economically hedging underlying *ICG* corporate credit portfolio exposures with the following risk rating distribution:

Rating of Hedged Exposure

	December 31, 2022	September 30, 2022	December 31, 2021
AAA/AA/A	**39 %**	38 %	35 %
BBB	**45**	45	49
BB/B	**12**	13	13
CCC or below	**4**	4	3
Total	**100 %**	100 %	100 %

Loan Maturities and Fixed/Variable Pricing of Corporate Loans

In millions of dollars at December 31, 2022	Due within 1 year	Over 1 year but within 5 years	Over 5 years but within 15 years	Over 15 years	Total
Corporate loans					
In North America offices[1]					
Commercial and industrial loans	$ 23,636	$ 31,116	$ 1,328	$ 96	$ 56,176
Financial institutions	21,619	21,600	168	12	43,399
Mortgage and real estate[2]	7,028	5,074	4,348	1,379	17,829
Installment and other	9,605	12,747	1,287	128	23,767
Lease financing	86	188	34	—	308
Total	$ 61,974	$ 70,725	$ 7,165	$ 1,615	$ 141,479
In offices outside North America[1]					
Commercial and industrial loans	$ 70,210	$ 19,376	$ 4,300	$ 81	$ 93,967
Financial institutions	15,888	5,201	607	235	21,931
Mortgage and real estate[2]	1,946	1,592	566	75	4,179
Installment and other	12,386	7,109	1,256	2,596	23,347
Lease financing	6	40	—	—	46
Governments and official institutions	2,535	428	798	444	4,205
Total	$ 102,971	$ 33,746	$ 7,527	$ 3,431	$ 147,675
Corporate loans, net of unearned income[3]	$ 164,945	$ 104,471	$ 14,692	$ 5,046	$ 289,154
Loans at fixed interest rates[4]					
Commercial and industrial loans		$ 3,885	$ 1,045	$ 48	
Financial institutions		3,924	61	12	
Mortgage and real estate[2]		1,238	3,643	977	
Other[5]		4,148	261	6	
Lease financing		165	—	—	
Total		$ 13,360	$ 5,010	$ 1,043	
Loans at floating or adjustable interest rates[4]					
Commercial and industrial loans		$ 46,607	$ 4,583	$ 129	
Financial institutions		22,877	714	235	
Mortgage and real estate[2]		5,428	1,271	477	
Other[5]		16,136	3,080	3,162	
Lease financing		63	34	—	
Total		$ 91,111	$ 9,682	$ 4,003	
Total fixed/variable pricing of corporate loans with maturities due after one year, net of unearned income[3]		$ 104,471	$ 14,692	$ 5,046	

(1) North America includes the U.S., Canada and Puerto Rico. Mexico is included in offices outside North America. The classification between offices in North America and outside North America is based on the domicile of the booking unit. The differences between the domicile of the booking unit and the domicile of the managing unit are not material.

(2) Loans secured primarily by real estate.

(3) Corporate loans are net of unearned income of ($797) million. Unearned income on corporate loans primarily represents interest received in advance, but not yet earned, on loans originated on a discounted basis.

(4) Based on contractual terms. Repricing characteristics may effectively be modified from time to time using derivative contracts. See Note 23.

(5) Other includes installment and other and loans to government and official institutions.

CONSUMER CREDIT

PBWM fulfills a broad spectrum of customer financial needs, with U.S. Personal Banking providing retail banking, credit card, personal loan, mortgage and small business banking, and Global Wealth offering wealth management lending and other products globally to affluent to ultra-high-net-worth customer segments through the Private bank, Wealth at Work and Citigold. *PBWM*'s retail banking products include a generally prime portfolio built through well-defined lending parameters within Citi's risk appetite framework.

Legacy Franchises also provides such activities in its remaining markets through Asia Consumer and Mexico Consumer. The *Legacy Franchises* consumer credit information discussed below reflects only those exit market portfolios that remained held-for-investment (versus held-for-sale) as of each period. The Philippines was reclassified to held-for-sale as of 4Q21, followed by Malaysia, Thailand, Indonesia, Vietnam, Taiwan, India and Bahrain in 1Q22. As a result, China, Korea, Russia and Poland were the only portfolios that remained held-for-investment and are reflected in the discussion below as of 4Q22.

Consumer Credit Portfolio

The following table shows Citi's quarterly end-of-period consumer loans:[1]

In billions of dollars	4Q'21[2]	1Q'22[2]	2Q'22[2]	3Q'22[2]	**4Q'22[2]**
Personal Banking and Wealth Management					
U.S. Personal Banking					
Cards					
Branded cards	$ 87.9	$ 85.9	$ 91.6	$ 93.7	**$ 100.2**
Retail services	46.0	44.1	45.8	46.7	**50.5**
Retail banking					
Mortgages[5]	30.2	30.5	32.3	32.3	**33.4**
Personal, small business and other	2.8	2.8	3.1	3.5	**3.7**
Global Wealth[3][4]					
Cards	4.0	3.8	4.0	4.0	**4.6**
Mortgages[5]	74.6	75.4	77.8	82.0	**84.0**
Personal, small business and other[6]	72.7	71.0	67.0	65.1	**60.6**
Total	**$ 318.2**	**$ 313.5**	**$ 321.6**	**$ 327.3**	**$ 337.0**
Legacy Franchises					
Asia Consumer[7]	$ 41.1	$ 19.5	$ 17.3	$ 13.4	**$ 13.3**
Mexico Consumer (excludes Mexico SBMM)	13.3	13.6	13.5	13.7	**14.8**
Legacy Holdings Assets[8]	3.9	3.7	3.2	3.2	**3.0**
Total	**$ 58.3**	**$ 36.8**	**$ 34.0**	**$ 30.3**	**$ 31.1**
Total consumer loans	**$ 376.5**	**$ 350.3**	**$ 355.6**	**$ 357.6**	**$ 368.1**

(1) End-of-period loans include interest and fees on credit cards.

(2) *Legacy Franchises*—4Q22 Asia Consumer loan balances exclude approximately $12 billion of loans ($9 billion of retail banking loans and $3 billion of credit card loan balances) reclassified to held-for-sale (HFS) (in *Other assets* on the Consolidated Balance Sheet) as a result of Citi's signed agreements to sell its consumer banking businesses in four countries: Indonesia, Vietnam, Taiwan and India, which were reclassified to HFS starting 1Q22. (See *Legacy Franchises* above and Note 2 for additional information.) The Malaysia, Thailand and Bahrain sales closed during the fourth quarter of 2022 and were also reclassified to HFS starting 1Q22. The Philippines consumer banking business was reclassified to HFS from 4Q21 until the closing of its sale on August 1, 2022. Accordingly, loans from these sold businesses are excluded from the Asia Consumer loan balances as of the end of such periods.

(3) Consists of $98.2 billion, $99.3 billion, $94.6 billion, $94.1 billion and $92.7 billion of loans in North America as of December 31, 2022, September 30, 2022, June 30, 2022, March 31, 2022 and December 31, 2021, respectively. For additional information on the credit quality of the Global Wealth portfolio, see Note 14.

(4) Consists of $51.0 billion, $51.8 billion, $54.2 billion, $56.1 billion and $58.6 billion of loans outside North America as of December 31, 2022, September 30, 2022, June 30, 2022, March 31, 2022 and December 31, 2021, respectively.

(5) See Note 14 for details on loan-to-value ratios for the portfolios and FICO scores for the U.S. portfolio.

(6) At December 31, 2022, includes approximately $49 billion of classifiably managed loans. Over 90% of these loans are fully collateralized (consisting primarily of marketable investment securities, commercial real estate and limited partner capital commitments in private equity) and have experienced very low historical NCLs. As discussed below, approximately 95% of the classifiably managed portion of these loans are investment grade. See "Consumer Loan Delinquencies Amounts and Ratios" below for details on the delinquency-managed portfolio.

(7) Asia Consumer also includes loans and leases in certain EMEA countries for all periods presented.

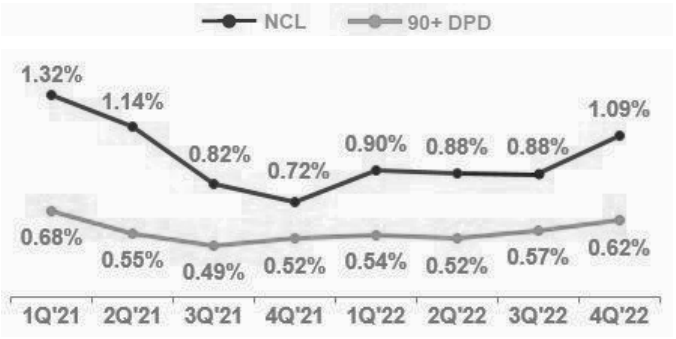
(8) Primarily consists of certain North America consumer mortgages.

For information on changes to Citi's consumer loans, see "Liquidity Risk—Loans" below.

Consumer Credit Trends

Personal Banking and Wealth Management (PBWM)

Personal Banking and Wealth Management



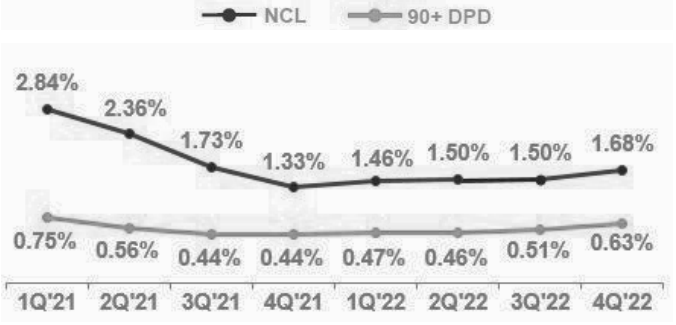
As indicated above, *PBWM* consists of U.S. Personal Banking and Global Wealth Management (Global Wealth). U.S. Personal Banking provides card products through Branded cards and Retail services, and also includes mortgages and home equity, small business and personal consumer loans through Citi's Retail banking network. The Retail bank is concentrated in six major U.S. metropolitan areas. Global Wealth provides investment services, cards, mortgages and personal, small business and other consumer loans through the Private bank, Wealth at Work and Citigold.

As of December 31, 2022, approximately 45% of *PBWM* consumer loans consisted of Branded cards and Retail services card loans, which generally drives the overall credit performance of *PBWM*, as U.S. Cards net credit losses represent approximately 90% of total *PBWM* losses.

As shown in the chart above, the fourth quarter of 2022 net credit loss rate in *PBWM* increased quarter-over-quarter and year-over-year, driven by an increase in net flow rates, primarily reflecting ongoing normalization from historically low levels in U.S. Cards.

PBWM's 90+ days past due delinquency rate increased quarter-over-quarter and year-over-year, also driven by an increase in net flow rates, primarily reflecting the ongoing normalization in U.S. Cards.

Branded Cards

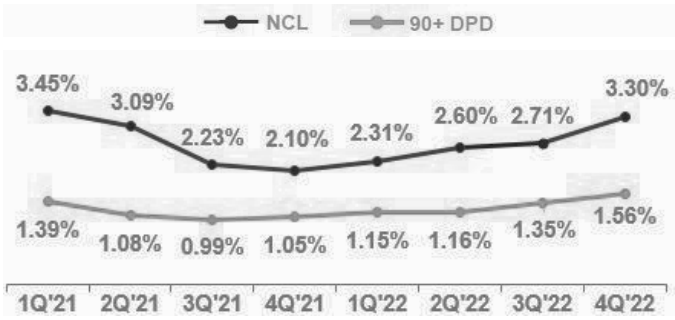


U.S. Personal Banking's Branded cards portfolio includes proprietary and co-branded cards.

As shown in the chart above, the fourth quarter of 2022 net credit loss rate in Branded cards increased quarter-over-quarter and year-over-year, driven by an increase in net flow rates, primarily reflecting ongoing normalization from historically low levels.

The 90+ days past due delinquency rate increased quarter-over-quarter and year-over year, also driven by an increase in net flow rates, primarily reflecting the ongoing normalization.

Retail Services



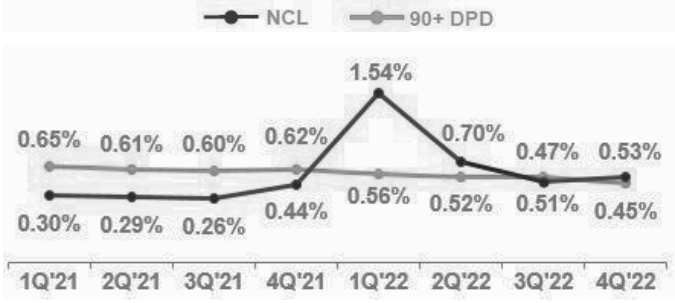
U.S. Personal Banking's Retail services partners directly with more than 20 retailers and dealers to offer private label and co-branded cards. Retail services' target market focuses on select industry segments such as home improvement, specialty retail, consumer electronics and fuel. Retail services continually evaluates opportunities to add partners within target industries that have strong loyalty, lending or payment programs and growth potential.

As shown in the chart above, the fourth quarter of 2022 net credit loss rate in Retail services increased quarter-over-quarter and year-over-year, driven by an increase in net flow rates, primarily reflecting the ongoing normalization from historically low levels.

The 90+ days past due delinquency rate increased quarter-over-quarter and year-over-year, also driven by an increase in net flow rates, primarily reflecting the ongoing normalization.

For additional information on cost of credit, loan delinquency and other information for Citi's cards portfolios, see each respective business's results of operations above and Note 14.

Retail Banking

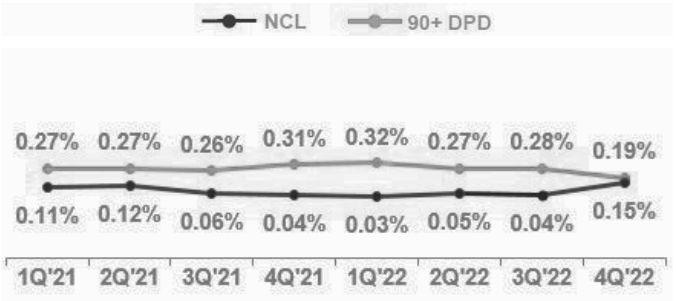


U.S. Personal Banking's Retail banking portfolio consists primarily of consumer mortgages (including home equity) and unsecured lending products, such as small business loans and personal loans. The portfolio is generally delinquency managed, where Citi evaluates credit risk based on FICO scores, delinquencies and the value of underlying collateral. The consumer mortgages in this portfolio have historically been extended to high credit quality customers, generally with loan-to-value ratios that are less than or equal to 80% on first and second mortgages. For additional information, see "Loan-to-Value (LTV) Ratios" in Note 14.

As shown in the chart above, the net credit loss rate in Retail banking for the fourth quarter of 2022 increased slightly quarter-over-quarter and year-over-year, primarily driven by the continued impact of industry-wide episodic overdraft losses.

The 90+ days past due delinquency rate decreased quarter-over-quarter and year-over-year, primarily driven by U.S. mortgages, which reflected the lasting effects of government stimulus, unemployment benefits and consumer relief programs.

Global Wealth



As discussed above, the Global Wealth credit portfolio primarily consists of consumer mortgages, cards and other lending products extended to customer segments that range from the affluent to ultra-high-net-worth through the Private bank, Wealth at Work and Citigold. These customer segments represent a target market that is characterized by historically low default rates and delinquencies.

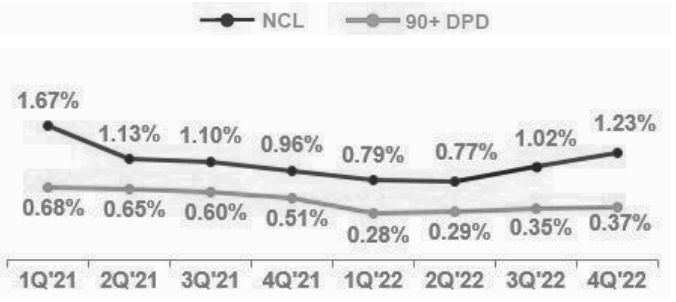
As of December 31, 2022, approximately $49 billion, or 33%, of the portfolio was classifiably managed and primarily consisted of margin lending, commercial real estate, subscription credit finance and other lending programs. These classifiably managed loans are primarily evaluated for credit risk based on their internal risk rating, of which 95% is rated investment grade. While the delinquency rate in the chart above is calculated only for the delinquency-managed portfolio, the net credit loss rate is calculated using net credit losses for both the delinquency and classifiably managed portfolios.

As shown in the chart above, the net credit loss rate and 90+ days past due delinquency rate were broadly stable quarter-over-quarter and year-over-year, reflecting the strong credit profiles of the portfolios. The net credit loss rate increased slightly quarter-over-quarter, due to a classifiably managed loan charge-off. The low levels of net credit losses and the 90+ days past due delinquency rate continued to reflect the strong credit profiles of the portfolios.

Legacy Franchises

Legacy Franchises provides traditional retail banking and branded card products to retail and small business customers in Asia Consumer and Mexico Consumer.

Asia[(1)] Consumer



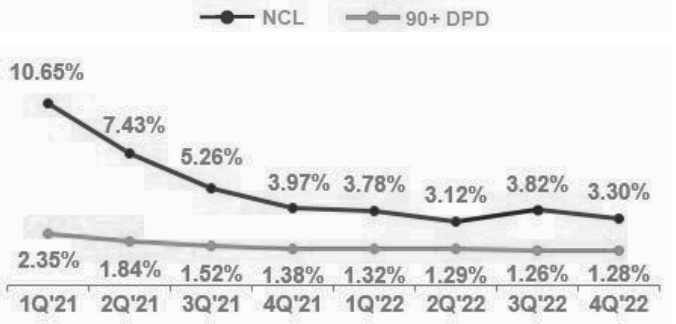
(1) Asia Consumer includes *Legacy Franchises* activities in certain EMEA countries for all periods presented.

As shown in the chart above, the fourth quarter of 2022 net credit loss rate in Asia Consumer for the remaining portfolios held-for-investment (China, Korea, Russia and Poland) increased quarter-over-quarter, primarily driven by lower average loans due to the ongoing wind-down of the businesses, particularly in Korea (decline of $1.5 billion) and the sale of the personal loan portfolio in Russia in the fourth quarter of 2022. The net credit loss rate increased year-over-year, primarily driven by lower average loans due to the ongoing wind-down of the businesses, particularly in Korea (decline of $7.8 billion) and the sale of the personal loan portfolio in Russia, partially offset by the reclassification of loans to held-for-sale during 2022.

The 90+ days past due delinquency rate was largely unchanged quarter-over-quarter and decreased year-over-year, mainly driven by the impact of the Asia Consumer held-for-sale reclassifications, partially offset by the effect of declining loans due to the ongoing wind-down of the businesses, including the sale of the personal loan portfolio in Russia.

The performance of Asia Consumer's portfolios continues to reflect the strong credit profiles in the region's target customer segments.

Mexico Consumer



Mexico Consumer operates in Mexico through Citibanamex and provides credit cards, consumer mortgages and small business and personal loans. Mexico Consumer serves a more mass-market segment in Mexico and focuses on developing multiproduct relationships with customers.

As shown in the chart above, the fourth quarter of 2022 net credit loss rate in Mexico Consumer decreased quarter-over-quarter and year-over-year, primarily driven by the impact of the charge-off of peak delinquencies in early 2021, which resulted in lower delinquencies, leading to lower net credit losses in the current quarter.

The 90+ days past due delinquency rate was largely unchanged quarter-over-quarter and decreased year-over-year, primarily driven by the impact of the charge-off of peak delinquencies and higher payment rates.

For additional information on cost of credit, loan delinquency and other information for Citi's consumer loan portfolios, see each respective business's results of operations above and Note 14.

U.S. Cards FICO Distribution

The following tables show the current FICO score distributions for Citi's Branded cards and Retail services portfolios based on end-of-period receivables. FICO scores are updated monthly for substantially all of the portfolio and on a quarterly basis for the remaining portfolio.

Branded Cards

FICO distribution[(1)]	**Dec. 31, 2022**	Sept. 30, 2022	Dec. 31, 2021
> 760	**48 %**	48 %	49 %
680–760	**38**	38	38
< 680	**14**	14	13
Total	**100 %**	100 %	100 %

Retail Services

FICO distribution[(1)]	**Dec. 31, 2022**	Sept. 30, 2022	Dec. 31, 2021
> 760	**27 %**	27 %	28 %
680–760	**42**	43	44
< 680	**31**	30	28
Total	**100 %**	100 %	100 %

(1) The FICO bands in the tables are consistent with general industry peer presentations.

The FICO distribution of both cards portfolios shifted slightly lower across the credit bands from the prior quarter and the prior year consistent with the ongoing normalization in net credit loss and delinquency rates in the portfolios. The FICO distribution continues to reflect strong underlying credit quality and a benefit from the continued impacts of government stimulus, unemployment benefits and customer relief programs. See Note 14 for additional information on FICO scores.

Additional Consumer Credit Details

Consumer Loan Delinquencies Amounts and Ratios

In millions of dollars, except EOP loan amounts in billions	EOP loans[1] December 31, 2022	90+ days past due[2] December 31, 2022	90+ days past due[2] December 31, 2021	90+ days past due[2] December 31, 2020	30–89 days past due[2] December 31, 2022	30–89 days past due[2] December 31, 2021	30–89 days past due[2] December 31, 2020
Personal Banking and Wealth Management[3][4][5]							
Total	**$ 337.0**	**$ 1,764**	$ 1,350	$ 1,879	**$ 2,037**	$ 1,453	$ 1,794
Ratio		**0.61 %**	0.52 %	0.74 %	**0.71 %**	0.56 %	0.71 %
U.S. Personal Banking							
Total	**$ 187.8**	**$ 1,578**	$ 1,069	$ 1,588	**$ 1,720**	$ 1,130	$ 1,513
Ratio		**0.84 %**	0.64 %	0.95 %	**0.92 %**	0.68 %	0.90 %
Cards[4]							
Total	**$ 150.7**	**$ 1,415**	$ 871	$ 1,330	**$ 1,511**	$ 947	$ 1,228
Ratio		**0.94 %**	0.65 %	1.02 %	**1.00 %**	0.71 %	0.94 %
Branded cards	**100.2**	**629**	389	686	**693**	408	589
Ratio		**0.63 %**	0.44 %	0.82 %	**0.69 %**	0.46 %	0.70 %
Retail services	**50.5**	**786**	482	644	**818**	539	639
Ratio		**1.56 %**	1.05 %	1.39 %	**1.62 %**	1.17 %	1.38 %
Retail banking[3]	**37.1**	**163**	198	258	**209**	183	285
Ratio		**0.45 %**	0.62 %	0.70 %	**0.57 %**	0.57 %	0.77 %
Global Wealth delinquency-managed loans[5]	**$ 100.0**	**$ 186**	$ 281	$ 291	**$ 317**	$ 323	$ 281
Ratio		**0.19 %**	0.31 %	0.34 %	**0.32 %**	0.35 %	0.33 %
Global Wealth classifiably managed loans[6]	**$ 49.2**	**N/A**	N/A	N/A	**N/A**	N/A	N/A
Legacy Franchises							
Total	**$ 31.1**	**$ 389**	$ 613	$ 1,131	**$ 335**	$ 546	$ 1,083
Ratio		**1.26 %**	1.06 %	1.47 %	**1.09 %**	0.94 %	1.41 %
Asia Consumer[7][8]	**13.3**	**49**	209	456	**70**	285	514
Ratio		**0.37 %**	0.51 %	0.81 %	**0.53 %**	0.69 %	0.92 %
Mexico Consumer	**14.8**	**190**	183	363	**186**	173	390
Ratio		**1.28 %**	1.38 %	2.49 %	**1.26 %**	1.30 %	2.67 %
Legacy Holdings Assets (consumer)[9]	**3.0**	**150**	221	312	**79**	88	179
Ratio		**5.56 %**	6.31 %	5.03 %	**2.93 %**	2.51 %	2.89 %
Total Citigroup consumer	**$ 368.1**	**$ 2,153**	$ 1,963	$ 3,010	**$ 2,372**	$ 1,999	$ 2,877
Ratio		**0.68 %**	0.62 %	0.91 %	**0.75 %**	0.63 %	0.87 %

(1) End-of-period (EOP) loans include interest and fees on credit cards.
(2) The ratios of 90+ days past due and 30–89 days past due are calculated based on EOP loans, net of unearned income.
(3) The 90+ days past due and 30–89 days past due and related ratios for Retail banking exclude loans guaranteed by U.S. government-sponsored agencies since the potential risk of loss predominantly resides with the U.S. government-sponsored agencies. The amounts excluded for loans 90+ days past due and (EOP loans) were $89 million ($0.6 billion), $185 million ($1.1 billion) and $171 million ($0.7 billion) at December 31, 2022, 2021 and 2020, respectively. The amounts excluded for loans 30–89 days past due (the 30–89 days past due EOP loans have the same adjustments as the 90+ days past due EOP loans) were $70 million, $74 million and $98 million at December 31, 2022, 2021 and 2020, respectively. The EOP loans in the table include the guaranteed loans.
(4) The 90+ days past due balances for Branded cards and Retail services are generally still accruing interest. Citi's policy is generally to accrue interest on credit card loans until 180 days past due, unless notification of bankruptcy filing has been received earlier.
(5) Excludes EOP classifiably managed Private bank loans. These loans are not included in the delinquency numerator, denominator and ratios.
(6) These loans are evaluated for non-accrual status and write-off primarily based on their internal risk classification and not solely on their delinquency status, and therefore delinquency metrics are excluded from this table. As of December 31, 2022, 2021 and 2020, 96%, 94% and 92% of Global Wealth classifiably managed loans were rated investment grade. For additional information on the credit quality of the Global Wealth portfolio, including classifiably managed portfolios, see "Consumer Credit Trends" above.
(7) Asia Consumer includes delinquencies and loans in certain EMEA countries for all periods presented.

(8) Citi recently entered into agreements to sell certain Asia consumer banking businesses. Accordingly, the loans of these businesses have been reclassified as HFS in *Other assets* on the Consolidated Balance Sheet, and hence the loans and related delinquencies and ratios are not included in this table. The reclassifications commenced as follows: Australia (3Q21, and closed on June 1, 2022), the Philippines (4Q21, and closed on August 1, 2022) and Bahrain, India, Indonesia, Malaysia, Taiwan, Thailand and Vietnam (1Q22) (Bahrain, Malaysia and Thailand closed in 4Q22). See Note 2 for additional information.

(9) The 90+ days past due and 30–89 days past due and related ratios exclude U.S. mortgage loans that are primarily related to U.S. mortgages guaranteed by U.S. government-sponsored agencies since the potential risk of loss predominantly resides with the U.S. agencies. The amounts excluded for 90+ days past due and (EOP loans) were $90 million ($0.3 billion), $138 million ($0.4 billion) and $183 million ($0.5 billion) at December 31, 2022, 2021 and 2020, respectively. The amounts excluded for loans 30–89 days past due (the 30–89 days past due EOP loans have the same adjustments as the 90+ days past due EOP loans) were $37 million, $35 million and $73 million at December 31, 2022, 2021 and 2020, respectively. The EOP loans in the table include the guaranteed loans.

N/A Not applicable

Consumer Loan Net Credit Losses and Ratios

	Average loans[1]	Net credit losses[2]		
In millions of dollars, except average loan amounts in billions	**2022**	**2022**	2021	2020
***Personal Banking and Wealth Management*[2]**				
Total	**$ 321.0**	**$ 3,021**	$ 3,061	$ 5,229
Ratio		**0.94 %**	1.00 %	1.72 %
U.S. Personal Banking				
Total	**$ 170.7**	**$ 2,918**	$ 2,939	$ 4,990
Ratio		**1.71 %**	1.85 %	2.95 %
Cards				
Total	**135.6**	**2,640**	2,828	4,858
Ratio		**1.95 %**	2.28 %	3.71 %
Branded cards	**89.8**	**1,384**	1,659	2,708
Ratio		**1.54 %**	2.05 %	3.20 %
Retail services	**45.8**	**1,256**	1,169	2,150
Ratio		**2.74 %**	2.71 %	4.62 %
Retail banking	**35.1**	**278**	111	132
Ratio		**0.79 %**	0.32 %	0.35 %
Global Wealth	**$ 150.3**	**$ 103**	$ 122	$ 239
Ratio		**0.07 %**	0.08 %	0.18 %
Legacy Franchises				
Total	**$ 34.4**	**$ 590**	$ 1,448	$ 1,482
Ratio		**1.72 %**	2.12 %	1.96 %
Asia Consumer[3][4]	**17.4**	**160**	610	640
Ratio		**0.92 %**	1.23 %	1.22 %
Mexico Consumer	**13.6**	**476**	920	866
Ratio		**3.50 %**	6.87 %	5.97 %
Legacy Holdings Assets (consumer)	**3.4**	**(46)**	(82)	(24)
Ratio		**(1.35)%**	(1.53)%	(0.27)%
Total Citigroup	**$ 355.4**	**$ 3,611**	$ 4,509	$ 6,711
Ratio		**1.02 %**	1.20 %	1.77 %

(1) Average loans include interest and fees on credit cards.

(2) The ratios of net credit losses are calculated based on average loans, net of unearned income.

(3) Asia Consumer includes NCLs and average loans in certain EMEA countries (Russia, Poland and Bahrain) for all periods presented.

(4) Citi recently entered into agreements to sell certain Asia consumer banking businesses, which have been reclassified as HFS in *Other assets* and *Other liabilities* on the Consolidated Balance Sheet. As a result, approximately $155 million and $6 million in related net credit losses (NCLs) were recorded as a reduction in revenue (*Other revenue*) in 2022 and 2021, respectively. Accordingly, these NCLs are not included in this table. The reclassifications commenced as follows: Australia (3Q21, and closed on June 1, 2022), the Philippines (4Q21, and closed on August 1, 2022) and Bahrain, India, Indonesia, Malaysia, Taiwan, Thailand and Vietnam (1Q22) (Bahrain, Malaysia and Thailand closed in 4Q22). See Note 2 for additional information.

Loan Maturities and Fixed/Variable Pricing of Consumer Loans

Loan Maturities

In millions of dollars at December 31, 2022	Due within 1 year	Greater than 1 year but within 5 years	Greater than 5 years but within 15 years	Greater than 15 years	Total
In North America offices					
Residential first mortgages	$ 4	$ 181	$ 3,513	$ 92,341	$ 96,039
Home equity loans	551	42	1,669	2,318	4,580
Credit cards[(1)]	149,822	821	—	—	150,643
Personal, small business and other	33,271	3,945	340	196	37,752
Total	$ 183,648	$ 4,989	$ 5,522	$ 94,855	$ 289,014
In offices outside North America					
Residential mortgages	$ 2,994	$ 372	$ 4,374	$ 20,374	$ 28,114
Credit cards[(1)]	12,885	70	—	—	12,955
Personal, small business and other	29,637	7,179	588	580	37,984
Total	$ 45,516	$ 7,621	$ 4,962	$ 20,954	$ 79,053

(1) Credit card loans with maturities greater than one year represent TDRs and are at fixed interest rates.

Fixed/Variable Pricing

In millions of dollars at December 31, 2022	Due within 1 year	Greater than 1 year but within 5 years	Greater than 5 years but within 15 years	Greater than 15 years	Total
Loans at fixed interest rates					
Residential first mortgages	$ 2,050	$ 263	$ 2,691	$ 59,918	$ 64,922
Home equity loans	5	39	298	147	489
Credit cards[(1)]	41,913	891	—	—	42,804
Personal, small business and other	9,748	5,380	343	192	15,663
Total	$ 53,716	$ 6,573	$ 3,332	$ 60,257	$ 123,878
Loans at floating or adjustable interest rates					
Residential first mortgages	$ 948	$ 290	$ 5,196	$ 52,797	$ 59,231
Home equity loans	546	3	1,371	2,171	4,091
Credit cards[(1)]	120,794	—	—	—	120,794
Personal, small business and other	53,160	5,744	585	584	60,073
Total	$ 175,448	$ 6,037	$ 7,152	$ 55,552	$ 244,189

(1) Credit card loans with maturities greater than one year represent TDRs and are at fixed interest rates.

ADDITIONAL CONSUMER AND CORPORATE CREDIT DETAILS

Loans Outstanding

	December 31,				
In millions of dollars	**2022**	2021	2020	2019	2018
Consumer loans					
In North America offices[1]					
Residential first mortgages[2]	**$ 96,039**	$ 83,361	$ 83,956	$ 78,664	$ 75,074
Home equity loans[2]	**4,580**	5,745	7,890	10,174	12,675
Credit cards	**150,643**	133,868	130,385	149,163	144,542
Personal, small business and other	**37,752**	40,713	39,259	36,548	35,733
Total	**$ 289,014**	$ 263,687	$ 261,490	$ 274,549	$ 268,024
In offices outside North America[1]					
Residential mortgages[2]	**$ 28,114**	$ 37,889	$ 42,817	$ 40,467	$ 39,314
Credit cards	**12,955**	17,808	22,692	25,909	24,951
Personal, small business and other	**37,984**	57,150	59,475	60,013	52,052
Total	**$ 79,053**	$ 112,847	$ 124,984	$ 126,389	$ 116,317
Consumer loans, net of unearned income[3]	**$ 368,067**	$ 376,534	$ 386,474	$ 400,938	$ 384,341
Corporate loans					
In North America offices[1]					
Commercial and industrial	**$ 56,176**	$ 48,364	$ 53,930	$ 52,229	$ 56,957
Financial institutions	**43,399**	49,804	39,390	38,782	34,906
Mortgage and real estate[2]	**17,829**	15,965	16,522	13,696	14,490
Installment and other	**23,767**	20,143	17,362	22,219	23,759
Lease financing	**308**	415	673	1,290	1,429
Total	**$ 141,479**	$ 134,691	$ 127,877	$ 128,216	$ 131,541
In offices outside North America[1]					
Commercial and industrial	**$ 93,967**	$ 102,735	$ 103,234	$ 112,332	$ 113,662
Financial institutions	**21,931**	22,158	25,111	28,176	26,602
Mortgage and real estate[2]	**4,179**	4,374	5,277	4,325	2,920
Installment and other	**23,347**	22,812	24,034	21,273	20,458
Lease financing	**46**	40	65	95	152
Governments and official institutions	**4,205**	4,423	3,811	4,128	4,520
Total	**$ 147,675**	$ 156,542	$ 161,532	$ 170,329	$ 168,314
Corporate loans, net of unearned income[4]	**$ 289,154**	$ 291,233	$ 289,409	$ 298,545	$ 299,855
Total loans—net of unearned income	**$ 657,221**	$ 667,767	$ 675,883	$ 699,483	$ 684,196
Allowance for credit losses on loans (ACLL)	**(16,974)**	(16,455)	(24,956)	(12,783)	(12,315)
Total loans—net of unearned income and ACLL	**$ 640,247**	$ 651,312	$ 650,927	$ 686,700	$ 671,881
ACLL as a percentage of total loans—net of unearned income[5]	**2.60 %**	2.49 %	3.73 %	1.84 %	1.81 %
ACLL for consumer loan losses as a percentage of total consumer loans—net of unearned income[5]	**3.84 %**	3.73 %	5.22 %	2.51 %	2.52 %
ACLL for corporate loan losses as a percentage of total corporate loans—net of unearned income[5]	**1.01 %**	0.85 %	1.69 %	0.93 %	0.89 %

(1) North America includes the U.S., Canada and Puerto Rico. Mexico is included in offices outside North America. The classification of corporate loans between offices in North America and outside North America is based on the domicile of the booking unit. The difference between the domicile of the booking unit and the domicile of the managing unit is not material.

(2) Loans secured primarily by real estate.

(3) Consumer loans are net of unearned income of $712 million, $629 million, $692 million, $732 million and $703 million at December 31, 2022, 2021, 2020, 2019 and 2018, respectively. Unearned income on consumer loans primarily represents unamortized origination fees and costs, premiums and discounts.

(4) Corporate loans include Mexico SBMM loans and are net of unearned income of $(797) million, $(770) million, $(787) million, $(763) million and $(817) million at December 31, 2022, 2021, 2020, 2019 and 2018, respectively. Unearned income on corporate loans primarily represents interest received in advance, but not yet earned, on loans originated on a discounted basis.

(5) Because loans carried at fair value do not have an ACLL, they are excluded from the ACLL ratio calculation.

Details of Credit Loss Experience

In millions of dollars	**2022**	2021	2020	2019	2018
Allowance for credit losses on loans (ACLL) at beginning of year	**$ 16,455**	$ 24,956	$ 12,783	$ 12,315	$ 12,355
Adjustments to opening balance:					
Financial instruments—credit losses (CECL)[1]	**—**	—	4,201	—	—
Variable post-charge-off third-party collection costs[2]	**—**	—	(443)	—	—
Adjusted ACLL at beginning of year	**$ 16,455**	$ 24,956	$ 16,541	$ 12,315	$ 12,355
Provision for credit losses on loans (PCLL)					
Consumer[2]	**4,128**	(1,159)	12,222	7,788	7,261
Corporate	**617**	(1,944)	3,700	430	93
Total	**$ 4,745**	$ (3,103)	$ 15,922	$ 8,218	$ 7,354
Gross credit losses on loans					
Consumer					
In U.S. offices	**$ 3,944**	$ 4,076	$ 6,141	$ 6,590	$ 5,974
In offices outside the U.S.	**934**	2,144	2,146	2,316	2,352
Corporate					
Commercial and industrial, and other					
In U.S. offices	**110**	228	466	213	119
In offices outside the U.S.	**81**	259	409	196	206
Loans to financial institutions					
In U.S. offices	**—**	1	14	—	3
In offices outside the U.S.	**80**	1	12	3	7
Mortgage and real estate					
In U.S. offices	**—**	10	71	23	2
In offices outside the U.S.	**7**	1	4	—	2
Total	**$ 5,156**	$ 6,720	$ 9,263	$ 9,341	$ 8,665
Gross recoveries on loans[2]					
Consumer					
In U.S. offices	**$ 1,045**	$ 1,215	$ 1,094	$ 988	$ 918
In offices outside the U.S.	**222**	496	482	504	502
Corporate					
Commercial and industrial, and other					
In U.S. offices	**44**	57	34	15	39
In offices outside the U.S.	**46**	54	27	58	79
Loans to financial institutions					
In U.S. offices	**6**	2	—	—	—
In offices outside the U.S.	**3**	1	14	—	6
Mortgage and real estate					
In U.S. offices	**—**	—	—	8	7
In offices outside the U.S.	**1**	—	1	—	1
Total	**$ 1,367**	$ 1,825	$ 1,652	$ 1,573	$ 1,552
Net credit losses on loans (NCLs)					
In U.S. offices	**$ 2,959**	$ 3,041	$ 5,564	$ 5,815	$ 5,134
In offices outside the U.S.	**830**	1,854	2,047	1,953	1,979
Total	**$ 3,789**	$ 4,895	$ 7,611	$ 7,768	$ 7,113
Other—net[3][4][5][6][7][8]	**$ (437)**	$ (503)	$ 104	$ 18	$ (281)
Allowance for credit losses on loans (ACLL) at end of year	**$ 16,974**	$ 16,455	$ 24,956	$ 12,783	$ 12,315
ACLL as a percentage of EOP loans[9]	**2.60 %**	2.49 %	3.73 %	1.84 %	1.81 %
Allowance for credit losses on unfunded lending commitments (ACLUC)[10][11]	**$ 2,151**	$ 1,871	$ 2,655	$ 1,456	$ 1,367

Total ACLL and ACLUC	**$ 19,125**	$ 18,326	$ 27,611	$ 14,239	$ 13,682
Net consumer credit losses on loans	**$ 3,611**	$ 4,509	$ 6,711	$ 7,414	$ 6,906
As a percentage of average consumer loans	**1.02 %**	1.20 %	1.77 %	1.94 %	1.84 %
Net corporate credit losses on loans	**$ 178**	$ 386	$ 900	$ 354	$ 207
As a percentage of average corporate loans	**0.06 %**	0.13 %	0.29 %	0.12 %	0.07 %
ACLL by type at end of year[12]					
Consumer	**$ 14,119**	$ 14,040	$ 20,180	$ 10,056	$ 9,670
Corporate	**2,855**	2,415	4,776	2,727	2,645
Total	**$ 16,974**	$ 16,455	$ 24,956	$ 12,783	$ 12,315

(1) On January 1, 2020, Citi adopted Accounting Standards Codification (ASC) 326, *Financial Instruments—Credit Losses (CECL)*. The ASC introduces a new credit loss methodology requiring earlier recognition of credit losses while also providing additional disclosure about credit risk. On January 1, 2020, Citi recorded a $4.1 billion, or an approximate 29%, pretax increase in the *Allowance for credit losses*, along with a $3.1 billion after-tax decrease in *Retained earnings* and a deferred tax asset increase of $1.0 billion. This transition impact reflects (i) a $4.9 billion build to the consumer ACL due to longer estimated tenors than under the incurred loss methodology under prior U.S. GAAP, net of recoveries, and (ii) a $0.8 billion decrease to the corporate ACL due to shorter remaining tenors, incorporation of recoveries and use of more specific historical loss data based on an increase in portfolio segmentation across industries and geographies. See Note 1 for further discussion on the impact of Citi's adoption of CECL.

(2) Citi had a change in accounting related to its variable post-charge-off third-party collection costs that was recorded as an adjustment to its January 1, 2020 opening allowance for credit losses on loans of $443 million. See Note 1.

(3) Includes all adjustments to the allowance for credit losses, such as changes in the allowance from acquisitions, dispositions, securitizations, FX translation, purchase accounting adjustments, etc.

(4) 2022 includes an approximate $350 million reclass related to the announced sales of Citi's consumer banking businesses in Thailand, India, Malaysia, Taiwan, Indonesia, Bahrain and Vietnam. Also includes a decrease of approximately $100 million related to FX translation.

(5) 2021 includes an approximate $280 million reclass related to Citi's agreement to sell its Australia consumer banking business and an approximate $90 million reclass related to Citi's agreement to sell its Philippines consumer banking business. Those ACLL were reclassified to *Other assets* during 2021. 2021 also includes a decrease of approximately $134 million related to FX translation.

(6) 2020 includes reductions of approximately $4 million related to the transfer to HFS of various real estate loan portfolios. In addition, 2020 includes an increase of approximately $97 million related to FX translation.

(7) 2019 includes reductions of approximately $42 million related to the sale or transfer to HFS of various loan portfolios. In addition, 2019 includes a reduction of approximately $60 million related to FX translation.

(8) 2018 includes reductions of approximately $201 million related to the sale or transfer to HFS of various loan portfolios, which include approximately $106 million related to the transfer of various real estate loan portfolios to HFS.

(9) December 31, 2022, 2021, 2020, 2019 and 2018 exclude $5.4 billion, $6.1 billion, $6.9 billion, $4.1 billion and $3.2 billion, respectively, of loans that are carried at fair value.

(10) 2020 corporate ACLUC includes a non-provision transfer of $68 million, representing reserves on performance guarantees. The reserves on these contracts were reclassified out of the ACL on unfunded lending commitments and into other liabilities.

(11) Represents additional credit reserves recorded as *Other liabilities* on the Consolidated Balance Sheet.

(12) Beginning in 2020, under CECL, the ACLL represents management's estimate of expected credit losses in the portfolio and troubled debt restructurings. See "Significant Accounting Policies and Significant Estimates" and Note 1 below. Attribution of the ACLL is made for analytical purposes only and the entire ACLL is available to absorb credit losses in the overall portfolio. Prior to 2020, the ACLL represented management's estimate of probable losses inherent in the portfolio, as well as probable losses related to large individually evaluated impaired loans and TDRs.

Allowance for Credit Losses on Loans (ACLL)

The following tables detail information on Citi's ACLL, loans and coverage ratios:

In billions of dollars	December 31, 2022 ACLL	EOP loans, net of unearned income	ACLL as a percentage of EOP loans[1]
Consumer			
North America cards[2]	**$ 11.4**	**$ 150.6**	**7.6 %**
North America mortgages[3]	**0.5**	**100.4**	**0.5**
North America other[3]	**0.6**	**37.8**	**1.6**
International cards	**0.8**	**13.0**	**6.2**
International other[3]	**0.8**	**66.0**	**1.2**
Total[1]	**$ 14.1**	**$ 367.8**	**3.8 %**
Corporate			
Commercial and industrial	**$ 1.9**	**$ 147.8**	**1.3 %**
Financial institutions	**0.4**	**64.9**	**0.6**
Mortgage and real estate	**0.4**	**21.9**	**1.8**
Installment and other	**0.2**	**49.4**	**0.4**
Total[1]	**$ 2.9**	**$ 284.0**	**1.0 %**
Loans at fair value[1]	**N/A**	**$ 5.4**	**N/A**
Total Citigroup	**$ 17.0**	**$ 657.2**	**2.6 %**

In billions of dollars	December 31, 2021 ACLL	EOP loans, net of unearned income	ACLL as a percentage of EOP loans[1]
Consumer			
North America cards[2]	$ 10.8	$ 133.9	8.1 %
North America mortgages[3]	0.5	89.1	0.6
North America other[3]	0.4	40.7	1.0
International cards	1.2	17.8	6.7
International other[3]	1.2	95.0	1.3
Total[1]	$ 14.1	$ 376.5	3.7 %
Corporate			
Commercial and industrial	$ 1.6	$ 147.0	1.1 %
Financial institutions	0.3	71.8	0.4
Mortgage and real estate	0.3	20.3	1.5
Installment and other	0.2	46.1	0.4
Total[1]	$ 2.4	$ 285.2	0.8 %
Loans at fair value[1]	N/A	$ 6.1	N/A
Total Citigroup	$ 16.5	$ 667.8	2.5 %

(1) Excludes loans carried at fair value, since they do not have an ACLL and are excluded from the ACLL ratio calculation.

(2) Includes both Branded cards and Retail services. As of December 31, 2022, the $11.4 billion of ACLL represented approximately 43 months of coincident net credit loss coverage (based on 4Q22 NCLs). As of December 31, 2022, Branded cards ACLL as a percentage of EOP loans was 6.2% and Retail services ACLL as a percentage of EOP loans was 10.3%. As of December 31, 2021, the $10.8 billion of ACLL represented approximately 63 months of coincident net credit loss coverage (based on 4Q21 NCLs). The decrease in the coincident coverage ratio at December 31, 2022 was primarily due to the relatively higher levels of NCLs in 4Q22 versus 4Q21. As of December 31, 2021, Branded cards ACLL as a percentage of EOP loans was 7.1% and Retail services ACLL as a percentage of EOP loans was 10.0%.

(3) Includes residential mortgages, retail loans and personal, small business and other loans, including those extended through the Private bank network.

N/A Not applicable

The following table details Citi's corporate credit ACLL by industry exposure:

In millions of dollars, except percentages	December 31, 2022 Funded exposure[1]	ACLL	ACLL as a % of funded exposure
Transportation and industrials	**$ 57,271**	**$ 699**	**1.2 %**
Technology, media and telecom	**28,931**	**330**	**1.1**
Consumer retail	**32,687**	**358**	**1.1**
Real estate	**48,539**	**500**	**1.0**
Power, chemicals, metals and mining	**18,326**	**288**	**1.6**
Banks and finance companies	**42,276**	**225**	**0.5**
Energy and commodities	**13,069**	**188**	**1.4**
Asset managers and funds	**13,162**	**38**	**0.3**
Health	**8,771**	**81**	**0.9**
Insurance	**4,417**	**11**	**0.2**
Public sector	**11,736**	**58**	**0.5**
Financial markets infrastructure	**60**	**—**	**—**
Securities firms	**569**	**11**	**1.9**
Other industries	**3,651**	**59**	**1.6**
Total classifiably managed loans[2]	**$ 283,465**	**$ 2,846**	**1.0 %**
Loans managed on a delinquency basis[3]	**$ 566**	**$ 9**	**1.6 %**
Total	**$ 284,031**	**$ 2,855**	**1.0 %**

(1) Funded exposure excludes loans carried at fair value of $5.1 billion that are not subject to ACLL under the CECL standard.
(2) As of December 31, 2022, the ACLL shown above reflects coverage of 0.4% of funded investment-grade exposure and 3.0% of funded non-investment-grade exposure.
(3) Primarily associated with delinquency-managed loans including commercial credit cards and other loans, and unearned income at December 31, 2022.

The following table details Citi's corporate credit ACLL by industry exposure:

In millions of dollars, except percentages	December 31, 2021 Funded exposure[1]	ACLL	ACLL as a % of funded exposure
Transportation and industrials	$ 51,502	$ 597	1.2 %
Technology, media and telecom	28,542	170	0.6
Consumer retail	32,894	288	0.9
Real estate	46,220	509	1.1
Power, chemicals, metals and mining	20,224	151	0.7
Banks and finance companies	36,804	197	0.5
Energy and commodities	13,485	268	2.0
Asset managers and funds	26,879	34	0.5
Health	8,826	73	0.8
Insurance	3,162	8	0.3
Public sector	12,464	74	0.6
Financial markets infrastructure	109	—	—
Securities firms	613	10	1.6
Other industries	2,803	28	1.0
Total classifiably managed loans[2]	$ 284,527	$ 2,407	0.8 %
Loans managed on a delinquency basis[3]	$ 636	$ 8	1.3 %
Total	$ 285,163	$ 2,415	0.8 %

(1) Funded exposure excludes loans carried at fair value of $6.1 billion that are not subject to ACLL under the CECL standard.
(2) As of December 31, 2021, the ACLL shown above reflects coverage of 0.7% of funded investment-grade exposure and 2.3% of funded non-investment-grade exposure.
(3) Primarily associated with delinquency-managed loans including commercial credit cards and other loans, and unearned income at December 31, 2021.

Non-Accrual Loans and Assets and Renegotiated Loans
There is a certain amount of overlap among non-accrual loans and assets and renegotiated loans. The following summary provides a general description of each category.

***Non-Accrual Loans and Assets*:**

- Corporate and consumer (including commercial banking) non-accrual status is based on the determination that payment of interest or principal is doubtful.
- A corporate loan may be classified as non-accrual and still be performing under the terms of the loan structure. Non-accrual loans may still be current on interest payments. Citi's corporate non-accrual loans were $1.1 billion, $1.5 billion and $1.6 billion as of December 31, 2022, September 30, 2022 and December 31, 2021, respectively. Of these, approximately 50%, 68% and 56% were performing at December 31, 2022, September 30, 2022 and December 31, 2021, respectively.
- Consumer non-accrual status is generally based on aging, i.e., the borrower has fallen behind on payments.
- Consumer mortgage loans, other than Federal Housing Administration (FHA) insured loans, are classified as non-accrual within 60 days of notification that the borrower has filed for bankruptcy. In addition, home equity loans are classified as non-accrual if the related residential first mortgage loan is 90 days or more past due.
- North America Branded cards and Retail services are not included because, under industry standards, credit card loans accrue interest until such loans are charged off, which typically occurs at 180 days of contractual delinquency.

***Renegotiated Loans*:**

- Includes both corporate and consumer loans whose terms have been modified in a troubled debt restructuring (TDR).
- Includes both accrual and non-accrual TDRs.

Non-Accrual Loans

The table below summarizes Citigroup's non-accrual loans as of the periods indicated. Non-accrual loans may still be current on interest payments. In situations where Citi reasonably expects that only a portion of the principal owed will ultimately be collected, all payments received are reflected as a reduction of principal and not as interest income. For all other non-accrual loans, cash interest receipts are generally recorded as revenue.

	December 31,				
In millions of dollars	**2022**	2021	2020	2019	2018
Corporate non-accrual loans by region[1][2]					
North America	**$ 138**	$ 510	$ 1,486	$ 1,082	$ 416
EMEA	**502**	367	629	398	344
Latin America	**429**	568	719	473	307
Asia	**53**	108	212	71	243
Total	**$ 1,122**	$ 1,553	$ 3,046	$ 2,024	$ 1,310
Corporate non-accrual loans[1][2]					
Banking	**$ 767**	$ 1,239	$ 2,767	$ 1,742	$ 1,097
Services	**153**	70	79	113	137
Markets	**3**	12	21	2	1
Mexico SBMM	**199**	232	179	167	75
Total	**$ 1,122**	$ 1,553	$ 3,046	$ 2,024	$ 1,310
Consumer non-accrual loans[1]					
U.S. Personal Banking and Global Wealth	**$ 541**	$ 680	$ 950	$ 443	$ 455
Asia Consumer[3]	**30**	209	296	267	242
Mexico Consumer	**457**	524	774	632	638
Legacy Holdings Assets—Consumer	**289**	413	602	638	892
Total	**$ 1,317**	$ 1,826	$ 2,622	$ 1,980	$ 2,227
Total non-accrual loans	**$ 2,439**	$ 3,379	$ 5,668	$ 4,004	$ 3,537

(1) Corporate loans are placed on non-accrual status based upon a review by Citigroup's risk officers. Corporate non-accrual loans may still be current on interest payments. With limited exceptions, the following practices are applied for consumer loans: consumer loans, excluding credit cards and mortgages, are placed on non-accrual status at 90 days past due and are charged off at 120 days past due; residential mortgage loans are placed on non-accrual status at 90 days past due and written down to net realizable value at 180 days past due. Consistent with industry conventions, Citigroup generally accrues interest on credit card loans until such loans are charged off, which typically occurs at 180 days contractual delinquency. As such, the non-accrual loan disclosures do not include credit card loans. The balances above represent non-accrual loans within *Corporate loans* and *Consumer loans* on the Consolidated Balance Sheet.

(2) The December 31, 2022 total corporate non-accrual loans represented 0.39% of total corporate loans.

(3) Asia Consumer includes balances in certain EMEA countries for all periods presented.

The changes in Citigroup's non-accrual loans were as follows:

	Year ended December 31, 2022			Year ended December 31, 2021		
In millions of dollars	**Corporate**	**Consumer**	**Total**	Corporate	Consumer	Total
Non-accrual loans at beginning of year	**$ 1,553**	**$ 1,826**	**$ 3,379**	$ 3,046	$ 2,622	$ 5,668
Additions	**2,123**	**1,374**	**3,497**	1,466	2,260	3,726
Sales and transfers to HFS	**(21)**	**(240)**	**(261)**	(524)	(310)	(834)
Returned to performing	**(378)**	**(408)**	**(786)**	(219)	(723)	(942)
Paydowns/settlements	**(1,814)**	**(585)**	**(2,399)**	(1,721)	(780)	(2,501)
Charge-offs	**(260)**	**(598)**	**(858)**	(472)	(1,202)	(1,674)
Other	**(81)**	**(52)**	**(133)**	(23)	(41)	(64)
Ending balance	**$ 1,122**	**$ 1,317**	**$ 2,439**	$ 1,553	$ 1,826	$ 3,379

The table below summarizes Citigroup's other real estate owned (OREO) assets. OREO is recorded on the Consolidated Balance Sheet within *Other assets.* This represents the carrying value of all real estate property acquired by foreclosure or other legal proceedings when Citi has taken possession of the collateral:

	December 31,				
In millions of dollars	**2022**	2021	2020	2019	2018
OREO					
North America	**$ 10**	$ 15	$ 19	$ 39	$ 64
EMEA	**—**	—	—	1	1
Latin America	**4**	8	7	14	12
Asia	**1**	4	17	7	22
Total OREO	**$ 15**	$ 27	$ 43	$ 61	$ 99
Non-accrual assets					
Corporate non-accrual loans	**$ 1,122**	$ 1,553	$ 3,046	$ 2,024	$ 1,310
Consumer non-accrual loans	**1,317**	1,826	2,622	1,980	2,227
Non-accrual loans (NAL)	**$ 2,439**	$ 3,379	$ 5,668	$ 4,004	$ 3,537
OREO	**$ 15**	$ 27	$ 43	$ 61	$ 99
Non-accrual assets (NAA)	**$ 2,454**	$ 3,406	$ 5,711	$ 4,065	$ 3,636
NAL as a percentage of total loans	**0.37 %**	0.51 %	0.84 %	0.57 %	0.52 %
NAA as a percentage of total assets	**0.10**	0.15	0.25	0.21	0.19
ACLL as a percentage of NAL[(1)]	**696**	487	440	319	348

(1) The ACLL includes the allowance for Citi's credit card portfolios and purchased credit-deteriorated loans, while the non-accrual loans exclude credit card balances (with the exception of certain international portfolios) and, prior to 2020, include purchased credit-deteriorated loans as these continue to accrue interest until charge-off.

Renegotiated Loans

The following table presents Citi's loans modified in TDRs:

In millions of dollars	**Dec. 31, 2022**	Dec. 31, 2021
Corporate renegotiated loans[1]		
In U.S. offices		
Commercial and industrial[2]	**$ 35**	$ 103
Mortgage and real estate	**2**	2
Financial institutions	**—**	—
Other	**11**	20
Total	**$ 48**	$ 125
In offices outside the U.S.		
Commercial and industrial[2]	**$ 50**	$ 133
Mortgage and real estate	**11**	18
Financial institutions	**—**	—
Other	**1**	8
Total	**$ 62**	$ 159
Total corporate renegotiated loans	**$ 110**	$ 284
Consumer renegotiated loans[3]		
In U.S. offices		
Mortgage and real estate	**$ 1,407**	$ 1,485
Cards	**1,180**	1,269
Personal, small business and other	**19**	26
Total	**$ 2,606**	$ 2,780
In offices outside the U.S.		
Mortgage and real estate	**$ 152**	$ 227
Cards	**75**	313
Personal, small business and other	**88**	428
Total	**$ 315**	$ 968
Total consumer renegotiated loans	**$ 2,921**	$ 3,748

(1) Includes $108 million and $284 million of non-accrual loans included in the non-accrual loans table above at December 31, 2022 and 2021, respectively. The remaining loans were accruing interest.

(2) In addition to modifications reflected as TDRs at December 31, 2022 and 2021, Citi may have modifications that were not considered TDRs because the modifications did not involve a concession or because they qualified for exemptions from TDR accounting provided by the CARES Act or the interagency guidance.

(3) Includes $566 million and $664 million of non-accrual loans included in the non-accrual loans table above at December 31, 2022 and 2021, respectively. The remaining loans were accruing interest.

Forgone Interest Revenue on Loans[1]

In millions of dollars	**In U.S. offices**	**In non-U.S. offices**	**2022 total**
Interest revenue that would have been accrued at original contractual rates[2]	**$ 331**	**$ 189**	**$ 520**
Amount recognized as interest revenue[2]	**158**	**121**	**279**
Forgone interest revenue	**$ 173**	**$ 68**	**$ 241**

(1) Relates to corporate non-accrual loans, renegotiated loans and consumer loans on which accrual of interest has been suspended.

(2) Interest revenue in offices outside the U.S. may reflect prevailing local interest rates, including the effects of inflation and monetary correction in certain countries.

LIQUIDITY RISK

Overview

Adequate and diverse sources of funding and liquidity are essential to Citi's businesses. Funding and liquidity risks arise from several factors, many of which are mostly or entirely outside Citi's control, such as disruptions in the financial markets, changes in key funding sources, credit spreads, changes in Citi's credit ratings and macroeconomic, geopolitical and other conditions. For additional information, see "Risk Factors—Liquidity Risks" above.

Citi's funding and liquidity management objectives are aimed at (i) funding its existing asset base, (ii) growing its core businesses, (iii) maintaining sufficient liquidity, structured appropriately, so that Citi can operate under a variety of adverse circumstances, including potential Company-specific and/or market liquidity events in varying durations and severity, and (iv) satisfying regulatory requirements, including, but not limited to, those related to resolution planning (for additional information, see "Resolution Plan" and "Total Loss-Absorbing Capacity (TLAC)" below). Citigroup's primary liquidity objectives are established by entity, and in aggregate, across two major categories:

- Citibank (including Citibank Europe plc, Citibank Singapore Ltd. and Citibank (Hong Kong) Ltd.); and
- Citi's non-bank and other entities, including the parent holding company (Citigroup Inc.), Citi's primary intermediate holding company (Citicorp LLC), Citi's broker-dealer subsidiaries (including Citigroup Global Markets Inc., Citigroup Global Markets Limited and Citigroup Global Markets Japan Inc.) and other bank and non-bank subsidiaries that are consolidated into Citigroup (including Citibanamex).

At an aggregate Citigroup level, Citi's goal is to maintain sufficient funding in amount and tenor to fully fund customer assets and to provide an appropriate amount of cash and high-quality liquid assets (as discussed below), even in times of stress, in order to meet its payment obligations as they come due. The liquidity risk management framework provides that in addition to the aggregate requirements, certain entities be self-sufficient or net providers of liquidity, including in conditions established under their designated stress tests.

Citi's primary funding sources include (i) corporate and consumer deposits via Citi's bank subsidiaries, including Citibank, N.A. (Citibank), (ii) long-term debt (primarily senior and subordinated debt) mainly issued by Citigroup Inc., as the parent, and Citibank, and (iii) stockholders' equity. These sources may be supplemented by short-term borrowings, primarily in the form of secured funding transactions.

Citi's funding and liquidity framework, working in concert with overall asset/liability management, ensures that there is sufficient liquidity and tenor in the overall liability structure (including funding products) of the Company relative to the liquidity requirements of Citi's assets. This reduces the risk that liabilities will become due before assets mature or are monetized. The Company holds excess liquidity, primarily in the form of high-quality liquid assets (HQLA), as presented in the table below.

Citi's liquidity is managed centrally by Corporate Treasury, in conjunction with regional and in-country treasurers with oversight provided by Independent Risk Management and various Asset & Liability Committees (ALCOs) at the individual entity, region, country and business levels. Pursuant to this approach, Citi's HQLA are managed with emphasis on asset/liability management and entity-level liquidity adequacy throughout Citi.

Citi's CRO and CFO co-chair Citigroup's ALCO, which includes Citi's Treasurer and other senior executives. The ALCO sets the strategy of the liquidity portfolio and monitors portfolio performance (for additional information about the ALCO, see "Risk Governance—Board and Executive Management Committees" above). Significant changes to portfolio asset allocations are approved by the ALCO. Citi also has other ALCOs, which are established at various organizational levels to ensure appropriate oversight for individual entities, countries, franchise businesses and regions, serving as the primary governance committees for managing Citi's balance sheet and liquidity.

As a supplement to ALCO, Citi's Funding and Liquidity Risk Committee (FLRC) is focused on funding and liquidity risk matters. The FLRC reviews and discusses the funding and liquidity risk profile of, as well as risk management practices for, Citigroup and Citibank and reports its findings and recommendations to each relevant ALCO as appropriate.

Liquidity Monitoring and Measurement

Stress Testing

Liquidity stress testing is performed for each of Citi's major entities, operating subsidiaries and countries. Stress testing and scenario analyses are intended to quantify the potential impact of an adverse liquidity event on the balance sheet and liquidity position, in order to have sufficient liquidity on hand to manage through such an event. These scenarios include assumptions about significant changes in key funding sources, market triggers (such as credit ratings), potential uses of funding and macroeconomic, geopolitical and other conditions. These conditions include expected and stressed market conditions as well as Company-specific events.

Liquidity stress tests are performed to ascertain potential mismatches between liquidity sources and uses over a variety of time horizons and over different stressed conditions. To monitor the liquidity of an entity, these stress tests and potential mismatches are calculated on a daily basis.

Given the range of potential stresses, Citi maintains contingency funding plans on a consolidated basis and for individual entities. These plans specify a wide range of readily available actions for a variety of adverse market conditions or idiosyncratic stresses.

High-Quality Liquid Assets (HQLA)

	Citibank			Citi non-bank and other entities			Total		
In billions of dollars	**Dec. 31, 2022**	Sept. 30, 2022	Dec. 31, 2021	**Dec. 31, 2022**	Sept. 30, 2022	Dec. 31, 2021	**Dec. 31, 2022**	Sept. 30, 2022	Dec. 31, 2021
Available cash	**$ 241.2**	$ 202.2	$ 253.6	**$ 4.3**	$ 2.1	$ 2.6	**$ 245.5**	$ 204.3	$ 256.2
U.S. sovereign	**130.0**	144.6	119.6	**68.7**	69.4	63.1	**198.7**	214.0	182.7
U.S. agency/agency MBS	**46.3**	52.5	45.0	**4.0**	4.7	5.7	**50.3**	57.2	50.7
Foreign government debt[(1)]	**59.1**	63.3	48.9	**19.4**	15.7	13.6	**78.5**	79.0	62.5
Other investment grade	**1.7**	2.0	1.6	**0.5**	0.6	0.8	**2.2**	2.6	2.4
Total HQLA (AVG)	**$ 478.3**	$ 464.6	$ 468.7	**$ 96.9**	$ 92.5	$ 85.8	**$ 575.2**	$ 557.1	$ 554.5

Note: The amounts shown in the table above are presented on an average basis. For securities, the amounts represent the liquidity value that potentially could be realized and, therefore, exclude any securities that are encumbered and incorporate any haircuts applicable under the U.S. LCR rule. The table above incorporates various restrictions that could limit the transferability of liquidity between legal entities, including Section 23A of the Federal Reserve Act.

(1) Foreign government debt includes securities issued or guaranteed by foreign sovereigns, agencies and multilateral development banks. Foreign government debt securities are held largely to support local liquidity requirements and Citi's local franchises and principally include government bonds from Japan, Korea, Mexico, Singapore and Hong Kong.

The table above includes average amounts of HQLA held at Citigroup's operating entities that are eligible for inclusion in the calculation of Citigroup's consolidated Liquidity Coverage ratio (LCR), pursuant to the U.S. LCR rules. These amounts include the HQLA needed to meet the minimum requirements at these entities as well as any amounts in excess of these minimums that are available to be transferred to other entities within Citigroup. Citigroup's average HQLA increased quarter-over-quarter as of the fourth quarter of 2022, primarily driven by wholesale unsecured debt issuances.

As of December 31, 2022, Citigroup had approximately $1,045 billion of available liquidity resources to support client and business needs, including end-of-period HQLA assets; additional unencumbered securities, including excess liquidity held at bank entities that is non-transferable to other entities within Citigroup; available assets not already accounted for within Citi's HQLA to support the Federal Home Loan Bank (FHLB); and Federal Reserve Bank discount window borrowing capacity.

Short-Term Liquidity Measurement: Liquidity Coverage Ratio (LCR)

In addition to internal 30-day liquidity stress testing performed for Citi's major entities, operating subsidiaries and countries, Citi also monitors its liquidity by reference to the LCR.

The LCR is calculated by dividing HQLA by estimated net outflows assuming a stressed 30-day period, with the net outflows determined by standardized stress outflow and inflow rates prescribed in the LCR rule. The outflows are partially offset by contractual inflows from assets maturing within 30 days. Similar to outflows, the inflows are calculated based on prescribed factors to various asset categories, such as retail loans as well as unsecured and secured wholesale lending. The minimum LCR requirement is 100%.

The table below details the components of Citi's LCR calculation and HQLA in excess of net outflows for the periods indicated:

In billions of dollars	**Dec. 31, 2022**	Sept. 30, 2022	Dec. 31, 2021
HQLA	**$ 575.2**	$ 557.1	$ 554.5
Net outflows	**489.0**	477.0	482.9
LCR	**118 %**	117 %	115 %
HQLA in excess of net outflows	**$ 86.2**	$ 80.1	$ 71.6

Note: The amounts are presented on an average basis.

As of December 31, 2022, Citigroup's average LCR increased, primarily driven by wholesale unsecured debt issuances.

Long-Term Liquidity Measurement: Net Stable Funding Ratio (NSFR)

As previously disclosed, the U.S. banking agencies adopted a rule to assess the availability of a bank's stable funding against a required level.

In general, a bank's available stable funding includes portions of equity, deposits and long-term debt, while its required stable funding will be based on the liquidity characteristics of its assets, derivatives and commitments. Standardized weightings are required to be applied to the various asset and liability classes. The ratio of available stable funding to required stable funding is required to be greater than 100%.

The rule became effective beginning July 1, 2021, while public disclosure requirements to report the ratio will occur on a semiannual basis beginning June 30, 2023. Citi was in compliance with the rule as of December 31, 2022.

Loans

As part of its funding and liquidity objectives, Citi seeks to fund its existing asset base appropriately as well as maintain sufficient liquidity to grow its *PBWM* and *ICG* businesses, including its loan portfolio. Citi maintains a diversified portfolio of loans to its consumer and institutional clients. The table below details the average loans, by business and/or segment, and the total Citigroup end-of-period loans for each of the periods indicated:

In billions of dollars	**4Q22**	3Q22	4Q21
Personal Banking and Wealth Management			
U.S. Retail banking	**$ 37**	$ 36	$ 34
U.S. Cards	**143**	138	128
Global Wealth	**150**	151	150
Total	**$ 330**	$ 325	$ 312
Institutional Clients Group			
Services	**$ 79**	$ 82	$ 77
Banking	**194**	197	195
Markets	**12**	12	17
Total	**$ 285**	$ 291	$ 289
Total *Legacy Franchises*[(1)]	**$ 38**	$ 39	$ 66
Total Citigroup loans (AVG)	**$ 653**	$ 655	$ 667
Total Citigroup loans (EOP)	**$ 657**	$ 646	$ 668

(1) See footnote 2 to the table in "Credit Risk—Consumer Credit—Consumer Credit Portfolio" above.

End-of-period loans decreased 2% year-over-year, largely driven by lower balances in *Legacy Franchises* and the impact of foreign exchange translation. End-of-period loans increased 2% sequentially.

On an average basis, loans declined 2% year-over-year and were largely unchanged sequentially. The year-over-year decline was primarily due to the impact of foreign exchange translation and lower balances in *Legacy Franchises*, which more than offset growth in *PBWM*. The decline in *Legacy Franchises* primarily reflected the reclassification of loans to *Other assets* to reflect held-for-sale accounting as a result of the signing of sale agreements for consumer franchises, as well as the impact of the ongoing Korea and Russia wind-downs.

Average *PBWM* loans as of the fourth quarter of 2022 increased 6% year-over-year, primarily driven by Branded cards and Retail services.

Average *ICG* loans as of the fourth quarter of 2022 decreased 1% year-over-year, primarily driven by RWA optimization efforts within Banking, which more than offset growth in Services from trade finance in TTS.

Deposits

The table below details the average deposits, by business and/or segment, and the total Citigroup end-of-period deposits for each of the periods indicated:

In billions of dollars	**4Q22**	3Q22	4Q21
Personal Banking and Wealth Management			
U.S. Personal Banking	**$ 111**	$ 115	$ 114
Global Wealth	**320**	313	323
Total	**$ 431**	$ 428	$ 437
Institutional Clients Group			
TTS	**$ 694**	$ 664	$ 689
Securities services	**129**	131	140
Markets and Banking	**25**	22	23
Total	**$ 848**	$ 817	$ 852
Legacy Franchises[(1)]	**$ 50**	$ 50	$ 74
Corporate/Other	**$ 32**	$ 21	$ 7
Total Citigroup deposits (AVG)	**$ 1,361**	$ 1,316	$ 1,370
Total Citigroup deposits (EOP)	**$ 1,366**	$ 1,306	$ 1,317

(1) See footnote 2 to the table in "Credit Risk—Consumer Credit—Consumer Credit Portfolio" above.

End-of-period deposits increased 4% year-over-year, largely driven by Treasury and trade solutions in *ICG*, partially offset by the impact of foreign exchange translation. End-of-period deposits increased 5% sequentially.

On an average basis, deposits declined 1% year-over-year and increased 3% sequentially. The year-over-year decline primarily reflected the impact of foreign exchange translation and a decline in *Legacy Franchises*, partially offset by growth in *Corporate/Other*. The decline in *Legacy Franchises* was due to the impact of held-for-sale accounting as a result of the signing of sale agreements for consumer franchises, as well as the ongoing Korea and Russia wind-downs. *ICG* average deposits were largely unchanged year-over-year. *PBWM* average deposits decreased 1% year-over-year, driven by modest decreases in both U.S. Personal Banking and Global Wealth. *Corporate/Other* average deposits increased $25 billion year-over-year, due to the issuance of institutional certificates of deposit as Citi continues to diversify its funding profile.

Long-Term Debt

Long-term debt (generally defined as debt with original maturities of one year or more) represents the most significant component of Citi's funding for the Citigroup parent company and Citi's non-bank subsidiaries and is a supplementary source of funding for the bank entities.

Long-term debt is an important funding source due in part to its multiyear contractual maturity structure. The weighted-average maturity of unsecured long-term debt issued by Citigroup and its affiliates (including Citibank) with a remaining life greater than one year was approximately 7.6 years as of December 31, 2022, compared to 8.6 years as of the prior year and 7.8 years as of the prior quarter. The weighted-average maturity is calculated based on the contractual maturity of each security. For securities that are redeemable prior to maturity at the option of the holder, the weighted-average maturity is calculated based on the earliest date an option becomes exercisable.

Citi's long-term debt outstanding at the Citigroup parent company includes benchmark senior and subordinated debt and what Citi refers to as customer-related debt, consisting of structured notes, such as equity- and credit-linked notes, as well as non-structured notes. Citi's issuance of customer-related debt is generally driven by customer demand and complements benchmark debt issuance as a source of funding for Citi's non-bank entities. Citi's long-term debt at the bank includes bank notes, FHLB advances and securitizations.

Long-Term Debt Outstanding

The following table presents Citi's end-of-period total long-term debt outstanding for each of the dates indicated:

In billions of dollars	**Dec. 31, 2022**	Sept. 30, 2022	Dec. 31, 2021
Non-bank[1]			
Benchmark debt:			
Senior debt	**$ 117.5**	$ 112.7	$ 117.8
Subordinated debt	**22.5**	22.4	25.7
Trust preferred	**1.6**	1.6	1.7
Customer-related debt	**101.1**	86.9	78.3
Local country and other[2]	**7.8**	7.0	7.3
Total non-bank	**$ 250.5**	$ 230.6	$ 230.8
Bank			
FHLB borrowings	**$ 7.3**	$ 7.3	$ 5.3
Securitizations[3]	**7.6**	8.4	9.6
Citibank benchmark senior debt	**2.6**	2.5	3.6
Local country and other[2]	**3.6**	4.3	5.1
Total bank	**$ 21.1**	$ 22.5	$ 23.6
Total long-term debt	**$ 271.6**	$ 253.1	$ 254.4

Note: Amounts represent the current value of long-term debt on Citi's Consolidated Balance Sheet that, for certain debt instruments, includes consideration of fair value, hedging impacts and unamortized discounts and premiums.

(1) Non-bank includes long-term debt issued to third parties by the parent holding company (Citigroup) and Citi's non-bank subsidiaries (including broker-dealer subsidiaries) that are consolidated into Citigroup. As of December 31, 2022, non-bank included $84.2 billion of long-term debt issued by Citi's broker-dealer and other subsidiaries that are consolidated into Citigroup. Certain Citigroup consolidated hedging activities are also included in this line.

(2) Local country and other includes debt issued by Citi's affiliates in support of their local operations. Within non-bank, certain secured financing is also included.

(3) Predominantly credit card securitizations, primarily backed by Branded cards receivables.

Citi's total long-term debt outstanding increased 7% year-over-year, primarily driven by an increase in customer-related debt at the non-bank entities. Sequentially, long-term debt outstanding also increased 7%, largely driven by an increase in customer-related debt and benchmark senior debt at the non-bank entities.

As part of its liability management, Citi has considered, and may continue to consider, opportunities to redeem or repurchase its long-term debt pursuant to open market purchases, tender offers or other means. Such redemptions and repurchases help reduce Citi's overall funding costs. During 2022, Citi redeemed or repurchased an aggregate of approximately $20.8 billion of its outstanding long-term debt.

Long-Term Debt Issuances and Maturities

The table below details Citi's long-term debt issuances and maturities (including repurchases and redemptions) during the periods presented:

	2022		2021		2020	
In billions of dollars	**Maturities**	**Issuances**	Maturities	Issuances	Maturities	Issuances
Non-bank						
Benchmark debt:						
Senior debt	**$ 15.4**	**$ 27.3**	$ 17.6	$ 15.4	$ 6.5	$ 20.4
Subordinated debt	**0.9**	**—**	—	—	—	—
Trust preferred	**0.1**	**—**	—	—	—	—
Customer-related debt	**27.0**	**65.1**	31.2	48.7	27.7	36.8
Local country and other	**2.8**	**3.5**	3.3	3.6	2.4	1.4
Total non-bank	**$ 46.2**	**$ 95.9**	$ 52.1	$ 67.7	$ 36.6	$ 58.6
Bank						
FHLB borrowings	**$ 5.3**	**$ 7.3**	$ 5.7	$ —	$ 7.5	$ 12.9
Securitizations	**2.1**	**0.2**	6.1	—	4.6	0.3
Citibank benchmark senior debt	**0.9**	**—**	9.8	—	9.8	—
Local country and other	**2.6**	**1.3**	1.2	2.9	4.9	4.6
Total bank	**$ 10.9**	**$ 8.8**	$ 22.8	$ 2.9	$ 26.8	$ 17.8
Total	**$ 57.1**	**$ 104.7**	$ 74.9	$ 70.6	$ 63.4	$ 76.4

The table below shows Citi's aggregate long-term debt maturities (including repurchases and redemptions) in 2022, as well as its aggregate expected remaining long-term debt maturities by year as of December 31, 2022:

	Maturities							
In billions of dollars	**2022**	2023	2024	2025	2026	2027	Thereafter	Total
Non-bank								
Benchmark debt:								
Senior debt	**$ 15.4**	$ 4.9	$ 10.5	$ 11.8	$ 23.4	$ 6.9	$ 60.0	$ 117.5
Subordinated debt	**0.9**	1.2	0.9	4.8	2.3	3.6	9.7	22.5
Trust preferred	**0.1**	—	—	—	—	—	1.6	1.6
Customer-related debt	**27.0**	16.4	20.6	14.0	6.2	9.3	34.6	101.1
Local country and other	**2.8**	2.9	0.4	0.3	0.7	0.2	3.1	7.8
Total non-bank	**$ 46.2**	$ 25.4	$ 32.4	$ 30.9	$ 32.6	$ 20.0	$ 109.0	$ 250.5
Bank								
FHLB borrowings	**$ 5.3**	$ 4.3	$ 3.0	$ —	$ —	$ —	$ —	$ 7.3
Securitizations	**2.1**	2.2	1.3	1.6	—	0.8	1.7	7.6
Citibank benchmark senior debt	**0.9**	—	2.6	—	—	—	—	2.6
Local country and other	**2.6**	0.6	1.2	0.2	0.2	—	1.4	3.6
Total bank	**$ 10.9**	$ 7.1	$ 8.1	$ 1.8	$ 0.2	$ 0.8	$ 3.1	$ 21.1
Total long-term debt	**$ 57.1**	$ 32.5	$ 40.5	$ 32.7	$ 32.8	$ 20.8	$ 112.1	$ 271.6

Resolution Plan

Citigroup is required under Title I of the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010 (Dodd-Frank Act) and the rules promulgated by the FDIC and Federal Reserve Board (FRB) to periodically submit a plan for Citi's rapid and orderly resolution under the U.S. Bankruptcy Code in the event of material financial distress or failure. Citigroup will alternate between submitting a full resolution plan and a targeted resolution plan on a biennial cycle.

On November 22, 2022, the FRB and FDIC issued feedback on the resolution plans filed on July 1, 2021 by the eight U.S. global systemically important banks (GSIBs), including Citigroup. The FRB and FDIC identified one shortcoming, but no deficiencies, in Citigroup's 2021 resolution plan regarding data integrity and data quality management issues. For additional information on Citi's resolution plan submissions, see "Risk Factors—Strategic Risks" above.

Under Citi's preferred "single point of entry" resolution plan strategy, only Citigroup, the parent holding company, would enter into bankruptcy, while Citigroup's material legal entities (as defined in the public section of its 2021 resolution plan, which can be found on the FRB's and FDIC's websites) would remain operational outside of any resolution or insolvency proceedings. Citigroup's resolution plan has been designed to minimize the risk of systemic impact to the U.S. and global financial systems, while maximizing the value of the bankruptcy estate for the benefit of Citigroup's creditors, including its unsecured long-term debt holders.

In addition, in line with the FRB's final total loss-absorbing capacity (TLAC) rule, Citigroup believes it has developed the resolution plan so that Citigroup's shareholders and unsecured creditors—including its unsecured long-term debt holders—bear any losses resulting from Citigroup's bankruptcy. Accordingly, any value realized by holders of its unsecured long-term debt may not be sufficient to repay the amounts owed to such debt holders in the event of a bankruptcy or other resolution proceeding of Citigroup.

The FDIC has also indicated that it was developing a single point of entry strategy to implement the Orderly Liquidation Authority under Title II of the Dodd-Frank Act, which provides the FDIC with the ability to resolve a firm when it is determined that bankruptcy would have serious adverse effects on financial stability in the U.S.

As previously disclosed, in response to feedback received from the FRB and FDIC, Citigroup took the following actions:

(i) Citicorp LLC (Citicorp), an existing wholly owned subsidiary of Citigroup, was established as an intermediate holding company (an IHC) for certain of Citigroup's operating material legal entities;

(ii) Citigroup executed an inter-affiliate agreement with Citicorp, Citigroup's operating material legal entities and certain other affiliated entities pursuant to which Citicorp is required to provide liquidity and capital support to Citigroup's operating material legal entities in the event Citigroup were to enter bankruptcy proceedings (Citi Support Agreement);

(iii) pursuant to the Citi Support Agreement:

- Citigroup made an initial contribution of assets, including certain high-quality liquid assets and inter-affiliate loans (Contributable Assets), to Citicorp, and Citicorp became the business-as-usual funding vehicle for Citigroup's operating material legal entities;
- Citigroup will be obligated to continue to transfer Contributable Assets to Citicorp over time, subject to certain amounts retained by Citigroup to, among other things, meet Citigroup's near-term cash needs;
- in the event of a Citigroup bankruptcy, Citigroup will be required to contribute most of its remaining assets to Citicorp; and

(iv) the obligations of both Citigroup and Citicorp under the Citi Support Agreement, as well as the Contributable Assets, are secured pursuant to a security agreement.

The Citi Support Agreement provides two mechanisms, besides Citicorp's issuing of dividends to Citigroup, pursuant to which Citicorp will be required to transfer cash to Citigroup during business as usual so that Citigroup can fund its debt service as well as other operating needs: (i) one or more funding notes issued by Citicorp to Citigroup and (ii) a committed line of credit under which Citicorp may make loans to Citigroup.

Total Loss-Absorbing Capacity (TLAC)

U.S. GSIBs are required to maintain minimum levels of TLAC and eligible LTD, each set by reference to the GSIB's consolidated risk-weighted assets (RWA) and total leverage exposure. The intended purpose of the requirements is to facilitate the orderly resolution of U.S. GSIBs under the U.S. Bankruptcy Code and Title II of the Dodd-Frank Act. For additional information, including Citi's TLAC and LTD amounts and ratios, see "Capital Resources—Current Regulatory Capital Standards" above.

SECURED FUNDING TRANSACTIONS AND SHORT-TERM BORROWINGS

Citi supplements its primary sources of funding with short-term financings that generally include (i) secured funding transactions consisting of securities loaned or sold under agreements to repurchase, i.e., repos, and (ii) to a lesser extent, short-term borrowings consisting of commercial paper and borrowings from the FHLB and other market participants.

Secured Funding Transactions

Secured funding is primarily accessed through Citi's broker-dealer subsidiaries to fund efficiently both (i) secured lending activity and (ii) a portion of the securities inventory held in the context of market making and customer activities. Citi also executes a smaller portion of its secured funding transactions through its bank entities, which are typically collateralized by government debt securities. Generally, daily changes in the level of Citi's secured funding are primarily due to fluctuations in secured lending activity in the matched book (as described below) and securities inventory.

Secured funding of $202 billion as of December 31, 2022 increased 6% from the prior year and was unchanged sequentially, driven by normal business activity. The average balance for secured funding was approximately $205 billion for the quarter ended December 31, 2022.

The portion of secured funding in the broker-dealer subsidiaries that funds secured lending is commonly referred to as "matched book" activity. The majority of this activity is secured by high-quality liquid securities such as U.S. Treasury securities, U.S. agency securities and foreign government debt securities. Other secured funding is secured by less liquid securities, including equity securities, corporate bonds and asset-backed securities, the tenor of which is generally equal to or longer than the tenor of the corresponding matched book assets.

The remainder of the secured funding activity in the broker-dealer subsidiaries serves to fund securities inventory held in the context of market making and customer activities. To maintain reliable funding under a wide range of market conditions, including under periods of stress, Citi manages these activities by taking into consideration the quality of the underlying collateral and establishing minimum required funding tenors. The weighted average maturity of Citi's secured funding of less liquid securities inventory was greater than 110 days as of December 31, 2022.

Citi manages the risks in its secured funding by conducting daily stress tests to account for changes in capacity, tenor, haircut, collateral profile and client actions. In addition, Citi maintains counterparty diversification by establishing concentration triggers and assessing counterparty reliability and stability under stress. Citi generally sources secured funding from more than 150 counterparties.

Short-Term Borrowings

Citi's short-term borrowings of $47 billion as of the fourth quarter of 2022 increased 68% year-over-year, reflecting an increase in FHLB advances and commercial paper issuance, as Citi continues to diversify its funding profile, and decreased 1% sequentially, driven by normal business activity (see Note 18 for further information on Citigroup's and its affiliates' outstanding short-term borrowings).

CREDIT RATINGS

Citigroup's funding and liquidity, funding capacity, ability to access capital markets and other sources of funds, the cost of these funds and its ability to maintain certain deposits are partially dependent on its credit ratings.

The table below shows the ratings for Citigroup and Citibank as of December 31, 2022. While not included in the table below, the long-term and short-term ratings of Citigroup Global Markets Holding Inc. (CGMHI) were A+/F1 at Fitch Ratings, A2/P-1 at Moody's Investors Service and A/A-1 at S&P Global Ratings as of December 31, 2022.

Ratings as of December 31, 2022

	Citigroup Inc.			Citibank, N.A.		
	Long-term	Short-term	Outlook	Long-term	Short-term	Outlook
Fitch Ratings (Fitch)	**A**	**F1**	**Stable**	**A+**	**F1**	**Stable**
Moody's Investors Service (Moody's)	**A3**	**P-2**	**Stable**	**Aa3**	**P-1**	**Stable**
S&P Global Ratings (S&P)	**BBB+**	**A-2**	**Stable**	**A+**	**A-1**	**Stable**

Potential Impacts of Ratings Downgrades

Ratings downgrades by Fitch, Moody's or S&P could negatively impact Citigroup's and/or Citibank's funding and liquidity due to reduced funding capacity, including derivative triggers, which could take the form of cash obligations and collateral requirements.

The following information is provided for the purpose of analyzing the potential funding and liquidity impact to Citigroup and Citibank of a hypothetical simultaneous ratings downgrade across all three major rating agencies. This analysis is subject to certain estimates, estimation methodologies, judgments and uncertainties. Uncertainties include potential ratings limitations that certain entities may have with respect to permissible counterparties, as well as general subjective counterparty behavior. For example, certain corporate customers and markets counterparties could re-evaluate their business relationships with Citi and limit transactions in certain contracts or market instruments with Citi. Changes in counterparty behavior could impact Citi's funding and liquidity, as well as the results of operations of certain of its businesses. The actual impact to Citigroup or Citibank is unpredictable and may differ materially from the potential funding and liquidity impacts described below. For additional information on the impact of credit rating changes on Citi and its applicable subsidiaries, see "Risk Factors—Liquidity Risks" above.

Citigroup Inc. and Citibank—Potential Derivative Triggers

As of December 31, 2022, Citi estimates that a hypothetical one-notch downgrade of the senior debt/long-term rating of Citigroup Inc. across all three major rating agencies could impact Citigroup's funding and liquidity due to derivative triggers by approximately $0.5 billion, compared to $0.6 billion as of September 30, 2022. Other funding sources, such as secured financing transactions and other margin requirements, for which there are no explicit triggers, could also be adversely affected.

As of December 31, 2022, Citi estimates that a hypothetical one-notch downgrade of the senior debt/long-term rating of Citibank across all three major rating agencies could impact Citibank's funding and liquidity due to derivative triggers by approximately $0.4 billion, compared to $0.8 billion as of September 30, 2022. Other funding sources, such as secured financing transactions and other margin requirements, for which there are no explicit triggers, could also be adversely affected.

In total, as of December 31, 2022, Citi estimates that a one-notch downgrade of Citigroup Inc. and Citibank across all three major rating agencies could result in increased aggregate cash obligations and collateral requirements of approximately $0.9 billion, compared to $1.4 billion as of September 30, 2022 (see also Note 23). As detailed under "High-Quality Liquid Assets (HQLA)" above, Citigroup has various liquidity resources available to its bank and non-bank entities in part as a contingency for the potential events described above.

In addition, a broad range of mitigating actions are currently included in Citigroup's and Citibank's contingency funding plans. For Citigroup, these mitigating factors include, but are not limited to, accessing surplus funding capacity from existing clients, tailoring levels of secured lending and adjusting the size of select trading books and collateralized borrowings at certain Citibank subsidiaries. Mitigating actions available to Citibank include, but are not limited to, selling or financing highly liquid government securities, tailoring levels of secured lending, adjusting the size of select trading assets, reducing loan originations and renewals, raising additional deposits or borrowing from the FHLB or central banks. Citi believes these mitigating actions could substantially reduce the funding and liquidity risk, if any, of the potential downgrades described above.

Citibank—Additional Potential Impacts

In addition to the above derivative triggers, Citi believes that a potential downgrade of Citibank's senior debt/long-term rating across any of the three major rating agencies could also have an adverse impact on the commercial paper/short-term rating of Citibank. Citibank has provided liquidity commitments to consolidated asset-backed commercial paper conduits, primarily in the form of asset purchase agreements. As of December 31, 2022, Citibank had liquidity commitments of approximately $11.0 billion to consolidated asset-backed commercial paper conduits, compared to $9.1 billion as of December 31, 2021 (see Note 22 for additional information).

In addition to the above-referenced liquidity resources of certain Citibank entities, Citibank could reduce the funding and liquidity risk, if any, of the potential downgrades described above through mitigating actions, including repricing or reducing certain commitments to commercial paper conduits. In the event of the potential downgrades described above, Citi believes that certain corporate customers could re-evaluate their deposit relationships with Citibank. This re-evaluation could result in clients adjusting their discretionary deposit levels or changing their depository institution, which could potentially reduce certain deposit levels at Citibank. However, Citi could choose to adjust pricing, offer alternative deposit products to its existing customers or seek to attract deposits from new customers, in addition to the mitigating actions referenced above.

MARKET RISK

OVERVIEW

Market risk is the potential for losses arising from changes in the value of Citi's assets and liabilities resulting from changes in market variables such as interest rates, foreign exchange rates, equity prices, commodity prices and credit spreads, as well as their implied volatilities. Market risk arises from both Citi's trading and non-trading portfolios. For additional information on market risk and market risk management at Citi, see "Risk Factors" above.

Each business is required to establish, with approval from Citi's market risk management, a market risk limit framework for identified risk factors that clearly defines approved risk profiles and is within the parameters of Citi's overall risk appetite. These limits are monitored by the Risk organization, including various regional, legal entity and business Risk Management committees, Citi's country and business Asset & Liability Committees and the Citigroup Risk Management and Asset & Liability Committees. In all cases, the businesses are ultimately responsible for the market risks taken and for remaining within their defined limits.

MARKET RISK OF NON-TRADING PORTFOLIOS

Market risk from non-trading portfolios stems predominantly from the potential impact of changes in interest rates and foreign exchange rates on Citi's net interest income and on Citi's *Accumulated other comprehensive income (loss) (AOCI)* from its investment securities portfolios. Market risk from non-trading portfolios also includes the potential impact of changes in foreign exchange rates on Citi's capital invested in foreign currencies.

Banking Book Interest Rate Risk

For interest rate risk purposes, Citi's non-trading portfolios are referred to as the Banking Book. Management of interest rate risk in the Banking Book is governed by Citi's Non-Trading Market Risk Policy. Management's Asset & Liability Committee (ALCO) establishes Citi's risk appetite and related limits for interest rate risk in the Banking Book, which are subject to approval by Citigroup's Board of Directors. Corporate Treasury is responsible for the day-to-day management of Citi's Banking Book interest rate risk as well as periodically reviewing it with the ALCO. Citi's Banking Book interest rate risk management is also subject to independent oversight from Treasury Risk Management, a second line of defense team reporting to the Treasury Chief Risk Officer.

Changes in interest rates impact Citi's net income, *AOCI* and CET1. These changes primarily affect Citi's Banking Book through net interest income, due to a variety of risk factors, including:

- Differences in timing and amounts of the maturity or repricing of assets, liabilities and off-balance sheet instruments;
- Changes in level and/or shape of interest rate curves;
- Client behavior in response to changes in interest rate (e.g., mortgage prepayments, deposit betas); and
- Changes in maturity of instruments resulting from changes in interest rate environment.

As part of their ongoing activities, Citi's businesses generate interest rate-sensitive positions from their client-facing products, such as loans and deposits. The component of this interest rate risk that can be hedged is transferred via Citi's funds transfer pricing process to Corporate Treasury. Corporate Treasury uses various tools to manage the total interest rate risk position within the established risk appetite and target Citi's desired risk profile, including its investment securities portfolio, company-issued debt and interest rate derivatives.

In addition, Citi uses multiple metrics to measure its Banking Book interest rate risk. Interest Rate Exposure (IRE) is a key metric that analyzes the impact of a range of scenarios on Citi's Banking Book net interest income and certain other interest rate-sensitive income versus a base case. IRE does not represent a forecast of Citi's net interest income.

The scenarios, methodologies and assumptions used in this analysis are periodically evaluated and enhanced in response to changes in the market environment, changes in Citi's balance sheet composition, enhancements in Citi's modeling and other factors.

Since the third quarter of 2022, Citi has employed enhanced IRE methodologies and changes to certain assumptions. The changes included, among other things, assumptions around the projected balance sheet and revisions to the treatment of certain business contributions (notably accrual positions in *ICG*'s Markets businesses). These changes resulted in a higher impact to Citi's net interest income over a 12-month period.

Under the enhanced methodology, Citi utilizes the most recent quarter-end balance sheet, assuming no changes to its composition and size over the forecasted horizon (holding the balance sheet static). The forecasts incorporate expectations and assumptions of deposit pricing, loan spreads and mortgage prepayment behavior implied by the interest rate curves in each scenario. The base case scenario reflects the market implied forward interest rates, and sensitivity scenarios assume instantaneous shocks to the base case. The forecasts do not assume Citi takes any risk-mitigating actions in response to changes in the interest rate environment. Certain interest rates are subject to flooring assumptions in downward rate scenarios. Deposit pricing sensitivities, (i.e., deposit betas), are informed by historical and expected behavior. Actual deposit pricing could differ from the assumptions used in these forecasts.

Citi's IRE analysis primarily reflects the impacts from the following Banking Book assets and liabilities: loans, client deposits, Citi's deposits with other banks, investment securities, long-term debt, any related interest rate hedges and the funds transfer pricing of positions in total trading and credit portfolio VAR. It excludes impacts from any positions that are included in total trading and credit portfolio VAR.

Interest Rate Risk of Investment Portfolios—Impact on *AOCI*

Citi also measures the potential impacts of changes in interest rates on the value of its *AOCI*, which can in turn impact Citi's common equity and tangible common equity. This will impact Citi's CET1 and other regulatory capital ratios. Citi seeks to manage its exposure to changes in the market level of interest rates, while limiting the potential impact on its *AOCI* and regulatory capital position.

AOCI at risk is managed as part of the Company-wide interest rate risk position. *AOCI* at risk considers potential changes in *AOCI* (and the corresponding impact on the CET1 Capital ratio) relative to Citi's capital generation capacity.

The following table presents the 12-month estimated impact to Citi's net interest income, *AOCI* and the CET1 Capital ratio, each assuming an unanticipated parallel instantaneous 100 basis point (bps) increase in interest rates:

In millions of dollars, except as otherwise noted	**Dec. 31, 2022**	Sept. 30, 2022	Dec. 31, 2021
Parallel interest rate shock +100 bps			
Interest rate exposure[1][2]			
U.S. dollar	**$ 186**	$ 677	$ 781
All other currencies	**1,650**	1,483	2,025
Total	**$ 1,836**	$ 2,160	$ 2,806
As a percentage of average interest-earning assets	**0.08 %**	0.10 %	0.12 %
Estimated initial negative impact to *AOCI* (after-tax)[3]	**$ (1,102)**	$ (969)	$ (4,609)
Estimated initial impact on CET1 Capital ratio (bps)	**(10)**	(9)	(30)

(1) Excludes trading book and fair value option banking book portfolios and replaces them with the associated transfer pricing.
(2) IRE as of December 31, 2021 excludes certain IRE methodology enhancements implemented in September 2022, most notably the banking book revisions to the treatment of certain business.
(3) Includes the effect of changes in interest rates on *AOCI* related to investment securities, cash flow hedges and pension liability adjustments.

Citi's balance sheet is asset sensitive (assets reprice faster than liabilities), resulting in higher net interest income in increasing interest rate scenarios. The estimated impact to Citi's net interest income in a 100 bps upward rate shock scenario as of December 31, 2022 decreased quarter-over-quarter and year-over-year, primarily reflecting the net impact of lower expected gains due to U.S. dollar interest rate moves that have already been realized and changes in Citi's balance sheet. At progressively higher interest rate levels, the marginal net interest income benefit is lower, as Citi assumes it will pass on a larger share of rate changes to depositors (i.e., higher betas), further reducing Citi's IRE sensitivity. Currency-specific interest rate changes and balance sheet factors may drive quarter-to-quarter volatility in Citi's estimated IRE.

In a 100 bps upward rate shock scenario, Citi expects that the approximate $1.1 billion initial negative impact to *AOCI* could potentially be offset in shareholders' equity through the expected recovery of the impact on *AOCI* through accretion of Citi's investment portfolio and expected net interest income benefit over a period of approximately four months.

Scenario Analysis

The following table presents the estimated impact to Citi's net interest income, *AOCI* and the CET1 Capital ratio (on a fully implemented basis) under five different scenarios of changes in interest rate for the U.S. dollar and all other currencies in which Citi has invested capital as of December 31, 2022. The 100 bps downward rate scenarios are impacted by the low level of interest rates in several countries and the assumption that market interest rates, as well as rates paid to depositors and charged to borrowers, do not fall below zero (i.e., the "flooring assumption"). The rate scenarios are also impacted by convexity related to mortgage products.

In millions of dollars, except as otherwise noted	**Scenario 1**	**Scenario 2**	**Scenario 3**	**Scenario 4**	**Scenario 5**
Overnight rate change (bps)	100	100	—	—	(100)
10-year rate change (bps)	100	—	100	(100)	(100)
Interest rate exposure					
U.S. dollar	$ 186	$ 98	$ 105	$ (121)	$ (322)
All other currencies	1,650	1,426	229	(236)	(1,434)
Total	$ 1,836	$ 1,524	$ 334	$ (357)	$ (1,756)
Estimated initial impact to *AOCI* (after-tax)[(1)]	$ (1,102)	$ (931)	$ (159)	$ 46	$ 1,014
Estimated initial impact to CET1 Capital ratio (bps)	(10)	(8)	(2)	1	10

Note: Each scenario assumes that the rate change will occur instantaneously. Changes in interest rates for maturities between the overnight rate and the 10-year rate are interpolated.

(1) Includes the effect of changes in interest rates on *AOCI* related to investment securities, cash flow hedges and pension liability adjustments.

As shown in the table above, the estimated impact to Citi's net interest income remains larger under Scenario 2 than Scenario 3, as Citi's Banking Book has relatively higher interest rate exposure to the short end of the yield curve. For U.S. dollars, exposure to downward rate shocks is larger in magnitude than to upward rate shocks. This is because of the lower benefit to net interest income from Citi's deposit base at higher rate levels, as well as the prepayment effects on mortgage loans and mortgage-backed securities. For other currencies, exposure to downward rate shocks is smaller in magnitude as a result of Citi's flooring assumption, given low rate levels for certain non-U.S. dollar currencies.

The magnitude of the impact to *AOCI* is greater under Scenario 2 as compared to Scenario 3. This is because the combination of changes to Citi's investment portfolio, partially offset by changes related to Citi's pension liabilities, results in a net position that is more sensitive to rates at shorter- and intermediate-term maturities.

Changes in Foreign Exchange Rates—Impacts on *AOCI* and Capital

As of December 31, 2022, Citi estimates that an unanticipated parallel instantaneous 5% appreciation of the U.S. dollar against all of the other currencies in which Citi has invested capital could reduce Citi's tangible common equity (TCE) by approximately $1.7 billion, or 1.0%, as a result of changes to Citi's CTA in *AOCI*, net of hedges. This impact would be primarily due to changes in the value of the Mexican peso, Euro, Singapore dollar and Indian rupee.

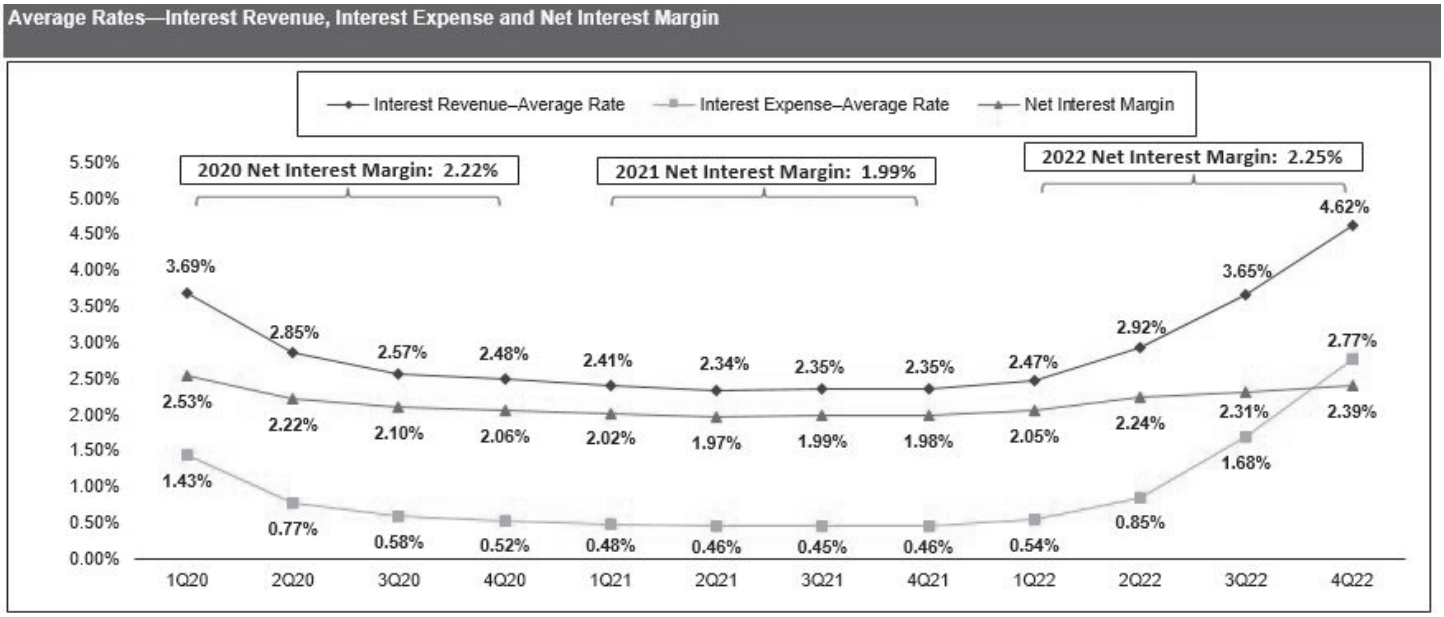
This impact is also before any mitigating actions Citi may take, including ongoing management of its foreign currency translation exposure. Specifically, as currency movements change the value of Citi's net investments in foreign currency-denominated capital, these movements also change the value of Citi's risk-weighted assets denominated in those currencies. This, coupled with Citi's foreign currency hedging strategies, such as foreign currency borrowings, foreign currency forwards and other currency hedging instruments, lessens the impact of foreign currency movements on Citi's CET1 Capital ratio. Changes in these hedging strategies, as well as hedging costs, divestitures and tax impacts, can further affect the actual impact of changes in foreign exchange rates on Citi's capital as compared to an unanticipated parallel shock, as described above.

The effect of Citi's ongoing management strategies with respect to quarterly changes in foreign exchange rates, and the quarterly impact of these changes on Citi's TCE and CET1 Capital ratio, are shown in the table below. See Note 20 for additional information on the changes in *AOCI*.

	For the quarter ended		
In millions of dollars, except as otherwise noted	**Dec. 31, 2022**	Sept. 30, 2022	Dec. 31, 2021
Change in FX spot rate[(1)]	**4.0 %**	(4.5)%	(0.6)%
Change in TCE due to FX translation, net of hedges	**$ 1,193**	$ (2,121)	$ (438)
As a percentage of TCE	**0.8 %**	(1.4)%	(0.3)%
Estimated impact to CET1 Capital ratio (on a fully implemented basis) due to changes in FX translation, net of hedges (bps)	**(3)**	(2)	(1)

(1) FX spot rate change is a weighted average based on Citi's quarterly average GAAP capital exposure to foreign countries.

Interest Revenue/Expense and Net Interest Margin (NIM)



In millions of dollars, except as otherwise noted	**2022**	2021	2020	**Change 2022 vs. 2021**	Change 2021 vs. 2020
Interest revenue[1]	**$ 74,573**	$ 50,667	$ 58,285	**47 %**	(13)%
Interest expense[2]	**25,740**	7,981	13,338	**223**	(40)
Net interest income, taxable equivalent basis[1]	**$ 48,833**	$ 42,686	$ 44,947	**14 %**	(5)%
Interest revenue—average rate[3]	**3.43 %**	2.36 %	2.88 %	**107 bps**	(52) bps
Interest expense—average rate	**1.48**	0.46	0.81	**102 bps**	(35) bps
Net interest margin[3][4]	**2.25**	1.99	2.22	**26 bps**	(23) bps
Interest rate benchmarks					
Two-year U.S. Treasury note—average rate	**2.99 %**	0.27 %	0.39 %	**272 bps**	(12) bps
10-year U.S. Treasury note—average rate	**2.95**	1.45	0.89	**150 bps**	56 bps
10-year vs. two-year spread	(4) **bps**	118 bps	50 bps		

(1) *Interest revenue* and *Net interest income* include the taxable equivalent adjustments primarily related to the tax-exempt bond portfolio and certain tax-advantaged loan programs (based on the U.S. federal statutory tax rate of 21%) of $165 million, $192 million and $196 million for 2022, 2021 and 2020, respectively.

(2) Interest expense associated with certain hybrid financial instruments, which are classified as *Long-term debt* and accounted for at fair value, is reported together with any changes in fair value as part of *Principal transactions* in the Consolidated Statement of Income and is therefore not reflected in *Interest expense* in the table above.

(3) The average rate on interest revenue and net interest margin reflects the taxable equivalent gross-up adjustment. See footnote 1 above.

(4) Citi's NIM is calculated by dividing net interest income by average interest-earning assets.

Non-*ICG* Markets Net Interest Income

In millions of dollars	**2022**	2021	2020
Net interest income—taxable equivalent basis[1] per above	**$ 48,833**	$ 42,686	$ 44,947
ICG Markets net interest income—taxable equivalent basis[1]	**5,173**	5,167	5,208
Non-*ICG* Markets net interest income—taxable equivalent basis[1]	**$ 43,660**	$ 37,519	$ 39,739

(1) *Interest revenue* and *Net interest income* include the taxable equivalent adjustments discussed in the table above.

Citi's net interest income in the fourth quarter of 2022 was $13.3 billion (also $13.3 billion on a taxable equivalent basis), an increase of $2.5 billion versus the prior year, primarily driven by non-*ICG* Markets (approximately $2.2 billion), as *ICG* Markets was largely unchanged (up approximately $0.3 billion across fixed income markets and equity markets). The increase in net interest income in non-*ICG* Markets was primarily driven by higher interest rates. Citi's net interest margin was 2.39% on a taxable equivalent basis in the fourth quarter of 2022, an increase of eight basis points from the prior quarter, also largely driven by higher interest rates.

Citi's net interest income for 2022 increased 15%, or approximately $6.2 billion, to $48.7 billion ($48.8 billion on a taxable equivalent basis) versus the prior year. The increase was primarily due to an increase in non-*ICG* Markets net interest income, largely reflecting higher interest rates and higher loan balances in *PBWM*. In 2022, Citi's net interest margin increased to 2.25% on a taxable equivalent basis, compared to 1.99% in 2021, primarily driven by higher interest rates and a mix-shift in balances.

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Additional Interest Rate Details

Average Balances and Interest Rates—Assets[1][2][3]

Taxable Equivalent Basis

	Average balance			Interest revenue			% Average rate		
In millions of dollars, except rates	**2022**	2021	2020	**2022**	2021	2020	**2022**	2021	2020
Assets									
Deposits with banks[4]	**$ 262,504**	$ 298,319	$ 288,629	**$ 4,515**	$ 577	$ 928	**1.72 %**	0.19 %	0.32 %
Securities borrowed and purchased under agreements to resell[5]									
In U.S. offices	**$ 188,672**	$ 172,716	$ 149,076	**$ 3,933**	$ 385	$ 1,202	**2.08 %**	0.22 %	0.81 %
In offices outside the U.S.[4]	**164,675**	149,944	138,074	**3,221**	667	1,081	**1.96**	0.44	0.78
Total	**$ 353,347**	$ 322,660	$ 287,150	**$ 7,154**	$ 1,052	$ 2,283	**2.02 %**	0.33 %	0.80 %
Trading account assets[6][7]									
In U.S. offices	**$ 142,146**	$ 140,215	$ 144,130	**$ 4,005**	$ 2,653	$ 3,624	**2.82 %**	1.89 %	2.51 %
In offices outside the U.S.[4]	**132,046**	151,722	134,078	**3,422**	2,718	2,509	**2.59**	1.79	1.87
Total	**$ 274,192**	$ 291,937	$ 278,208	**$ 7,427**	$ 5,371	$ 6,133	**2.71 %**	1.84 %	2.20 %
Investments									
In U.S. offices									
Taxable	**$ 355,012**	$ 322,884	$ 265,833	**$ 5,642**	$ 3,547	$ 3,860	**1.59 %**	1.10 %	1.45 %
Exempt from U.S. income tax	**11,742**	12,296	14,084	**424**	437	452	**3.61**	3.55	3.21
In offices outside the U.S.[4]	**150,968**	152,940	139,400	**5,210**	3,498	3,781	**3.45**	2.29	2.71
Total	**$ 517,722**	$ 488,120	$ 419,317	**$ 11,276**	$ 7,482	$ 8,093	**2.18 %**	1.53 %	1.93 %
Consumer loans[8]									
In U.S. offices	**$ 268,910**	$ 253,184	$ 258,614	**$ 23,127**	$ 19,810	$ 20,436	**8.60 %**	7.82 %	7.90 %
In offices outside the U.S.[4]	**86,497**	121,794	120,974	**5,264**	6,598	7,327	**6.09**	5.42	6.06
Total	**$ 355,407**	$ 374,978	$ 379,588	**$ 28,391**	$ 26,408	$ 27,763	**7.99 %**	7.04 %	7.31 %
Corporate loans[8]									
In U.S. offices	**$ 139,906**	$ 132,957	$ 138,232	**$ 5,417**	$ 4,213	$ 6,264	**3.87 %**	3.17 %	4.53 %
In offices outside the U.S.[4]	**158,008**	160,101	167,405	**7,528**	4,911	6,242	**4.76**	3.07	3.73
Total	**$ 297,914**	$ 293,058	$ 305,637	**$ 12,945**	$ 9,124	$ 12,506	**4.35 %**	3.11 %	4.09 %
Total loans[8]									
In U.S. offices	**$ 408,816**	$ 386,141	$ 396,846	**$ 28,544**	$ 24,023	$ 26,700	**6.98 %**	6.22 %	6.73 %
In offices outside the U.S.[4]	**244,505**	281,895	288,379	**12,792**	11,509	13,569	**5.23**	4.08	4.71
Total	**$ 653,321**	$ 668,036	$ 685,225	**$ 41,336**	$ 35,532	$ 40,269	**6.33 %**	5.32 %	5.88 %
Other interest-earning assets[9]	**$ 112,549**	$ 75,876	$ 67,547	**$ 2,865**	$ 653	$ 579	**2.55 %**	0.86 %	0.86 %
Total interest-earning assets	**$ 2,173,635**	$ 2,144,948	$ 2,026,076	**$ 74,573**	$ 50,667	$ 58,285	**3.43 %**	2.36 %	2.88 %
Non-interest-earning assets[6]	**$ 222,388**	$ 202,761	$ 200,378						
Total assets	**$ 2,396,023**	$ 2,347,709	$ 2,226,454						

(1) *Interest revenue* and *Net interest income* include the taxable equivalent adjustments primarily related to the tax-exempt bond portfolio and certain tax-advantaged loan programs (based on the U.S. federal statutory tax rate of 21%) of $165 million, $192 million and $196 million for 2022, 2021 and 2020, respectively.
(2) Interest rates and amounts include the effects of risk management activities associated with the respective asset categories.
(3) Monthly or quarterly averages have been used by certain subsidiaries where daily averages are unavailable.
(4) Average rates reflect prevailing local interest rates, including inflationary effects and monetary corrections in certain countries.
(5) Average volumes of securities borrowed or purchased under agreements to resell are reported net pursuant to ASC 210-20-45. However, *Interest revenue* excludes the impact of ASC 210-20-45.
(6) The fair value carrying amounts of derivative contracts are reported net, pursuant to ASC 815-10-45, in *Non-interest-earning assets* and *Other non-interest-bearing liabilities*.
(7) *Interest expense* on *Trading account liabilities* of *ICG* is reported as a reduction of *Interest revenue*. *Interest revenue* and *Interest expense* on cash collateral positions are reported in interest on *Trading account assets* and *Trading account liabilities*, respectively.
(8) Net of unearned income. Includes cash-basis loans.
(9) Includes assets from businesses held-for-sale (see Note 2) and *Brokerage receivables*.

Average Balances and Interest Rates—Liabilities and Equity, and Net Interest Income[1][2][3]

Taxable Equivalent Basis

	Average balance			Interest expense			% Average rate		
In millions of dollars, except rates	**2022**	2021	2020	**2022**	2021	2020	**2022**	2021	2020
Liabilities									
Deposits									
In U.S. offices[4]	**$ 572,394**	$ 532,466	$ 485,848	**$ 5,986**	$ 1,084	$ 2,524	**1.05 %**	0.20 %	0.52 %
In offices outside the U.S.[5]	**516,329**	557,207	541,301	**5,573**	1,812	2,810	**1.08**	0.33	0.52
Total	**$ 1,088,723**	$ 1,089,673	$ 1,027,149	**$ 11,559**	$ 2,896	$ 5,334	**1.06 %**	0.27 %	0.52 %
Securities loaned and sold under agreements to repurchase[6]									
In U.S. offices	**$ 112,771**	$ 136,955	$ 137,348	**$ 2,816**	$ 676	$ 1,292	**2.50 %**	0.49 %	0.94 %
In offices outside the U.S.[5]	**94,936**	93,744	79,426	**1,639**	336	785	**1.73**	0.36	0.99
Total	**$ 207,707**	$ 230,699	$ 216,774	**$ 4,455**	$ 1,012	$ 2,077	**2.14 %**	0.44 %	0.96 %
Trading account liabilities[7][8]									
In U.S. offices	**$ 52,166**	$ 47,871	$ 38,308	**$ 697**	$ 109	$ 283	**1.34 %**	0.23 %	0.74 %
In offices outside the U.S.[5]	**70,102**	67,739	52,051	**740**	373	345	**1.06**	0.55	0.66
Total	**$ 122,268**	$ 115,610	$ 90,359	**$ 1,437**	$ 482	$ 628	**1.18 %**	0.42 %	0.70 %
Short-term borrowings and other interest-bearing liabilities[9]									
In U.S. offices	**$ 95,054**	$ 69,683	$ 82,363	**$ 2,161**	$ (27)	$ 493	**2.27 %**	(0.04)%	0.60 %
In offices outside the U.S.[5]	**55,133**	26,133	20,053	**327**	148	137	**0.59**	0.57	0.68
Total	**$ 150,187**	$ 95,816	$ 102,416	**$ 2,488**	$ 121	$ 630	**1.66 %**	0.13 %	0.62 %
Long-term debt[10]									
In U.S. offices	**$ 166,063**	$ 186,522	$ 213,809	**$ 5,625**	$ 3,384	$ 4,656	**3.39 %**	1.81 %	2.18 %
In offices outside the U.S.[5]	**3,592**	4,282	3,918	**176**	86	13	**4.90**	2.01	0.33
Total	**$ 169,655**	$ 190,804	$ 217,727	**$ 5,801**	$ 3,470	$ 4,669	**3.42 %**	1.82 %	2.14 %
Total interest-bearing liabilities	**$ 1,738,540**	$ 1,722,602	$ 1,654,425	**$ 25,740**	$ 7,981	$ 13,338	**1.48 %**	0.46 %	0.81 %
Demand deposits in U.S. offices	**$ 135,725**	$ 98,414	$ 30,876						
Other non-interest-bearing liabilities[7]	**322,151**	324,643	346,736						
Total liabilities	**$ 2,196,416**	$ 2,145,659	$ 2,032,037						
Citigroup stockholders' equity	**$ 199,088**	$ 201,360	$ 193,769						
Noncontrolling interests	**519**	690	648						
Total equity	**$ 199,607**	$ 202,050	$ 194,417						
Total liabilities and stockholders' equity	**$ 2,396,023**	$ 2,347,709	$ 2,226,454						
Net interest income as a percentage of average interest-earning assets[11]									
In U.S. offices	**$ 1,272,222**	$ 1,244,182	$ 1,187,077	**$ 28,802**	$ 26,404	$ 27,520	**2.26 %**	2.12 %	2.32 %
In offices outside the U.S.[6]	**901,412**	900,766	838,999	**20,031**	16,282	17,427	**2.22**	1.81	2.08
Total	**$ 2,173,634**	$ 2,144,948	$ 2,026,076	**$ 48,833**	$ 42,686	$ 44,947	**2.25 %**	1.99 %	2.22 %

(1) *Interest revenue* and *Net interest income* include the taxable equivalent adjustments discussed in the table above.
(2) Interest rates and amounts include the effects of risk management activities associated with the respective liability categories.
(3) Monthly or quarterly averages have been used by certain subsidiaries where daily averages are unavailable.
(4) Consists of other time deposits and savings deposits. Savings deposits are made up of insured money market accounts, NOW accounts and other savings deposits.
(5) Average rates reflect prevailing local interest rates, including inflationary effects and monetary corrections in certain countries.
(6) Average volumes of securities sold under agreements to repurchase are reported net pursuant to ASC 210-20-45. However, *Interest expense* excludes the impact of ASC 210-20-45.
(7) The fair value carrying amounts of derivative contracts are reported net, pursuant to ASC 815-10-45, in *Non-interest-earning assets* and *Other non-interest-bearing liabilities*.
(8) *Interest expense* on *Trading account liabilities* of *ICG* is reported as a reduction of *Interest revenue*. *Interest revenue* and *Interest expense* on cash collateral positions are reported in interest on *Trading account assets* and *Trading account liabilities*, respectively.

(9) Includes *Brokerage payables*.
(10) Excludes hybrid financial instruments and beneficial interests in consolidated VIEs that are classified as *Long-term debt*, as the changes in fair value for these obligations are recorded in *Principal transactions*.
(11) Includes allocations for capital and funding costs based on the location of the asset.

Analysis of Changes in Interest Revenue[(1)(2)(3)]

	2022 vs. 2021			2021 vs. 2020		
	Increase (decrease) due to change in:			Increase (decrease) due to change in:		
In millions of dollars	Average balance	Average rate	Net change	Average balance	Average rate	Net change
Deposits with banks[(3)]	**$ (77)**	**$ 4,015**	**$ 3,938**	$ 30	$ (381)	$ (351)
Securities borrowed and purchased under agreements to resell						
In U.S. offices	**$ 39**	**$ 3,509**	**$ 3,548**	$ 166	$ (983)	$ (817)
In offices outside the U.S.[(3)]	**72**	**2,482**	**2,554**	86	(500)	(414)
Total	**$ 111**	**$ 5,991**	**$ 6,102**	$ 252	$ (1,483)	$ (1,231)
Trading account assets[(4)]						
In U.S. offices	**$ 37**	**$ 1,315**	**$ 1,352**	$ (96)	$ (875)	$ (971)
In offices outside the U.S.[(3)]	**(388)**	**1,092**	**704**	320	(111)	209
Total	**$ (351)**	**$ 2,407**	**$ 2,056**	$ 224	$ (986)	$ (762)
Investments[(1)]						
In U.S. offices	**$ 404**	**$ 1,678**	**$ 2,082**	$ 761	$ (1,089)	$ (328)
In offices outside the U.S.[(3)]	**(46)**	**1,758**	**1,712**	345	(628)	(283)
Total	**$ 358**	**$ 3,436**	**$ 3,794**	$ 1,106	$ (1,717)	$ (611)
Consumer loans (net of unearned income)[(5)]						
In U.S. offices	**$ 1,277**	**$ 2,040**	**$ 3,317**	$ (426)	$ (200)	$ (626)
In offices outside the U.S.[(3)]	**(2,078)**	**744**	**(1,334)**	49	(778)	(729)
Total	**$ (801)**	**$ 2,784**	**$ 1,983**	$ (377)	$ (978)	$ (1,355)
Corporate loans (net of unearned income)[(5)]						
In U.S. offices	**$ 230**	**$ 974**	**$ 1,204**	$ (231)	$ (1,820)	$ (2,051)
In offices outside the U.S.[(3)]	**(65)**	**2,682**	**2,617**	(263)	(1,068)	(1,331)
Total	**$ 165**	**$ 3,656**	**$ 3,821**	$ (494)	$ (2,888)	$ (3,382)
Loans (net of unearned income)[(5)]						
In U.S. offices	**$ 1,507**	**$ 3,014**	**$ 4,521**	$ (706)	$ (1,971)	$ (2,677)
In offices outside the U.S.[(3)]	**(2,143)**	**3,426**	**1,283**	(299)	(1,761)	(2,060)
Total	**$ (636)**	**$ 6,440**	**$ 5,804**	$ (1,005)	$ (3,732)	$ (4,737)
Other interest-earning assets[(6)]	**$ 438**	**$ 1,774**	**$ 2,212**	$ 72	$ 2	$ 74
Total interest revenue	**$ (157)**	**$ 24,063**	**$ 23,906**	$ 679	$ (8,297)	$ (7,618)

(1) *Interest revenue* and *Net interest income* include the taxable equivalent adjustments discussed in the table above.
(2) Rate/volume variance is allocated based on the percentage relationship of changes in volume and changes in rate to the total net change.
(3) Changes in average rates reflect changes in prevailing local interest rates, including inflationary effects and monetary corrections in certain countries.
(4) *Interest expense* on *Trading account liabilities* of *ICG* is reported as a reduction of *Interest revenue*. *Interest revenue* and *Interest expense* on cash collateral positions are reported in interest on *Trading account assets* and *Trading account liabilities*, respectively.
(5) Includes cash-basis loans.
(6) Includes *Brokerage receivables*.

***Analysis of Changes in Interest Expense and Net Interest Income*[1][2][3]**

	2022 vs. 2021			2021 vs. 2020		
	Increase (decrease) due to change in:			Increase (decrease) due to change in:		
In millions of dollars	**Average balance**	**Average rate**	**Net change**	Average balance	Average rate	Net change
Deposits						
In U.S. offices	**$ 87**	**$ 4,815**	**$ 4,902**	$ 222	$ (1,661)	$ (1,439)
In offices outside the U.S.[3]	**(142)**	**3,903**	**3,761**	80	(1,078)	(998)
Total	**$ (55)**	**$ 8,718**	**$ 8,663**	$ 302	$ (2,739)	$ (2,437)
Securities loaned and sold under agreements to repurchase						
In U.S. offices	**$ (140)**	**$ 2,280**	**$ 2,140**	$ (4)	$ (612)	$ (616)
In offices outside the U.S.[3]	**4**	**1,299**	**1,303**	122	(571)	(449)
Total	**$ (136)**	**$ 3,579**	**$ 3,443**	$ 118	$ (1,183)	$ (1,065)
Trading account liabilities[4]						
In U.S. offices	**$ 11**	**$ 577**	**$ 588**	$ 58	$ (232)	$ (174)
In offices outside the U.S.[3]	**13**	**354**	**367**	93	(65)	28
Total	**$ 24**	**$ 931**	**$ 955**	$ 151	$ (297)	$ (146)
Short-term borrowings and other interest-bearing liabilities[5]						
In U.S. offices	**$ (6)**	**$ 2,194**	**$ 2,188**	$ (66)	$ (454)	$ (520)
In offices outside the U.S.[3]	**172**	**7**	**179**	37	(26)	11
Total	**$ 166**	**$ 2,201**	**$ 2,367**	$ (29)	$ (480)	$ (509)
Long-term debt						
In U.S. offices	**$ (407)**	**$ 2,648**	**$ 2,241**	$ (551)	$ (721)	$ (1,272)
In offices outside the U.S.[3]	**(16)**	**106**	**90**	1	71	72
Total	**$ (423)**	**$ 2,754**	**$ 2,331**	$ (550)	$ (650)	$ (1,200)
Total interest expense	**$ (424)**	**$ 18,183**	**$ 17,759**	$ (8)	$ (5,349)	$ (5,357)
Net interest income	**$ 267**	**$ 5,880**	**$ 6,147**	$ 687	$ (2,948)	$ (2,261)

(1) *Interest revenue* and *Net interest income* include the taxable equivalent adjustments discussed in the table above.
(2) Rate/volume variance is allocated based on the percentage relationship of changes in volume and changes in rate to the total net change.
(3) Changes in average rates reflect changes in prevailing local interest rates, including inflationary effects and monetary corrections in certain countries.
(4) *Interest expense* on *Trading account liabilities* of *ICG* is reported as a reduction of *Interest revenue*. *Interest revenue* and *Interest expense* on cash collateral positions are reported in interest on *Trading account assets* and *Trading account liabilities*, respectively.
(5) Includes *Brokerage payables*.

Market Risk of Trading Portfolios

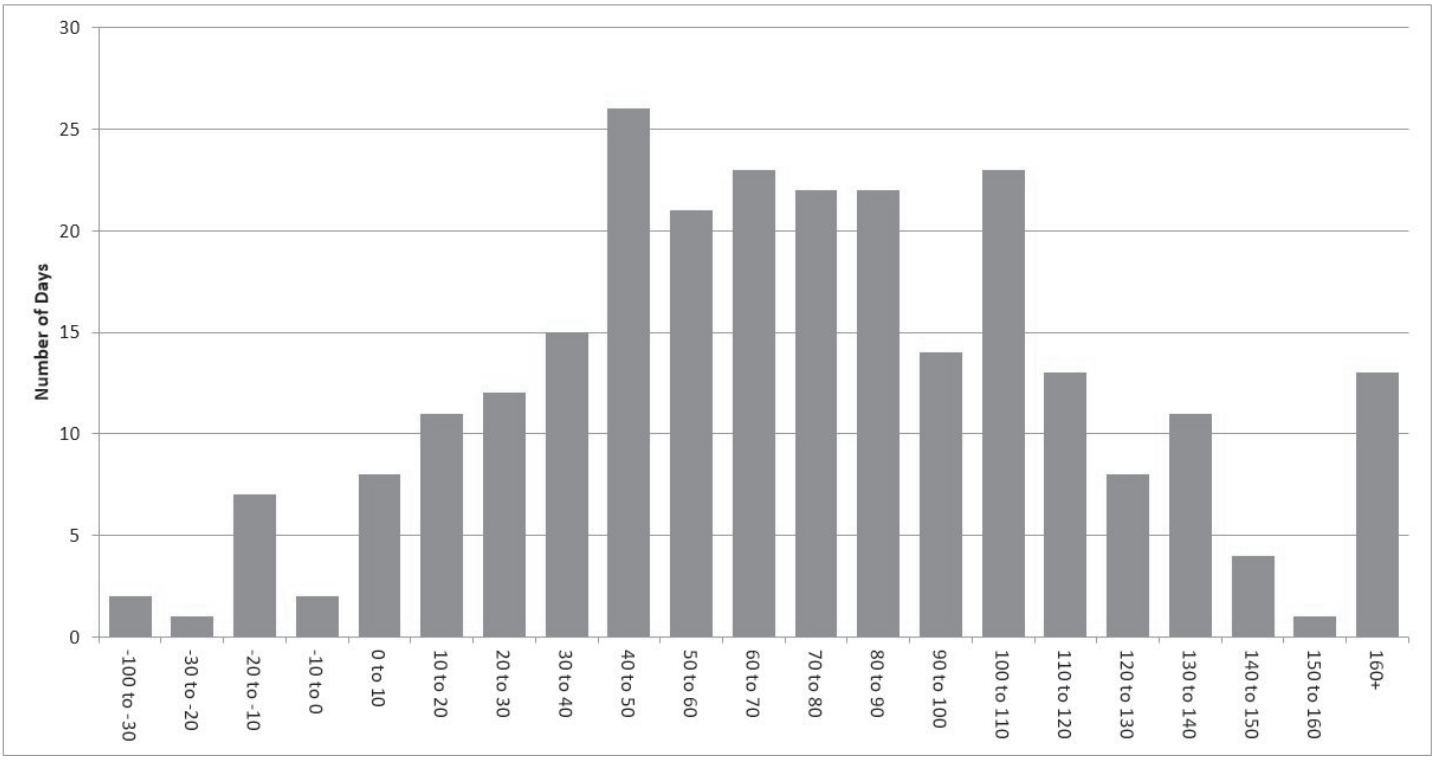
Trading portfolios include positions resulting from market-making activities, hedges of certain available-for-sale (AFS) debt securities, the CVA relating to derivative counterparties and all associated hedges, fair value option loans and hedges of the loan portfolio within capital markets origination in *ICG*.

The market risk of Citi's trading portfolios is monitored using a combination of quantitative and qualitative measures, including, but not limited to, factor sensitivities, value at risk (VAR) and stress testing. Each trading portfolio across Citi's businesses has its own market risk limit framework encompassing these measures and other controls, including trading mandates, new product approval, permitted product lists and pre-trade approval for larger, more complex and less liquid transactions.

The following chart of total daily trading-related revenue (loss) captures trading volatility and shows the number of days in which revenues for Citi's trading businesses fell within particular ranges. Trading-related revenue includes trading, net interest and other revenue associated with Citi's trading businesses. It excludes DVA, FVA and CVA adjustments incurred due to changes in the credit quality of counterparties, as well as any associated hedges of that CVA. In addition, it excludes fees and other revenue associated with capital markets origination activities. Trading-related revenues are driven by both customer flows and the changes in valuation of the trading inventory. As shown in the chart below, positive trading-related revenue was achieved for 95.4% of the trading days in 2022.

Daily Trading-Related Revenue (Loss)(1)—12 Months Ended December 31, 2022

In millions of dollars



(1) Reflects the effects of asymmetrical accounting for economic hedges of certain AFS debt securities. Specifically, the change in the fair value of hedging derivatives is included in trading-related revenue, while the offsetting change in the fair value of hedged AFS debt securities is included in *AOCI* and not reflected above.

Factor Sensitivities

Factor sensitivities are expressed as the change in the value of a position for a defined change in a market risk factor, such as a change in the value of a U.S. Treasury Bond for a one-basis-point change in interest rates. Citi's Global Market Risk function, within the Independent Risk Management organization, works to ensure that factor sensitivities are calculated, monitored and limited for all material risks taken in the trading portfolios.

Value at Risk (VAR)

VAR estimates, at a 99% confidence level, the potential decline in the value of a position or a portfolio under normal market conditions assuming a one-day holding period. VAR statistics, which are based on historical data, can be materially different across firms due to differences in portfolio composition, VAR methodologies and model parameters. As a result, Citi believes VAR statistics can be used more effectively as indicators of trends in risk-taking within a firm, rather than as a basis for inferring differences in risk-taking across firms.

Citi uses a single, independently approved Monte Carlo simulation VAR model (see "VAR Model Review and Validation" below), which has been designed to capture material risk sensitivities (such as first- and second-order sensitivities of positions to changes in market prices) of various asset classes/risk types (such as interest rate, credit spread, foreign exchange, equity and commodity risks). Citi's VAR includes positions that are measured at fair value; it does not include investment securities classified as AFS or HTM. See Note 13 for information on these securities.

Citi believes its VAR model is conservatively calibrated to incorporate fat-tail scaling and the greater of short-term (approximately the most recent month) and long-term (18 months for commodities and three years for others) market volatility. The Monte Carlo simulation involves approximately 550,000 market factors, making use of approximately 480,000 time series, with sensitivities updated daily, volatility parameters updated intra-monthly and correlation parameters updated monthly. The conservative features of the VAR calibration contribute an approximate 46% add-on to what would be a VAR estimated under the assumption of stable and perfectly, normally distributed markets.

As presented in the table below, Citi's average trading VAR increased $22 million from 2021 to 2022, mainly due to increased market volatility. Citi's average trading and credit portfolio VAR increased $23 million from 2021 to 2022 in line with trading VAR.

Year-end and Average Trading VAR and Trading and Credit Portfolio VAR

In millions of dollars	**December 31, 2022**	**2022 Average**	December 31, 2021	2021 Average
Interest rate	**$ 130**	**$ 100**	$ 50	$ 65
Credit spread	**78**	**74**	59	71
Covariance adjustment[1]	**(45)**	**(49)**	(35)	(42)
Fully diversified interest rate and credit spread[2]	**$ 163**	**$ 125**	$ 74	$ 94
Foreign exchange	**20**	**31**	36	42
Equity	**27**	**27**	29	33
Commodity	**32**	**41**	28	34
Covariance adjustment[1]	**(94)**	**(101)**	(88)	(102)
Total trading VAR—all market risk factors, including general and specific risk (excluding credit portfolios)[2]	**$ 148**	**$ 123**	$ 79	$ 101
Specific risk-only component[3]	**$ (4)**	**$ (2)**	$ 3	$ 1
Total trading VAR—general market risk factors only (excluding credit portfolios)	**$ 152**	**$ 125**	$ 76	$ 100
Incremental impact of the credit portfolio[4]	**$ 30**	**$ 31**	$ 45	$ 30
Total trading and credit portfolio VAR	**$ 178**	**$ 154**	$ 124	$ 131

(1) Covariance adjustment (also known as diversification benefit) equals the difference between the total VAR and the sum of the VARs tied to each risk type. The benefit reflects the fact that the risks within individual and across risk types are not perfectly correlated and, consequently, the total VAR on a given day will be lower than the sum of the VARs relating to each risk type. The determination of the primary drivers of changes to the covariance adjustment is made by an examination of the impact of both model parameter and position changes.

(2) The total trading VAR includes mark-to-market and certain fair value option trading positions in *ICG*, with the exception of hedges to the loan portfolio, fair value option loans and all CVA exposures. Available-for-sale and accrual exposures are not included.

(3) The specific risk-only component represents the level of equity and fixed income issuer-specific risk embedded in VAR.

(4) The credit portfolio is composed of mark-to-market positions associated with non-trading business units, the CVA relating to derivative counterparties and all associated CVA hedges. FVA and DVA are not included. The credit portfolio also includes hedges to the loan portfolio, fair value option loans and hedges to the leveraged finance pipeline within capital markets origination in *ICG*.

The table below provides the range of market factor VARs associated with Citi's total trading VAR, inclusive of specific risk:

	2022		2021	
In millions of dollars	**Low**	**High**	Low	High
Interest rate	**$ 45**	**$ 165**	$ 47	$ 96
Credit spread	**59**	**108**	54	96
Fully diversified interest rate and credit spread	**$ 72**	**$ 183**	$ 74	$ 123
Foreign exchange	**12**	**98**	33	49
Equity	**12**	**44**	21	50
Commodity	**27**	**104**	19	55
Total trading	**$ 78**	**$ 168**	$ 79	$ 130
Total trading and credit portfolio	**110**	**226**	108	166

Note: No covariance adjustment can be inferred from the above table as the high and low for each market factor will be from different close-of-business dates.

The following table provides the VAR for *ICG*, excluding the CVA relating to derivative counterparties, hedges of CVA, fair value option loans and hedges to the loan portfolio:

In millions of dollars	Dec. 31, 2022
Total—all market risk factors, including general and specific risk	**$ 150**
Average—during year	**$ 124**
High—during year	**166**
Low—during year	**81**

VAR Model Review and Validation

Generally, Citi's VAR review and model validation process entails reviewing the model framework, major assumptions and implementation of the mathematical algorithm. In addition, product-specific back-testing on portfolios is periodically completed as part of the ongoing model performance monitoring process and reviewed with Citi's U.S. banking regulators. Furthermore, Regulatory VAR back-testing (as described below) is performed against buy-and-hold profit and loss on a monthly basis for multiple sub-portfolios across the organization (trading desk level, *ICG* operating segment and Citigroup) and the results are shared with U.S. banking regulators.

Material VAR model and assumption changes must be independently validated within Citi's Independent Risk Management organization. All model changes, including those for the VAR model, are validated by the model validation group within Citi's Model Risk Management. In the event of significant model changes, parallel model runs are undertaken prior to implementation. In addition, significant model and assumption changes are subject to the periodic reviews and approval by Citi's U.S. banking regulators.

Citi uses the same independently validated VAR model for both Regulatory VAR and Risk Management VAR (i.e., total trading and total trading and credit portfolios VARs) and, as such, the model review and validation process for both purposes is as described above.

Regulatory VAR, which is calculated in accordance with Basel III, differs from Risk Management VAR due to the fact that certain positions included in Risk Management VAR are not eligible for market risk treatment in Regulatory VAR. The composition of Risk Management VAR is discussed under "Value at Risk" above. The applicability of the VAR model for positions eligible for market risk treatment under U.S. regulatory capital rules is periodically reviewed and approved by Citi's U.S. banking regulators.

In accordance with Basel III, Regulatory VAR includes all trading book-covered positions and all foreign exchange and commodity exposures. Pursuant to Basel III, Regulatory VAR excludes positions that fail to meet the intent and ability to trade requirements and are therefore classified as non-trading book and categories of exposures that are specifically excluded as covered positions. Regulatory VAR excludes CVA on derivative instruments and DVA on Citi's own fair value option liabilities. CVA hedges are excluded from Regulatory VAR and included in credit risk-weighted assets as computed under the Advanced Approaches for determining risk-weighted assets.

Regulatory VAR Back-Testing

In accordance with Basel III, Citi is required to perform back-testing to evaluate the effectiveness of its Regulatory VAR model. Regulatory VAR back-testing is the process in which the daily one-day VAR, at a 99% confidence interval, is compared to the buy-and-hold profit and loss (i.e., the profit and loss impact if the portfolio is held constant at the end of the day and re-priced the following day). Buy-and-hold profit and loss represents the daily mark-to-market profit and loss attributable to price movements in covered positions from the close of the previous business day. Buy-and-hold profit and loss excludes realized trading revenue, net interest, fees and commissions, intra-day trading profit and loss and changes in reserves.

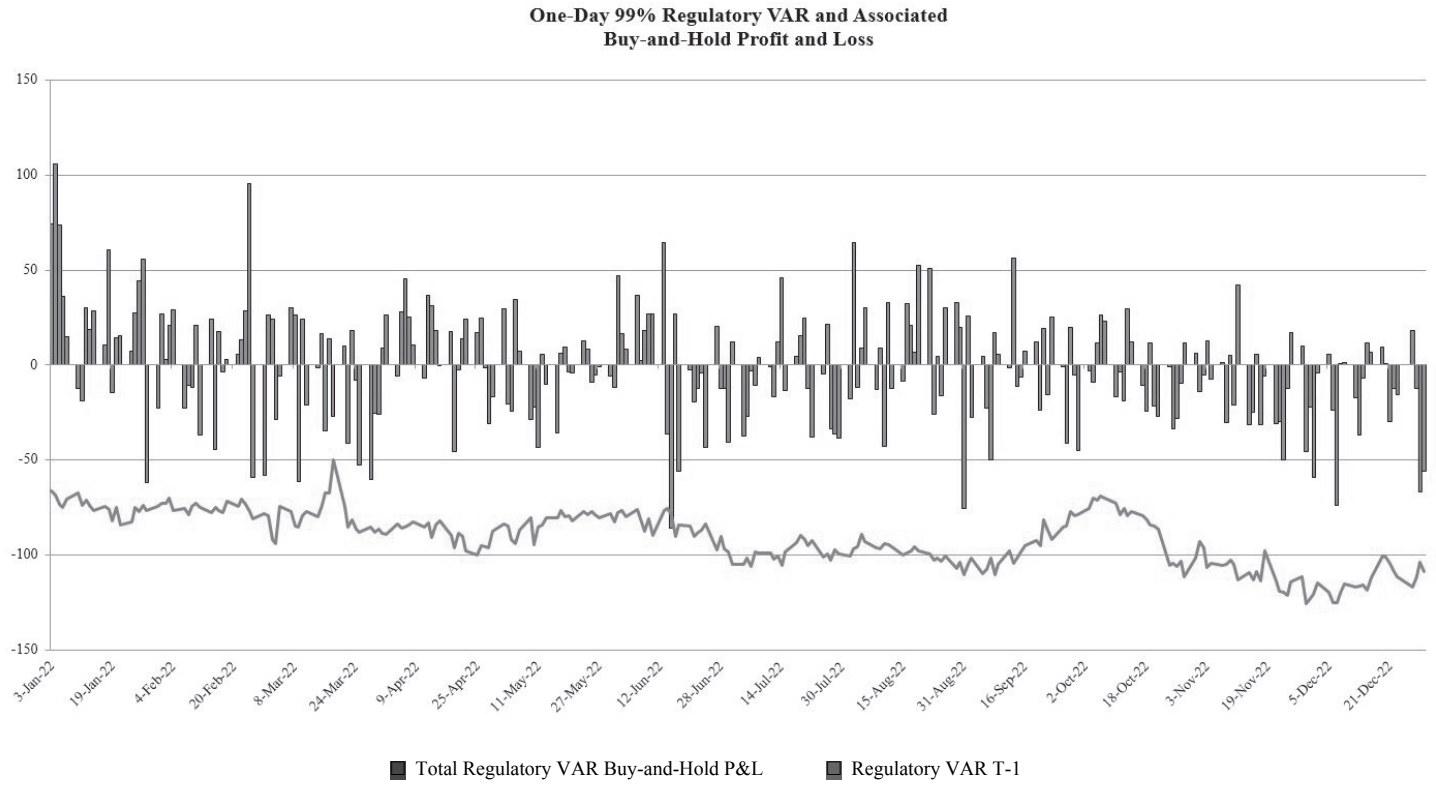
Based on a 99% confidence level, Citi would expect two to three days in any one year where buy-and-hold losses exceed the Regulatory VAR. Given the conservative calibration of Citi's VAR model (as a result of taking the greater of short- and long-term volatilities and fat-tail scaling of volatilities), Citi would expect fewer exceptions under normal and stable market conditions. Periods of unstable market conditions could increase the number of back-testing exceptions.

The following graph shows the daily buy-and-hold profit and loss associated with Citi's covered positions compared to Citi's one-day Regulatory VAR during 2022. During 2022, one back-testing exception was observed at the Citigroup level.

The difference between the 48.3% of days with buy-and-hold gains for Regulatory VAR back-testing and the 95.4% of days with trading, net interest and other revenue associated with Citi's trading businesses, shown in the histogram of daily trading-related revenue below, reflects, among other things, that a significant portion of Citi's trading-related revenue is not generated from daily price movements on these positions and exposures, as well as differences in the portfolio composition of Regulatory VAR and Risk Management VAR.

Regulatory Trading VAR and Associated Buy-and-Hold Profit and Loss[(1)]—12 Months Ended December 31, 2022

In millions of dollars



(1) Buy-and-hold profit and loss, as defined by the banking regulators under Basel III, represents the daily mark-to-market revenue movement attributable to the trading position from the close of the previous business day. Buy-and-hold profit and loss excludes realized trading revenue and net interest intra-day trading profit and loss on new and terminated trades, as well as changes in reserves. Therefore, it is not comparable to the trading-related revenue presented in the chart of daily trading-related revenue above.

Stress Testing

Citi performs market risk stress testing on a regular basis to estimate the impact of extreme market movements. It is performed on individual positions and trading portfolios, as well as in aggregate, inclusive of multiple trading portfolios. Citi's market risk management, after consultations with the businesses, develops both systemic and specific stress scenarios, reviews the output of periodic stress testing exercises and uses the information to assess the ongoing appropriateness of exposure levels and limits. Citi uses two complementary approaches to market risk stress testing across all major risk factors (i.e., equity, foreign exchange, commodity, interest rate and credit spreads): top-down systemic stresses and bottom-up business-specific stresses. Systemic stresses are designed to quantify the potential impact of extreme market movements on an institution-wide basis, and are constructed using both historical periods of market stress and projections of adverse economic scenarios. Business-specific stresses are designed to probe the risks of particular portfolios and market segments, especially those risks that are not fully captured in VAR and systemic stresses.

The systemic stress scenarios and business-specific stress scenarios at Citi are used in several reports reviewed by senior management and also to calculate internal risk capital for trading market risk. In general, changes in market values are defined over a one-year horizon. For the most liquid positions and market factors, changes in market values are defined over a shorter two-month horizon. The limited set of positions and market factors whose market value changes are defined over a two-month horizon are those that in management's judgment have historically remained very liquid during financial crises, even as the trading liquidity of most other positions and market factors materially declined.

OPERATIONAL RISK

Overview

Operational risk is the risk of loss resulting from inadequate or failed internal processes or systems, including human error or misjudgment, or from external events. This includes legal risk, which is the risk of loss (including litigation costs, settlements and regulatory fines) resulting from the failure of Citi to comply with laws, regulations, prudent ethical standards and contractual obligations in any aspect of its businesses, but excludes strategic and reputation risks. Citi also recognizes the impact of operational risk on the reputation risk associated with Citi's business activities.

Operational risk is inherent in Citi's global business activities, as well as related support functions, and can result in losses. Citi maintains a comprehensive Company-wide risk taxonomy to classify operational risks that it faces using standardized definitions across Citi's Operational Risk Management Framework (see discussion below). This taxonomy also supports regulatory requirements and expectations inclusive of those related to U.S. Basel III, Comprehensive Capital Analysis and Review (CCAR), Heightened Standards for Large Financial Institutions and Dodd-Frank Act Stress Testing (DFAST).

Citi manages operational risk consistent with the overall framework described in "Managing Global Risk—Overview" above. Citi's goal is to keep operational risk at appropriate levels relative to the characteristics of its businesses, the markets in which it operates, its capital and liquidity and the competitive, economic and regulatory environment. This includes effectively managing operational risk and maintaining or reducing operational risk exposures within Citi's operational risk appetite.

Citi's Independent Operational Risk Management group has established a global Operational Risk Management Framework with policies and practices for identification, measurement, monitoring, managing and reporting operational risks and the overall operating effectiveness of the internal control environment. As part of this framework, Citi has defined its operational risk appetite and established a manager's control assessment (MCA) process for self-identification of significant operational risks, assessment of the performance of key controls and mitigation of residual risk above acceptable levels.

Each Citi operating segment must implement operational risk processes consistent with the requirements of this framework. This includes:

- understanding the operational risks they are exposed to;
- designing controls to mitigate identified risks;
- establishing key indicators;
- monitoring and reporting whether the operational risk exposures are in or out of their operational risk appetite;
- having processes in place to bring operational risk exposures within acceptable levels;
- periodically estimating and aggregating the operational risks they are exposed to; and
- ensuring that sufficient resources are available to actively improve the operational risk environment and mitigate emerging risks.

Citi considers operational risks that result from the introduction of new or changes to existing products, or result from significant changes in its organizational structures, systems, processes and personnel.

Citi has a governance structure for the oversight of operational risk exposures through Business Risk and Controls Committees (BRCCs), which include a Citigroup Global BRCC as well as business, functions, regional and country BRCCs. BRCCs provide escalation channels for senior management to review operational risk exposures including breaches of operational risk appetite, key indicators, operational risk events and control issues. Membership includes senior business and functions leadership as well as members of the second line of defense.

In addition, Independent Risk Management, including the Operational Risk Management group, works proactively with Citi's businesses and functions to drive a strong and embedded operational risk management culture and framework across Citi. The Operational Risk Management group actively challenges business and functions implementation of the Operational Risk Management Framework requirements and the quality of operational risk management practices and outcomes.

Information about businesses' key operational risks, historical operational risk losses and the control environment is reported by each major business segment and functional area. Citi's operational risk profile and related information is summarized and reported to senior management, as well as to the Audit and Risk Committees of Citi's Board of Directors by the Head of Operational Risk Management.

Operational risk is measured through Operational Risk Capital and Operational Risk Regulatory Capital for the Advanced Approaches under Basel III. Projected operational risk losses under stress scenarios are estimated as a required part of the FRB's CCAR process.

For additional information on Citi's operational risks, see "Risk Factors—Operational Risk" above.

Cybersecurity Risk

Overview

Cybersecurity risk is the business risk associated with the threat posed by a cyberattack, cyber breach or the failure to protect Citi's most vital business information assets or operations, resulting in a financial or reputational loss (for additional information, see the operational processes and systems and cybersecurity risk factors in "Risk Factors—Operational Risks" above). With an evolving threat landscape, ever-increasing sophistication of threat actor tactics, techniques and procedures, and use of new technologies to conduct financial transactions, Citi and its clients, customers and third parties are and will continue to be at risk from cyberattacks and information security incidents. Citi recognizes the significance of these risks and, therefore, leverages a threat-focused strategy to protect against, detect and respond to, and recover from cyberattacks. Further, Citi actively participates in financial industry, government and cross-sector knowledge-sharing groups to enhance individual and collective cybersecurity preparedness and resilience.

Risk Management

Citi's technology and cybersecurity risk management program is built on three lines of defense. Citi's first line of defense under the Office of the Chief Information Security Officer provides frontline business, operational and technical controls and capabilities to protect against cybersecurity risks, and to respond to cyber incidents and data breaches. Citi manages these threats through state-of-the-art Fusion Centers, which serve as central commands for monitoring and coordinating responses to cyber threats. The enterprise information security team is responsible for infrastructure defense and security controls, performing vulnerability assessments and third-party information security assessments, employee awareness and training programs and security incident management. In each case the team works in coordination with a network of information security officers who are embedded within the businesses and functions globally.

Citi's Operational Risk Management-Technology and Cyber (ORM-T/C) and Independent Compliance Risk Management-Technology and Information Security (ICRM-T) groups serve as the second line of defense, and actively evaluate, anticipate and challenge Citi's risk mitigation practices and capabilities. Citi seeks to proactively identify and remediate technology and cybersecurity risks before they materialize as incidents that negatively affect business operations. Accordingly, the ORM-T/C team independently challenges and monitors capabilities in accordance with Citi's defined Technology and Cyber Risk Appetite statements. To address evolving cybersecurity risks and corresponding regulations, ORM-T/C and ICRM-T teams collectively also monitor cyber legal and regulatory requirements, identify and define emerging risks, execute strategic cyber threat assessments, perform new products and initiative reviews, perform data management risk oversight and conduct cyber risk assurance reviews (inclusive of third-party assessments). In addition, ORM-T/C employs tools and oversees and challenges metrics that are both tailored to cybersecurity and technology and aligned with Citi's overall operational risk management framework to effectively track, identify and manage risk.

Internal audit serves as the third line of defense and independently provides assurance on how effectively the organization as a whole manages cybersecurity risk. Citi also has multiple senior committees such as the Information Security Risk Committee (ISRC), which governs enterprise-level risk tolerance inclusive of cybersecurity risk.

Board Oversight

Citi's Board of Directors and/or one or more Board Committees provides oversight of management's efforts to mitigate cybersecurity risk and respond to cyber incidents. The Board and/or one or more Board Committees receives regular reports on cybersecurity and engages in discussions throughout the year with management and subject-matter experts on the effectiveness of Citi's overall cybersecurity program. The Board and/or one or more Board Committees also obtains updates on Citi's inherent cybersecurity risks and Citi's road map and progress for addressing these risks.

Moreover, Citi's Board and its committee members receive contemporaneous reporting on significant cyber events including response, legal obligations, and outreach and notification to regulators, and customers when needed, as well as guidance to management as appropriate. On an annual basis, the Board's Risk Management Committee approved a standalone Cybersecurity Risk Appetite Statement against which Citi's performance is measured quarterly. For additional information on the Board's oversight of cybersecurity risk management, see Citi's upcoming 2023 Proxy Statement to be filed with the SEC in March 2023.

COMPLIANCE RISK

Compliance risk is the risk to current or projected financial condition and resilience arising from violations of laws, rules, or regulations, or from non-conformance with prescribed practices, internal policies and procedures or ethical standards. Compliance risk exposes Citi to fines, civil money penalties, payment of damages and the voiding of contracts. Compliance risk can result in diminished reputation, harm to Citi's customers, limited business opportunities and lessened expansion potential. It encompasses the risk of noncompliance with all laws and regulations, as well as prudent ethical standards and some contractual obligations. It could also include exposure to litigation (known as legal risk) from all aspects of traditional and non-traditional banking.

Citi seeks to operate with integrity, maintain strong ethical standards and adhere to applicable policies and regulatory and legal requirements. Citi must maintain and execute a proactive Compliance Risk Management (CRM) Framework (as set forth in the CRM Policy) that is designed to manage compliance risk effectively across Citi, with a view to fundamentally strengthen the compliance risk management culture across the lines of defense taking into account Citi's risk governance framework and regulatory requirements. Independent Compliance Risk Management's (ICRM) primary objectives are to:

- Drive and embed a culture of compliance and control throughout Citi;
- Maintain and oversee an integrated CRM Framework that facilitates enterprise-wide compliance with local, national or cross-border laws, rules or regulations, Citi's internal policies, standards and procedures and relevant standards of conduct;
- Assess compliance risks and issues across product lines, functions and geographies, supported by globally consistent systems and compliance risk management processes; and
- Provide compliance risk data aggregation and reporting capabilities.

Citi carries out its objectives and fulfills its responsibilities through the CRM Framework, which is composed of the following integrated key activities, to holistically manage compliance risk:

- Management of Citi's compliance with laws, rules and regulations by identifying and analyzing changes, assessing the impact, and implementing appropriate policies, processes and controls;

- Developing and providing compliance training to ensure colleagues are aware of and understand the key laws, rules and regulations;
- Monitoring the Compliance Risk Appetite, which is articulated through qualitative compliance risk statements describing Citi's appetite for certain types of risk and quantitative measures to monitor the Company's compliance risk exposure;
- Executing Compliance Risk Assessments, the results of which inform Compliance Risk Monitoring and testing of compliance risks and controls in assessing conformance with laws, rules, regulations and internal policies; and
- Issue identification, escalation and remediation to drive accountability, including measurement and reporting of compliance risk metrics against established thresholds in support of the CRM Policy and Compliance Risk Appetite.

To anticipate, control and mitigate compliance risk, Citi has established the CRM Policy to achieve standardization and centralization of methodologies and processes, and to enable more consistent and comprehensive execution of compliance risk management.

Citi has a commitment, as well as an obligation, to identify, assess and mitigate compliance risks associated with its businesses and functions. ICRM is responsible for oversight of Citi's CRM Policy, while all businesses and global control functions are responsible for managing their compliance risks and operating within the Compliance Risk Appetite.

As discussed above, Citi is working to address the FRB and OCC consent orders, which include improvements to Citi's CRM Framework and its enterprise-wide application (for additional information regarding the consent orders, see "Citi's Consent Order Compliance" above).

REPUTATION RISK

Citi's reputation is a vital asset in building trust and Citi is diligent in enhancing and protecting its reputation with its key stakeholders. To support this, Citi has developed a reputation risk framework. Under this framework, Citigroup and Citibank, N.A. have implemented a risk appetite statement and related key indicators to monitor corporate activities and operations relative to Citi's risk appetite. The framework also requires that business segments and regions escalate potential material reputation risks that require review or mitigation through a Reputation Risk Committee or equivalent.

The Reputation Risk Committees, which are composed of Citi's senior executives, govern the process by which material reputation risks are identified, measured, monitored, controlled and reported. The Reputation Risk Committees determine the appropriate actions to be taken in line with risk appetite and regulatory expectations, while promoting a culture of risk awareness and high standards of integrity and ethical behavior across the Company, consistent with Citi's Mission and Value Proposition. The Citigroup Reputation Risk Committee may escalate reputation risks to the Nomination, Governance and Public Affairs Committee or other appropriate committee of the Citigroup Board of Directors.

Every Citi employee is responsible for safeguarding Citi's reputation, guided by Citi's Code of Conduct. Colleagues are expected to exercise sound judgment and common sense in decisions and actions. They are also expected to promptly escalate all issues that present material reputation risk in line with policy.

STRATEGIC RISK

As discussed above, strategic risk is the risk of a sustained impact (not episodic impact) to Citi's core strategic objectives as measured by impacts on anticipated earnings, market capitalization, or capital, arising from external factors affecting the Company's operating environment, as well as the risks associated with defining the strategy and executing the strategy, which are identified, measured and managed as part of the Strategic Risk Framework at the Enterprise Level.

In this context, external factors affecting Citi's operating environment are the economic environment, geopolitical/political landscape, industry/competitive landscape, societal trends, customer/client behavior, regulatory/legislative environment and trends related to investors/shareholders.

Citi's Executive Management Team is responsible for the development and execution of Citi's strategy. This strategy is translated into forward-looking plans (collectively Citi's Strategic Plan) that are then cascaded across the organization. Citi's Strategic Plan is presented to the Board on an annual basis, and is aligned with risk appetite thresholds and includes a risk assessment as required by internal frameworks. It is also aligned with limit requirements for capital allocation. Governance and oversight of strategic risk is facilitated by internal committees on a group-wide basis as well as strategic committees at the operating segment and regional levels.

Citi works to ensure that strategic risks are adequately considered and addressed across its various risk management activities, and that strategic risks are assessed in the context of Citi's risk appetite. Citi conducts a top-down, bottom-up risk identification process to identify risks, including strategic risks. Business segments undertake a quarterly risk identification process to systematically identify and document all material risks faced by Citi. Independent Risk Management oversees the risk identification process through regular reviews and coordinates identification and monitoring of top risks. In addition, Citi performs a quarterly Risk Assessment of the Plan (RAOP) and continuously monitors risks associated with its execution of strategy. Independent Risk Management also manages strategic risk by monitoring risk appetite thresholds in conjunction with various strategic risk committees, which are part of the governance structure that Citi has in place to manage its strategic risks.

For additional information on Citi's strategic risks, see "Risk Factors—Strategic Risks" above.

Climate Risk

Climate change presents immediate and long-term risks to Citi and its clients and customers, with the risks expected to increase over time. Climate risk refers to the risk of loss arising from climate change and comprises both physical risk and transition risk. Physical risk considers how chronic and acute climate change (e.g., increased storms, drought, fires, floods) can directly damage physical assets (e.g., real estate,

crops) or otherwise impact their value or productivity. Transition risk considers how changes in policy, technology, business practices and market preferences to address climate change (e.g., carbon pricing policies, power generation shifts from fossil fuels to renewable energy) can lead to changes in the value of assets, commodities and companies.

Climate risk is an overarching risk that can act as a driver of other categories of risk, such as credit risk from obligors exposed to high climate risk, strategic risks if Citi fails to consider transition risk in client selection, reputational risk from increased stakeholder concerns about financing high-carbon industries and operational risk from physical risks to Citi's facilities and personnel. Citi's focus on climate risk continues to increase, driven by materiality of strategic, reputational and financial risk considerations. Citi continues to make progress toward embedding these considerations into its overarching risk management approach. For additional information on climate risk, see "Risk Factors—Strategic Risks" above.

Citi reviews factors related to climate risk under its Environmental and Social Risk Management (ESRM) Policy, which includes a focus on climate risk related to financed projects and clients in high-carbon sectors. Considering the credit risk of stranded assets, as well as the reputational risks associated with the coal sector due to its high-carbon emissions, Citi's ESRM Policy includes a prohibition on all project-related financing of new coal-fired power plants and new or expanding thermal coal mines, as well as timetables to reduce financing of companies with high exposure to coal-fired power and coal mining that do not pursue low-carbon transition in the coming years. These sector approaches set clear expectations for clients and help address certain climate risk-driven credit risk concerns while reducing reputation risk.

Citi continues to explore and test methodologies for quantifying how climate risks could impact the individual credit profiles of its clients across various sectors. To assist in embedding climate risk assessments in its credit assessment process, Citi has developed sector-specific climate risk assessments. Such climate risk assessments are designed to supplement publicly available client disclosures and data provided from third-party vendors and facilitate conversations with clients on their most material climate risks and management plans for adaptation and mitigation. Citi's assessments consider sectors that have been identified as higher climate risk by its risk identification process. This will help Citi better understand its clients' businesses and climate-related risks. Citi's Net Zero plan is leading to the further integration of climate risk discussions into client engagement and client selection.

Citi continues to develop globally consistent principles and approaches for managing climate risk across the Company through the implementation of its Climate Risk Management Framework. Through this implementation, climate risk is being embedded into relevant policies and processes over time.

Furthermore, Citi continues to participate in financial industry initiatives and develop and pilot new methodologies and approaches for measuring and assessing the potential financial risks of climate change. Citi also continues to monitor regulatory developments on climate risk and sustainable finance and actively engage with regulators on these topics.

For additional information about sustainability and other ESG matters at Citi, see "Sustainability and Other ESG Matters" above.

OTHER RISKS

LIBOR Transition Risk

As previously disclosed, the LIBOR administrator ceased publication of non-USD LIBOR and one-week and two-month USD LIBOR on a permanent or representative basis on December 31, 2021, with plans for all other USD LIBOR tenors to permanently cease or become non-representative after June 30, 2023. As a result, Citi ceased entering into new contracts referencing USD LIBOR as of January 1, 2022, other than for limited circumstances where regulators recognized that it may be appropriate for banks to enter into new USD LIBOR contracts, including with respect to market-making, hedging or novations of USD transactions executed before January 1, 2022. (For information about risks to Citi from a transition away from and discontinuation of LIBOR or any other benchmark rates, see "Risk Factors—Other Risks" above.)

During 2022, Citi continued its efforts to manage its LIBOR transition risks. Citi has been focused on further reducing its LIBOR exposure and remediating its remaining outstanding LIBOR-linked contracts. In addition, Citi has continued to monitor and engage on legislative, regulatory and other initiatives and developments related to LIBOR transition matters.

As of December 31, 2022, Citi had a USD LIBOR-linked gross notional exposure of approximately $7.1 trillion that matures after the LIBOR cessation date of June 30, 2023, of which approximately $7 trillion relates to derivatives. This derivatives exposure includes (i) bilateral derivatives with a gross notional of approximately $2.5 trillion of which 96% is already remediated through inclusion of ISDA fallbacks and (ii) cleared derivatives with a gross notional of approximately $4.5 trillion that will be covered by the Central Counterparty Clearing House (CCP) conversions planned for the second quarter of 2023.

The remaining gross notional of approximately $0.15 trillion relates to cash products (e.g., loans, debt securities, preferred stock and securitizations), which Citi continues to address through active conversion or insertion of robust contract fallback language or is covered by legislative solutions such as the Adjustable Interest Rate (LIBOR) Act (see the discussion below). Due to rounding, USD LIBOR-linked derivatives and cash products exposure may not sum to total USD LIBOR-linked gross notional exposure.

In the U.S., the LIBOR Act provides for the use of a statutory replacement for the overnight, one-month, three-month, six-month and 12-month tenors of USD LIBOR in all contracts governed by U.S. law that lack adequate fallback provisions. As required by the LIBOR Act, each proposed replacement rate, which differs depending on product type, is based on the Secured Overnight Financing Rate (SOFR). Citi's USD LIBOR-linked securities and contracts that do not have adequate fallbacks as described in the LIBOR Act and

that are governed by U.S. law will fall within the application of the LIBOR Act. As a result, USD LIBOR in these contracts will be replaced with SOFR plus the applicable spread adjustment.

Citi is focused on remediating contracts that reference the USD LIBOR Ice Swap Rate and non-U.S. law contracts, which are not covered by the LIBOR Act. As of December 31, 2022, Citi had a USD LIBOR Ice Swap Rate gross notional exposure of approximately $0.17 trillion. This includes approximately $0.16 trillion of bilateral derivatives, of which 79% has already been remediated through inclusion of ISDA fallbacks, and approximately $0.01 trillion of debt securities that Citi is addressing through its remediation action plans. The USD LIBOR Ice Swap Rate is a separate rate from USD LIBOR and is not included in the USD LIBOR-linked gross notional exposure.

On November 23, 2022, the FCA proposed the publication of one-, three- and six-month USD LIBOR on a synthetic basis through September 2024, which would provide additional time for non-U.S.-law-governed contracts and any contracts that reference the USD LIBOR Ice Swap Rate to be remediated or mature.

Further, Citi continued to engage with regulators, financial accounting bodies and others on LIBOR transition matters. This included participating in a number of working groups, including the Alternative Reference Rates Committee (ARRC) convened by the FRB, to promote and advance development of SOFR and seek to identify and address potential challenges from LIBOR transition.

Citi has also continued to use alternative reference rates in certain newly issued financial instruments. Citi has issued floating rate benchmark and customer-related debt linked to SOFR and originated and arranged loans linked to SOFR. Citi’s derivatives contracts are predominantly linked to SOFR and other global alternative reference rates. Citi also provides term SOFR-linked products to clients in accordance with industry best practices and recommendations.

Country Risk

Top 25 Country Exposures

The following table presents Citi's top 25 exposures by country (excluding the U.S.) as of December 31, 2022. (Including the U.S., the total exposure as of December 31, 2022 to the top 25 countries would represent approximately 98% of Citi's exposure to all countries.)

For purposes of the table, loan amounts are reflected in the country where the loan is booked, which is generally based on the domicile of the borrower. For example, a loan to a Chinese subsidiary of a Switzerland-based corporation will generally be categorized as a loan in China. In addition, Citi has developed regional booking centers in certain countries, most significantly in the United Kingdom (U.K.) and Ireland, in order to more efficiently serve its corporate customers. As an example, with respect to the U.K., only 38% of corporate loans presented in the table below are to U.K. domiciled entities (40% for unfunded commitments), with the balance of the loans predominately to European domiciled counterparties. Approximately 90% of the total U.K. funded loans and 89% of the total U.K. unfunded commitments were investment grade as of December 31, 2022.

Trading account assets and investment securities are generally categorized based on the domicile of the issuer of the security of the underlying reference entity. For additional information on the assets included in the table, see the footnotes to the table below.

In billions of dollars	ICG loans	PBWM loans[1]	Legacy Franchises loans	Loans transferred to HFS[7]	Other funded[2]	Unfunded[3]	Net MTM on derivatives/ repos[4]	Total hedges (on loans and CVA)	Investment securities[5]	Trading account assets[6]	Total as of 4Q22	Total as of 3Q22	Total as of 4Q21	Total as a % of Citi as of 4Q22
United Kingdom	$34.1	$ 4.9	$ —	$ —	$ 1.1	$ 38.7	$ 11.2	$ (6.3)	$ 4.9	$ (0.1)	**$88.5**	$93.0	$ 95.9	5.1 %
Mexico	8.4	0.1	21.9	—	0.3	8.4	2.0	(2.1)	19.3	2.9	**61.2**	56.3	59.6	3.5
Hong Kong	9.0	19.7	—	—	0.4	6.7	1.7	(1.2)	10.8	1.2	**48.3**	50.2	50.4	2.8
Ireland	14.6	—	—	—	0.5	31.6	0.2	(0.2)	—	0.7	**47.4**	50.3	44.5	2.7
Singapore	9.1	18.7	—	—	0.2	6.2	0.9	(0.5)	9.3	1.3	**45.2**	44.5	45.7	2.6
Brazil	12.2	—	—	—	0.1	3.3	7.0	(1.0)	7.0	0.1	**28.7**	29.8	27.3	1.6
India	6.3	—	—	3.4	0.8	4.4	1.6	(0.6)	8.6	0.8	**25.3**	25.6	29.8	1.5
South Korea	3.7	—	8.7	—	0.1	2.1	1.5	(0.9)	8.1	0.4	**23.7**	22.8	32.0	1.4
Germany	0.5	—	—	—	0.2	6.6	7.7	(4.1)	9.1	2.6	**22.6**	20.4	19.4	1.3
China	5.2	—	2.9	—	0.8	1.7	1.0	(1.2)	9.1	1.2	**20.7**	19.1	23.4	1.2
Japan	1.5	—	—	—	—	4.0	3.1	(2.3)	5.1	7.6	**19.0**	17.9	15.9	1.1
United Arab Emirates	7.2	1.5	—	—	1.0	5.8	0.2	(0.4)	2.1	—	**17.4**	15.8	14.9	1.0
Jersey	2.4	3.3	—	—	—	10.3	—	(0.1)	—	—	**15.9**	16.1	17.7	0.9
Poland	3.1	—	1.4	—	—	2.8	0.6	(0.1)	7.3	0.5	**15.6**	12.5	13.1	0.9
Canada	1.5	1.5	—	—	0.1	6.2	1.7	(1.9)	3.7	2.4	**15.2**	15.8	14.7	0.9
Australia[8]	8.7	0.4	—	—	—	5.4	0.8	(1.0)	0.8	(0.7)	**14.4**	14.5	16.4	0.8
Taiwan	4.0	—	—	7.9	0.1	1.2	0.4	(0.1)	0.2	0.1	**13.8**	14.4	15.3	0.8
Indonesia	1.8	—	—	0.5	—	1.2	1.5	(0.2)	1.0	0.1	**5.9**	5.6	5.5	0.3
Malaysia	1.4	—	—	—	0.2	0.7	0.1	—	3.1	(0.1)	**5.4**	8.0	7.8	0.3
Philippines[9]	0.8	—	—	—	0.1	0.2	2.4	—	1.8	(0.3)	**5.0**	5.3	2.3	0.3
Luxembourg	0.1	0.9	—	—	—	—	0.2	(0.3)	3.7	0.1	**4.7**	4.4	4.0	0.3
South Africa	1.5	—	—	—	—	0.5	—	(0.2)	2.5	0.1	**4.4**	4.3	3.8	0.3
Thailand	1.2	—	—	—	—	0.3	0.1	—	2.4	0.2	**4.2**	7.4	7.9	0.2
Czech Republic	0.7	—	—	—	—	0.9	2.0	—	0.4	—	**4.0**	3.2	3.5	0.2
Chile	1.0	—	—	—	2.2	0.1	0.1	—	—	—	**3.4**	3.2	2.5	0.2
Total as a % of Citi's total exposure														**32.2 %**
Total as a % of Citi's non-U.S. total exposure														**93.9 %**

(1) *PBWM* loans reflect funded loans, including those related to the Private bank, net of unearned income. As of December 31, 2022, Private bank loans in the table above totaled $19.8 billion, concentrated in Singapore ($5.2 billion), the U.K. ($4.8 billion) and Hong Kong ($4.1 billion).

(2) Other funded includes other direct exposures such as accounts receivable and investments accounted for under the equity method.

(3) Unfunded exposure includes unfunded corporate lending commitments, letters of credit and other contingencies.

(4) Net mark-to-market (MTM) counterparty risk on OTC derivatives and securities lending/borrowing transactions (repos). Exposures are shown net of collateral and inclusive of CVA. Also includes margin loans.
(5) Investment securities include debt securities available-for-sale, recorded at fair market value, and debt securities held-to-maturity, recorded at amortized cost.
(6) Trading account assets are shown on a net basis and include issuer risk on cash products and derivative exposure where the underlying reference entity/issuer is located in that country.
(7) December 31, 2022, September 30, 2022 and December 31, 2021 include *Legacy Franchises* loans reclassified to HFS as a result of Citi's agreement to sell its consumer banking business in each applicable country. For additional information, see "*Legacy Franchises*" above and Note 2.
(8) December 31, 2021 includes *Legacy Franchises* loans reclassified to HFS as a result of Citi's agreement to sell its consumer banking business in Australia, which closed on June 1, 2022. For additional information, see "*Legacy Franchises*" above and Note 2.
(9) December 31, 2021 includes *Legacy Franchises* loans reclassified to HFS as a result of Citi's agreement to sell its consumer banking business in the Philippines, which closed on August 1, 2022. For additional information, see "*Legacy Franchises*" above and Note 2.

Russia

Introduction

In Russia, Citi has operated through both its *ICG* and *Legacy Franchises* segments. Citi continues to closely monitor the war in Ukraine, related sanctions and economic conditions and continues to mitigate its Russia exposures and risks as appropriate.

As previously disclosed, Citi intends to wind down nearly all of its consumer, local commercial and institutional banking businesses in the country. As a result, Citi has ceased soliciting any new business or new clients in Russia. Citi will continue to manage its existing legal and regulatory commitments and obligations, as well as support its employees, during this period. For additional information, see "Citi's Wind-Down of Its Russia Operations" below.

For additional information about Citi's risks related to its Russia exposures, see "Risk Factors—Market-Related Risk," "—Operational Risks" and "—Other Risks" above.

Impact of Russia's Invasion of Ukraine on Citi's Businesses

Russia-related Balance Sheet Exposures

Citi's domestic operations in Russia are conducted through a subsidiary of Citibank, AO Citibank, which uses the Russian ruble as its functional currency.

The following table summarizes Citi's exposures related to its Russia operations:

In billions of U.S. dollars	**December 31, 2022**	September 30, 2022	December 31, 2021	Change 4Q22 vs. 3Q22
Loans	$ 0.6	$ 1.6	$ 2.9	$ (1.0)
Investment securities[1]	1.1	1.4	1.5	(0.3)
Net MTM on derivatives/repos[2]	1.4	1.4	0.4	—
Total hedges (on loans and CVA)	(0.1)	(0.1)	(0.1)	—
Unfunded[3]	0.1	0.2	0.7	(0.1)
Trading accounts assets	—	0.1	—	(0.1)
Country risk exposure	**$ 3.1**	**$ 4.6**	**$ 5.4**	**$ (1.5)**
Cash on deposit and placements[4]	2.4	3.0	1.0	(0.6)
National Settlements Depository[5]	1.8	—	—	1.8
Reverse repurchase agreements[2]	—	—	1.8	—
Total third-party exposure[6]	**$ 7.3**	**$ 7.6**	**$ 8.2**	**$ (0.3)**
Additional exposures to Russian counterparties that are not held by the Russian subsidiary	0.2	0.3	1.6	(0.1)
Total Russia exposure[7]	**$ 7.5**	**$ 7.9**	**$ 9.8**	**$ (0.4)**

(1) Investment securities include debt securities available-for-sale (AFS), recorded at fair market value, primarily local government debt securities. There were no impairment losses recognized during the third and fourth quarters of 2022.
(2) Net mark-to-market (MTM) on OTC derivatives and securities lending/borrowing transactions (repos). Effective from 2Q22, reverse repurchase agreements have been shown gross of collateral and reclassified to net MTM on derivatives/repos in the table above, as netting of collateral for Russia-related reverse repurchase agreements was removed. This removal was due to the inability to conclude, with a well-founded basis, the enforceability of contractual rights in the Russian legal system in the event of a counterparty default, given the geopolitical uncertainty caused by the war in Ukraine. As this exposure was already included in Total third-party exposure, the Total Russia exposure was not impacted by this reclassification.
(3) Unfunded exposure consists of unfunded corporate lending commitments, letters of credit and other contingencies.
(4) Cash on deposit and placements are primarily with the Central Bank of Russia.
(5) Represents dividends received by Citi in its role as custodian for investor clients in Russia. Citi is unable to remit these funds to clients due to restrictions imposed by the Russian government.
(6) The majority of AO Citibank's third-party exposures was funded with domestic deposit liabilities from both corporate and personal banking clients.
(7) Citigroup's CTA loss included in its *AOCI* related to its indirect subsidiary, AO Citibank, is excluded from the above table, because the CTA loss is not held in AO Citibank and would be recognized in Citigroup's earnings upon either the substantial liquidation or a loss of control of AO Citibank. Citi has separately described these risks in "Deconsolidation Risk" below.

During the fourth quarter of 2022, Citi continued to reduce its operations in Russia and Russia-related exposures, resulting in a net decrease in total Russia exposure of $0.4 billion, shown in the table above, as well as a change in the composition of its exposure as mitigation efforts have reduced Citi's third-party credit risk. The sequential decline in exposure was driven by a $1.3 billion decrease due to depreciation of the ruble against the U.S. dollar and a $0.9 billion decrease due to loan repayments and sales, partially offset by a $1.8 billion increase in local currency terms, driven by dividends received by Citi as custodian for investor clients in Russia that Citi is unable to remit due to restrictions imposed by the Russian government.

Citi's continued risk mitigation efforts include *ICG* borrower paydowns and limiting extensions of new credit. *ICG*'s credit exposure also reflected a shift to a higher proportion of stronger credit names, including a higher proportion of subsidiaries of multinational companies that are headquartered outside of Russia, primarily in the U.S. and Europe. The decline in overall exposure was also driven by a reduction in exposures to Russian counterparties not held by AO Citibank.

Citi's net investment in Russia was approximately $1.2 billion as of December 31, 2022 (compared to $1.3 billion as of September 30, 2022). The decrease was primarily driven by a $0.2 billion decrease due to depreciation of the ruble against the U.S. dollar, partially offset by an increase of $0.1 billion in retained earnings. A portion of Citi's net investment was hedged for foreign currency depreciation as of December 31, 2022, using forward foreign exchange contracts executed with international peer banks.

Earnings and Other Impacts on Citi's Businesses

Citi's *ICG*, *PBWM* and *Legacy Franchises* segments and *Corporate/Other* have been impacted by various macroeconomic factors and volatilities, including Russia's invasion of Ukraine and its direct and indirect impact on the European and global economies. For a broader discussion of these factors and volatilities on Citi's businesses, see "Executive Summary" and each business's results of operations above.

As of December 31, 2022, Citigroup's ACL included a $0.3 billion remaining credit reserve for Citi's direct and indirect Russian counterparties (down from $0.5 billion at September 30, 2022).

Citi's Wind-Down of Its Russia Operations

In August 2022, Citi disclosed its decision to wind down its Russia consumer and local commercial banking businesses, including actively pursuing portfolio sales. In connection with the wind-down plan, Citi incurred $22 million (excluding the impact from any portfolio sales) of costs in 2022.

In October 2022, Citi announced that it will be ending nearly all of the institutional banking services it offers in Russia by the end of the first quarter of 2023. Going forward, Citi's only operations in Russia will be those necessary to fulfill its remaining legal and regulatory obligations.

On October 28, 2022, Citi entered into an agreement to sell a portfolio of ruble-denominated personal installment loans, totaling approximately $240 million in outstanding loan balances as of the fourth quarter of 2022, to Uralsib, a Russian commercial bank. Citi closed the sale in December 2022 and incurred a pretax net loss of approximately $12 million as a result. In connection with the portfolio sale, Citi also entered into a referral agreement to settle to Uralsib a portfolio of ruble-denominated credit card loans, subject to customer consents. The outstanding card loans balance was approximately $219 million as of the fourth quarter of 2022. Citi will refer credit card customers, who at the customers' sole discretion will be eligible to refinance their outstanding card loan balances with Uralsib.

At this time, Citi expects to incur estimated costs of approximately $190 million in connection with its consumer and institutional wind-down plans in Russia, primarily through 2024 ($80 million in *ICG* and $110 million in *Legacy Franchises*). For additional information, see "*Institutional Clients Group*" and "*Legacy Franchises*" above.

Deconsolidation Risk

Citi's operations in Russia subject it to various risks, including, among others, foreign currency volatility, including appreciations or devaluations; restrictions arising from retaliatory Russian laws and regulations on the conduct of its business; sanctions or asset freezes; or other deconsolidation events (for additional information, see "Risk Factors—Other Risks" above). Examples of triggers that may result in deconsolidation of AO Citibank include voluntary or forced sale of ownership or loss of control due to actions of relevant governmental authorities, including expropriation (i.e., the entity becomes subject to the complete control of a government, court, administrator, trustee or regulator); revocation of banking license; and loss of ability to elect a board of directors or appoint members of senior management. As of December 31, 2022, Citi continued to consolidate AO Citibank because none of the deconsolidation factors were triggered.

In the event of a loss of control of AO Citibank, Citi would be required to (i) write off the net investment of approximately $1.2 billion (compared to $1.3 billion as of September 30, 2022), (ii) recognize a CTA loss of approximately $1.3 billion through earnings (compared to $1.0 billion as of September 30, 2022) and (iii) recognize a loss of $0.5 billion (compared to $0.3 billion as of September 30, 2022) on intercompany liabilities owed by AO Citibank to other Citi entities outside Russia. In the sole event of a substantial liquidation, as opposed to a loss of control, Citi would be required to recognize the CTA loss of approximately $1.3 billion through earnings and would evaluate its remaining net investment as circumstances evolve.

Citi as Paying Agent for Russian-related Clients

Citi serves or served as paying agent on bonds issued by various entities in Russia, including Russian corporate clients. Citi's role as paying agent is administrative. In this role, Citi acts as an agent of its client, the bond issuer, receiving interest and principal payments from the bond issuer and then making payments to international central securities depositories (e.g., Depository Trust Company, Euroclear, Clearstream). The international central securities depositories (ICSDs) make payments to those participants or account holders (e.g., broker/

dealers) that have clients who are investors in the applicable bonds (i.e., bondholders). As a paying agent, Citi generally does not have information about the identity of the bondholders. Citi may be exposed to risks due to its responsibilities for receiving and processing payments on behalf of its clients as a result of sanctions or other governmental requirements and prohibitions. To mitigate operational and sanctions risks, Citi has established policies, procedures and controls for client relationships and payment processing to help ensure compliance with U.S., U.K., EU and other jurisdictions' sanctions laws.

These processes may require Citi to delay or withhold the processing of payments as a result of sanctions on the bond issuer. Citi is also prevented from making payments to accounts on behalf of bondholders should the ICSDs disclose to Citi the presence of sanctioned bondholders. In both instances, Citi is generally required to segregate, restrict or block the funds until applicable sanctions are lifted or the payment is otherwise authorized under applicable law.

Reputational Risks

Citi has continued its efforts to enhance and protect its reputation with its colleagues, clients, customers, investors, regulators and the public. Citi's response to the war in Ukraine, including any action or inaction, may have a negative impact on Citi's reputation with some or all of these parties.

For example, Citi is exposed to reputational risk as a result of its current presence in Russia and association with Russian individuals or entities, whether subject to sanctions or not, including Citi's inability to support its global clients in Russia, which could adversely affect its broader client relationships and businesses; current involvement in transactions or supporting activities involving Russian assets or interests; failure to correctly interpret and apply laws and regulations, including those related to sanctions; perceived misalignment of Citi's actions to its stated strategy in Russia; and the reputational impact from Citi's activity and engagement with Ukraine or with non-Russian clients exiting their Russia businesses. Citi has considered the potential for reputation risk and taken actions to mitigate such risks. Citi established a Russia Special Review Process with management's Reputation Risk Committee with oversight for significant Russia-related reputation risks and completed a number of reputation risk reviews of matters with a Russian nexus.

While Citi announced its intention to wind down its businesses in Russia, Citi will continue to manage those operations during the wind-down process and will be required to maintain certain limited operations to fulfill its remaining legal and regulatory obligations. Also, sanctions and sanctions compliance are highly complex and may change over time and result in increased operational risk. Failure to fully comply with relevant sanctions or the application of sanctions where they should not be applied may negatively impact Citi's reputation. In addition, Citi currently performs services for, conducts business with or deals in non-sanctioned Russian-owned businesses and Russian assets. This has attracted, and will likely continue to attract, negative attention, despite the previously disclosed plan to wind down nearly all its activities in the country, cessation of new business and client originations, and reduction of other exposures.

Citi's continued presence or divestiture of businesses in Russia could also increase its susceptibility to cyberattacks that could negatively impact its relationships with clients and customers, harm its reputation, increase its compliance costs and adversely affect its business operations and results of operations. For additional information on operational and cyber risks, see "Risk Factors—Operational Risk" above.

Board's Role in Overseeing Related Risks

The Citi Board of Directors (Board) and the Board's Risk Management Committee (RMC) and its other Committees have received and continue to receive regular reports from senior management regarding the war in Ukraine and its impact on Citi's operations in Russia, Ukraine and elsewhere, as well as the war's broader geopolitical, macroeconomic and reputational impacts. In addition to receiving regular briefings from management, the full Board has routinely been invited to attend portions of the RMC meetings for discussions related to the war in Ukraine, including with respect to Citi's risk exposures and stress testing. The reports to the Board and its Committees from senior management who represent the impacted businesses and the EMEA region, Independent Risk Management, Finance, Independent Compliance Risk Management, including those individuals responsible for sanctions compliance, and Human Resources, have included detailed information regarding financial impacts, impacts on capital, cybersecurity, strategic considerations, sanctions compliance, employee assistance and reputational risks, enabling the Board and its Committees to properly exercise their oversight responsibilities. In addition, senior management has also provided updates to Citi's Executive Management Team and the Board, outside of formal meetings, regarding Citi's Russia-related risks, including with respect to cybersecurity matters.

Ukraine

Citi has continued to operate in Ukraine throughout the war through its *ICG* businesses, serving the local subsidiaries of multinationals, along with local financial institutions and the public sector. Citi employs approximately 230 people in Ukraine and their safety is Citi's top priority.

All of Citi's domestic operations in Ukraine are conducted through a subsidiary of Citibank, which uses the Ukrainian hryvnia as its functional currency. Citi's exposures in Ukraine are not significant enough to be included in the "Top 25 Country Exposures" table above. As of December 31, 2022, these exposures amounted to $1.0 billion, unchanged from September 30, 2022, and were exclusively composed of third-party assets held on the Citi Ukraine subsidiary.

Argentina

Citi operates in Argentina through its *ICG* businesses. As of December 31, 2022, Citi's net investment in its Argentine operations was approximately $1.7 billion. Under U.S. GAAP, Citi uses the U.S. dollar as the functional currency for its operations in countries that are deemed highly inflationary. Citi uses Argentina's official market exchange rate to remeasure its net Argentine peso-denominated assets into the U.S. dollar. As of December 31, 2022, the official Argentine peso exchange rate against the U.S. dollar was 177.15.

As previously disclosed, the Central Bank of Argentina has continued to maintain certain capital and currency controls that restrict Citi's ability to access U.S. dollars in Argentina and remit earnings from its Argentine operations. As a result, Citi's net investment in its Argentine operations is likely to continue to increase as Citi generates net income in its Argentine franchise and its earnings cannot be remitted.

Due to the currency controls implemented by the Central Bank of Argentina, certain indirect foreign exchange mechanisms have developed that some Argentine entities may use to obtain U.S. dollars, generally at rates that are significantly higher than Argentina's official exchange rate. Citibank Argentina is precluded from accessing these alternative mechanisms, and these exchange mechanisms cannot be used to remeasure Citi's net monetary assets into the U.S. dollar under U.S. GAAP. However, if Argentina's official exchange rate converges with the approximate rate implied by the indirect foreign exchange mechanisms, Citi could incur a loss on its capital in Argentina. Citi cannot predict future fluctuations in Argentina's official market exchange rate or to what extent Citi may be able to access U.S. dollars at the official exchange rate in the future.

Citi economically hedges the foreign currency risk in its net Argentine peso-denominated assets to the extent possible and prudent using non-deliverable forward (NDF) derivative instruments that are primarily executed outside of Argentina. As of December 31, 2022, the international NDF market had very limited liquidity, resulting in Citi's inability to economically hedge its Argentine peso exposure. Accordingly, and to the extent that Citi does not execute NDF contracts for this unhedged exposure in the future, Citi would record devaluations on its net Argentine peso-denominated assets in earnings, without any benefit from a change in the fair value of derivative positions used to economically hedge the exposure.

Citi continually evaluates its economic exposure to its Argentine counterparties and reserves for changes in credit risk and records mark-to-market adjustments for relevant market risks associated with its Argentine assets. Citi believes it has established an appropriate ACL on its Argentine loans, and appropriate fair value adjustments on Argentine assets and liabilities measured at fair value, for credit and sovereign risks under U.S. GAAP as of December 31, 2022. However, U.S. regulatory agencies may require Citi to record additional reserves in the future, increasing *ICG*'s cost of credit, based on the perceived country risk associated with its Argentine exposures.

For additional information on Citi's emerging markets risks, including those related to its Argentine exposures, see "Risk Factors" above.

FFIEC—Cross-Border Claims on Third Parties and Local Country Assets

Citi's cross-border disclosures are presented below, based on the country exposure bank regulatory reporting guidelines of the Federal Financial Institutions Examination Council (FFIEC). The following summarizes some of the key FFIEC reporting guidelines:

- Amounts are based on the domicile of the ultimate obligor, counterparty, collateral (only including qualifying liquid collateral), issuer or guarantor, as applicable (e.g., a security recorded by a Citi U.S. entity but issued by the U.K. government is considered U.K. exposure; a loan recorded by a Citi Mexico entity to a customer domiciled in Mexico where the underlying collateral is held in Germany is considered German exposure).
- Amounts do not consider the benefit of collateral received for secured financing transactions (i.e., repurchase agreements, reverse repurchase agreements and securities loaned and borrowed) and are reported based on notional amounts.
- Netting of derivative receivables and payables, reported at fair value, is permitted, but only under a legally binding netting agreement with the same specific counterparty, and does not include the benefit of margin received or hedges.
- Credit default swaps (CDS) are included based on the gross notional amount sold and purchased and do not include any offsetting CDS on the same underlying entity.
- Loans are reported without the benefit of hedges.

Given the requirements noted above, Citi's FFIEC cross-border exposures and total outstandings tend to fluctuate, in some cases significantly, from period to period. As an example, because total outstandings under FFIEC guidelines do not include the benefit of margin or hedges, market volatility in interest rates, foreign exchange rates and credit spreads may cause significant fluctuations in the level of total outstandings, all else being equal.

The tables below show each country whose total outstandings exceeded 0.75% of total Citigroup assets:

	December 31, 2022									
	Cross-border claims on third parties and local country assets									
In billions of dollars	Banks (a)	Public (a)	NBFIs[1] (a)	Other (corporate and households) (a)	Trading assets[2] (included in (a))	Short-term claims[2] (included in (a))	Total outstanding[3] (sum of (a))	Commitments and guarantees[4]	Credit derivatives purchased[5]	Credit derivatives sold[5]
United Kingdom	**$ 4.9**	**$ 31.7**	**$ 59.9**	**$ 16.2**	**$ 11.4**	**$ 82.4**	**$ 112.7**	**$ 24.3**	**$ 79.3**	**$ 77.8**
Cayman Islands	**—**	**—**	**99.8**	**9.8**	**6.1**	**70.3**	**109.6**	**18.4**	**0.2**	**0.2**
Japan	**35.4**	**40.0**	**17.2**	**6.9**	**17.0**	**71.4**	**99.5**	**15.6**	**13.6**	**11.9**
Germany	**4.9**	**48.3**	**39.6**	**6.7**	**8.3**	**55.9**	**99.5**	**24.1**	**50.8**	**48.8**
Mexico	**2.9**	**31.1**	**11.4**	**29.0**	**3.9**	**40.8**	**74.4**	**22.0**	**6.4**	**5.2**
France	**9.9**	**10.9**	**35.6**	**7.7**	**10.3**	**52.4**	**64.1**	**68.8**	**66.2**	**62.8**
Singapore	**2.1**	**22.6**	**6.5**	**16.2**	**2.3**	**40.5**	**47.4**	**15.7**	**1.2**	**1.0**
South Korea	**4.6**	**17.7**	**6.4**	**15.3**	**4.2**	**34.8**	**44.0**	**11.2**	**6.4**	**5.6**
Hong Kong	**0.7**	**14.9**	**3.5**	**20.6**	**4.1**	**33.7**	**39.7**	**13.7**	**1.5**	**1.3**
China	**3.1**	**18.8**	**1.9**	**13.2**	**8.3**	**31.2**	**37.0**	**5.8**	**8.9**	**8.6**
Brazil	**2.4**	**14.5**	**2.8**	**14.4**	**5.8**	**25.1**	**34.1**	**3.4**	**5.5**	**5.1**
India	**1.4**	**13.5**	**6.7**	**12.7**	**2.6**	**24.2**	**34.3**	**8.8**	**1.4**	**1.2**
Canada	**6.6**	**13.3**	**7.4**	**4.0**	**4.0**	**23.4**	**31.3**	**11.6**	**6.8**	**6.8**
Australia	**3.0**	**13.2**	**8.7**	**3.4**	**5.7**	**24.2**	**28.3**	**5.0**	**3.5**	**3.1**
Netherlands	**3.9**	**10.6**	**5.8**	**4.6**	**4.0**	**19.1**	**24.9**	**9.2**	**31.8**	**31.0**
Switzerland	**2.1**	**13.7**	**1.1**	**4.7**	**2.0**	**18.5**	**21.6**	**8.8**	**19.4**	**19.2**
Ireland	**0.1**	**3.6**	**13.0**	**4.3**	**2.7**	**19.8**	**21.0**	**6.8**	**2.7**	**2.6**
Taiwan	**0.6**	**5.6**	**1.4**	**12.7**	**2.2**	**16.4**	**20.3**	**12.9**	**—**	**—**

	December 31, 2021									
	Cross-border claims on third parties and local country assets									
In billions of dollars	Banks (a)	Public (a)	NBFIs[1] (a)	Other (corporate and households) (a)	Trading assets[2] (included in (a))	Short-term claims[2] (included in (a))	Total outstanding[3] (sum of (a))	Commitments and guarantees[4]	Credit derivatives purchased[5]	Credit derivatives sold[5]
United Kingdom	$ 7.0	$ 31.1	$ 55.6	$ 19.2	$ 16.5	$ 70.8	$ 112.9	$ 23.0	$ 76.3	$ 70.8
Cayman Islands	—	—	78.8	13.2	7.4	56.3	92.0	9.9	0.4	0.3
Japan	31.0	30.1	12.8	8.7	15.6	54.8	82.6	8.4	13.4	12.1
Germany	4.5	48.9	47.7	9.6	18.5	78.3	110.7	23.2	48.6	44.7
Mexico	2.8	28.4	9.3	25.8	2.7	33.4	66.3	19.7	6.7	6.1
France	9.7	9.6	27.0	9.8	14.0	41.6	56.1	85.3	62.6	55.7
Singapore	1.9	18.3	12.1	17.4	2.7	39.1	49.7	16.3	1.4	1.3
South Korea	3.6	17.9	3.2	21.9	2.0	37.7	46.6	12.7	9.0	8.1
Hong Kong	1.3	12.3	3.9	21.8	4.2	30.2	39.3	13.6	1.7	1.5
Australia	3.9	14.2	5.7	12.8	7.3	22.9	36.6	13.6	4.0	3.9
China	4.2	12.9	3.7	14.7	8.0	26.3	35.5	4.4	9.6	9.0
India	1.2	15.0	4.4	13.1	2.6	23.4	33.7	10.2	1.8	1.4
Taiwan	0.5	7.0	1.7	15.8	4.8	21.1	25.0	14.6	—	0.1
Netherlands	5.9	8.8	3.3	5.7	5.2	16.2	23.7	9.8	30.8	27.6
Brazil	2.0	12.9	2.2	12.5	3.9	20.3	29.6	3.2	6.2	5.6
Italy	2.8	10.9	0.9	1.8	8.1	2.4	16.4	1.6	38.8	37.0
Switzerland	1.4	13.7	0.9	6.0	3.1	20.0	22.0	9.7	18.9	17.6
Canada	6.5	12.2	4.7	4.1	3.8	21.0	27.5	12.9	5.7	5.3

(1) Non-bank financial institutions.
(2) Included in total outstanding.
(3) Total outstanding includes cross-border claims on third parties, as well as local country assets. Cross-border claims on third parties include cross-border loans, securities, deposits with banks and other monetary assets, as well as net revaluation gains on foreign exchange and derivative products.
(4) Commitments (not included in total outstanding) include legally binding cross-border letters of credit and other commitments and contingencies as defined by the FFIEC guidelines. The FFIEC definition of commitments includes commitments to local residents to be funded with local currency liabilities originated within the country.
(5) Credit default swaps (CDS) are not included in total outstanding.

SIGNIFICANT ACCOUNTING POLICIES AND SIGNIFICANT ESTIMATES

This section contains a summary of Citi's most significant accounting policies. Note 1 contains a summary of all of Citigroup's significant accounting policies. These policies, as well as estimates made by management, are integral to the presentation of Citi's results of operations and financial condition. While all of these policies require a certain level of management judgment and estimates, this section highlights and discusses the significant accounting policies that require management to make highly difficult, complex or subjective judgments and estimates at times regarding matters that are inherently uncertain and susceptible to change (see also "Risk Factors—Operational Risks" above). Management has discussed each of these significant accounting policies, the related estimates and its judgments with the Audit Committee of the Citigroup Board of Directors.

Valuations of Financial Instruments

Citigroup holds debt and equity securities, derivatives, retained interests in securitizations, investments in private equity and other financial instruments. A substantial portion of these assets and liabilities is reflected at fair value on Citi's Consolidated Balance Sheet as *Trading account assets*, *Available-for-sale securities* and *Trading account liabilities*.

Citi purchases securities under agreements to resell (reverse repos or resale agreements) and sells securities under agreements to repurchase (repos), a substantial portion of which is carried at fair value. In addition, certain loans, short-term borrowings, long-term debt and deposits, as well as certain securities borrowed and loaned positions that are collateralized with cash, are carried at fair value. Citigroup holds its investments, trading assets and liabilities, and resale and repurchase agreements on Citi's Consolidated Balance Sheet to meet customer needs and to manage liquidity needs, interest rate risks and private equity investing.

When available, Citi generally uses quoted market prices to determine fair value and classifies such items within Level 1 of the fair value hierarchy established under ASC 820-10, *Fair Value Measurement*. If quoted market prices are not available, fair value is based on internally developed valuation models that use, where possible, current market-based or independently sourced market parameters, such as interest rates, currency rates and option volatilities. Such models are often based on a discounted cash flow analysis. In addition, items valued using such internally generated valuation techniques are classified according to the lowest level input or value driver that is significant to the valuation. Thus, an item may be classified under the fair value hierarchy as Level 3 even though there may be some significant inputs that are readily observable.

Citi is required to exercise subjective judgments relating to the applicability and functionality of internal valuation models, the significance of inputs or drivers to the valuation of an instrument and the degree of illiquidity and subsequent lack of observability in certain markets. The fair value of these instruments is reported on Citi's Consolidated Balance Sheet with the changes in fair value recognized in either the Consolidated Statement of Income or in *AOCI*.

Losses on available-for-sale securities whose fair values are less than the amortized cost, where Citi intends to sell the security or could more-likely-than-not be required to sell the security prior to recovery, are recognized in earnings. Where Citi does not intend to sell the security nor could more-likely-than-not be required to sell the security, any portion of the loss that is attributable to credit is recognized as an allowance for credit losses with a corresponding provision for credit losses and the remainder of the loss is recognized in *AOCI*. Such losses are capped at the difference between the fair value and amortized cost of the security.

For equity securities carried at cost or under the measurement alternative, decreases in fair value below the carrying value are recognized as impairment in the Consolidated Statement of Income. Moreover, for certain equity method investments, decreases in fair value are only recognized in earnings in the Consolidated Statement of Income if such decreases are judged to be an other-than-temporary impairment (OTTI). Assessing if the fair value impairment is temporary is also inherently judgmental.

The fair value of financial instruments incorporates the effects of Citi's own credit risk and the market view of counterparty credit risk, the quantification of which is also complex and judgmental. For additional information on Citi's fair value analysis, see Notes 1, 6, 25 and 26.

Citi's Allowance for Credit Losses (ACL)

The table below shows Citi's allowance for credit losses on loans (ACLL) and total ACL as of the fourth quarter of 2022. For information on the drivers of Citi's ACL build in the fourth quarter of 2022, see below. For information on refinement in the ACL estimation approach to introduce multiple macroeconomic scenarios to the quantitative component of the ACL, see Note 1. Also see Note 1 for additional information on Citi's accounting policy on accounting for credit losses under ASC Topic 326, *Financial Instruments—Credit losses; Current Expected Credit Losses (CECL)*.

	Allowance for credit losses (ACL)								
	Balance Dec. 31,	Build (release)					2022 FX/	Balance Dec. 31,	ACLL/EOP loans Dec. 31,
In millions of dollars	2021	1Q22	2Q22	3Q22	4Q22	2022	Other[1]	2022	2022[2]
ICG	$ 2,241	$ 596	$ (76)	$ 75	$ (117)	**$ 478**	**$ (4)**	**$ 2,715**	
Legacy Franchises corporate (Mexico SBMM)	174	5	(3)	(34)	(7)	**(39)**	**5**	**140**	
Total corporate ACLL	$ 2,415	$ 601	$ (79)	$ 41	$ (124)	**$ 439**	**$ 1**	**$ 2,855**	**1.01 %**
U.S. Cards[2]	$ 10,840	$ (1,009)	$ 447	$ 303	$ 814	**$ 555**	**$ (2)**	**$ 11,393**	**7.56 %**
Retail banking and Global Wealth Management	1,181	(53)	191	57	(43)	**152**	**(3)**	**1,330**	
Total *PBWM*	$ 12,021	$ (1,062)	$ 638	$ 360	$ 771	**$ 707**	**$ (5)**	**$ 12,723**	
Legacy Franchises consumer	2,019	(151)	(25)	40	(54)	**(190)**	**(433)**	**1,396**	
Total consumer ACLL	**$ 14,040**	**$ (1,213)**	**$ 613**	**$ 400**	**$ 717**	**$ 517**	**$ (438)**	**$ 14,119**	**3.84 %**
Total ACLL	**$ 16,455**	**$ (612)**	**$ 534**	**$ 441**	**$ 593**	**$ 956**	**$ (437)**	**$ 16,974**	**2.60 %**
Allowance for credit losses on unfunded lending commitments (ACLUC)	1,871	474	(159)	(71)	47	**291**	**(11)**	**2,151**	
Other[3]	148	(6)	27	83	5	**109**	**(14)**	**243**	
Total ACL	**$ 18,474**	**$ (144)**	**$ 402**	**$ 453**	**$ 645**	**$ 1,356**	**$ (462)**	**$ 19,368**	

(1) Includes reclassifications to *Other assets* related to Citi's agreements to sell certain of its consumer banking businesses. See Notes 2 and 15.
(2) As of December 31, 2022, in U.S. Personal Banking, Branded cards ACLL/EOP loans was 6.2% and Retail services ACLL/EOP loans was 10.3%.
(3) Includes ACL on HTM securities and *Other assets.*

Citi's reserves for expected credit losses on funded loans and for unfunded lending commitments, standby letters of credit and financial guarantees are reflected on the Consolidated Balance Sheet in the *Allowance for credit losses on loans* (ACLL) and *Other liabilities* (for Allowance for credit losses on unfunded lending commitments (ACLUC)), respectively. In addition, Citi reserves for expected credit losses on other financial assets carried at amortized cost, including held-to-maturity securities, reverse repurchase agreements, securities borrowed, deposits with banks and other financial receivables. These reserves, together with the ACLL and ACLUC, are referred to as the ACL. Changes in the ACL are reflected as *Provision for credit losses* in the Consolidated Statement of Income for each reporting period. Citi's ability to estimate expected credit losses over the reasonable and supportable (R&S) period is based on the ability to forecast economic activity over an R&S timeframe. The R&S forecast period for consumer and corporate loans is eight quarters.

The ACL is composed of quantitative and qualitative management adjustment components. The quantitative component uses three forward-looking macroeconomic forecast scenarios—base, upside and downside. The qualitative management adjustment component reflects risks and current economic conditions not captured in the quantitative component. Both the quantitative and qualitative components are further discussed below.

Quantitative Component

Citi estimates expected credit losses for its quantitative component using (i) its comprehensive internal data on loss and default history, (ii) internal credit risk ratings, (iii) external credit bureau and rating agencies information and (iv) R&S forecasts of macroeconomic conditions.

For its consumer and corporate portfolios, Citi's expected credit losses are determined primarily by utilizing models that consider the borrowers' probability of default (PD), loss given default (LGD) and exposure at default (EAD). The loss likelihood and severity models used for estimating expected credit losses are sensitive to changes in macroeconomic variables, including housing prices, unemployment and real GDP, and cover a wide range of geographic, industry, product and business segments.

In addition, Citi's models determine expected credit losses based on leading credit indicators, including loan delinquencies, changes in portfolio size, default frequency,

risk ratings and loss recovery rates, as well as other credit trends.

Qualitative Component

The qualitative management adjustment component includes risks not fully captured in the quantitative component, as required by banking supervisory guidance for the ACL, including, but not limited to:

- Concentrations and collateral valuation risk with obligors in the global portfolio
- Emerging macroeconomic risks due to uncertainties related to the war in Ukraine, potential global recession, inflation, interest rates, commodity prices and potential impacts on vulnerable industries and regions
- Normalization of portfolio performance and consumer behavior from record low losses as a result of government stimulus and market liquidity

Citi's qualitative component declined year-over-year, primarily driven by the incorporation of multiple macroeconomic scenarios in the quantitative component and releases of COVID-19–related uncertainty reserves as the portfolio continues to normalize toward pre-pandemic levels and as these risks are captured in the quantitative component of the ACL.

Macroeconomic Variables

Citi considers a multitude of global macroeconomic variables for the base, upside and downside probability-weighted macroeconomic scenario forecasts it uses to estimate the ACL. Citi's forecasts of the U.S. unemployment rate and U.S. real GDP growth rate represent the key macroeconomic variables that most significantly affect its estimate of the ACL.

The tables below show Citi's forecasted quarterly average U.S. unemployment rate and year-over-year U.S. real GDP growth rate used in determining the base macroeconomic forecast for Citi's ACL for each quarterly reporting period from 4Q21 to 4Q22:

	Quarterly average			
U.S. unemployment	**1Q23**	**3Q23**	**1Q24**	**8-quarter average[1]**
Citi forecast at 4Q21	3.7 %	3.7 %	3.7 %	3.8 %
Citi forecast at 1Q22	3.5	3.5	3.6	3.6
Citi forecast at 2Q22	3.6	3.8	3.9	3.7
Citi forecast at 3Q22	3.8	4.2	4.0	4.0
Citi forecast at 4Q22	3.9	4.5	4.6	4.4

(1) Represents the average unemployment rate for the rolling, forward-looking eight quarters in the forecast horizon.

	Year-over-year growth rate[1]		
	Full year		
U.S. real GDP	**2022**	**2023**	**2024**
Citi forecast at 4Q21	4.0 %	2.2 %	1.8 %
Citi forecast at 1Q22	3.3	2.4	2.1
Citi forecast at 2Q22	2.6	1.8	2.0
Citi forecast at 3Q22	1.6	0.6	1.9
Citi forecast at 4Q22	1.9	0.3	1.5

(1) The year-over-year growth rate is the percentage change in the real (inflation adjusted) GDP level.

Under the base macroeconomic forecast as of 4Q22, U.S. real GDP growth is expected to decline during 2023, and the unemployment rate is expected to increase modestly over the forecast horizon, broadly returning to pre-pandemic levels.

Scenario Weighting

Citi's ACL is estimated using three probability-weighted macroeconomic scenarios—base, upside and downside. The macroeconomic scenario weights are estimated using a statistical model, which, among other factors, takes into consideration key macroeconomic drivers of the ACL, severity of the scenario and other macroeconomic uncertainties and risks. Citi evaluates scenario weights on a quarterly basis.

Citi's downside scenario incorporates more adverse macroeconomic assumptions than the base scenario. For example, compared to the base scenario, Citi's downside scenario reflects a more severe recession, including an elevated average U.S. unemployment rate of 6.9% over the eight-quarter R&S period, with a peak difference of 2.9% in the second quarter of 2024. The downside scenario also reflects a year-over-year U.S. real GDP contraction in 2023 of 2.4%, with a peak quarter-over-quarter difference of 3.3% in the second quarter of 2023.

Citi's ACL is sensitive to the various macroeconomic scenarios that drive the quantitative component of expected credit losses due to changes in the length and severity of forecasted economic variables or events in the respective scenarios. To demonstrate this sensitivity, Citi applied 100% weight to the downside scenario as of December 31, 2022 to reflect the most severe economic deterioration forecast in the multiple macroeconomic scenarios. Citi's downside scenario incorporates more adverse macroeconomic assumptions than the weighted scenario assumptions; therefore, applying a 100% downside scenario weight would result in a hypothetical increase in the ACL of approximately $4.2 billion related to lending exposures, except for loans individually evaluated for credit losses.

This analysis does not incorporate any impacts or changes to the qualitative component of the ACL. These factors could decrease the outcome of the sensitivity analysis based on historical experience and current conditions at the time of the assessment. Given the uncertainty inherent in macroeconomic forecasting, Citi continues to believe that its ACL estimate based on a three probability-weighted macroeconomic scenario approach combined with the qualitative component remains appropriate as of December 31, 2022.

4Q22 Changes in the ACL

As further discussed below, in the fourth quarter of 2022, Citi had an ACL build of $0.7 billion for its consumer portfolios and a release of $0.1 billion for its corporate portfolios, for a net ACL build of $0.6 billion. The build was primarily driven by cards loan growth in consumer portfolios and a deterioration in macroeconomic assumptions (see "Macroeconomic Variables" above), partially offset by reductions in Russia exposures (see "Managing Global Risk—Other Risks—Russia" above). Based on its latest macroeconomic forecast, Citi believes its analysis of the ACL reflects the forward view of the economic environment as of December 31, 2022. See Note 15 for additional information.

Consumer

Citi's consumer ACLL is largely driven by U.S. Cards in U.S. Personal Banking. As discussed above, Citi's total consumer ACLL build was $0.7 billion in the fourth quarter of 2022, primarily driven by U.S. Cards loan growth and a deterioration in macroeconomic assumptions, which increased the ACLL balance to $14.1 billion, or 3.84% of total funded consumer loans.

For U.S. Cards, the level of reserves relative to total funded loans increased to 7.56% as of December 31, 2022, compared to 7.53% at September 30, 2022. For the remaining consumer exposures, the level of reserves relative to total funded loans was 1.3% at December 31, 2022, unchanged from September 30, 2022.

Corporate

Citi had a corporate ACLL release of $0.1 billion in the fourth quarter of 2022. The release was primarily driven by the reduction of direct exposures in Russia, partially offset by the deterioration of macroeconomic assumptions. Including FX/Other, the ACLL reserve balance decreased $93 million to $2.9 billion, or 1.01% of total funded corporate loans.

ACLUC

Citi had an ACLUC build of $47 million in the fourth quarter of 2022, which increased the ACLUC reserve balance, included in *Other liabilities*, to $2.2 billion. The build was primarily driven by a deterioration in macroeconomic assumptions.

ACL on Other Financial Assets

Citi had an ACL build on other financial assets carried at amortized cost of $5 million in the fourth quarter of 2022. Including FX/Other, the ACL reserve balance decreased $13 million to $0.2 billion, included in *Other assets.* See Note 15 for additional information.

ACLL and Non-accrual Ratios

At December 31, 2022, the ratio of the ACLL to total funded loans was 2.60% (3.84% for consumer loans and 1.01% for corporate loans) compared to 2.54% at September 30, 2022 (3.74% for consumer loans and 1.04% for corporate loans).

Citi's total non-accrual loans were $2.4 billion at December 31, 2022, down $447 million from September 30, 2022. Consumer non-accrual loans decreased $84 million to $1.3 billion at December 31, 2022, from $1.4 billion at September 30, 2022, while corporate non-accrual loans decreased $363 million to $1.1 billion at December 31, 2022, from $1.5 billion at September 30, 2022. In addition, the ratio of non-accrual loans to total loans was 0.39% and 0.36% for corporate and consumer loans, respectively, at December 31, 2022 (for additional information on non-accrual loans, see "Additional Consumer and Corporate Credit Details—Non-Accrual Loans and Assets and Renegotiated Loans" above).

Regulatory Capital Impact

Citi elected the modified CECL transition provision for regulatory capital purposes provided by the U.S. banking agencies' final rule. Accordingly, the Day One regulatory capital effects resulting from the adoption of CECL, as well as the ongoing adjustments for 25% of the change in CECL-based allowances in each quarter between January 1, 2020 and December 31, 2021, started to be phased in on January 1, 2022 and will be fully reflected in Citi's regulatory capital as of January 1, 2025.

See Notes 1 and 15 for a further description of the ACL and related accounts.

Goodwill

Citi tests goodwill for impairment annually and conducts interim assessments between annual tests if an event occurs or circumstances change that would more-likely-than-not reduce the fair value of a reporting unit below its carrying amount. These events or circumstances include, among other things, a significant adverse change in the business climate, a decision to sell or dispose of all or a significant portion of a reporting unit or a sustained decrease in Citi's stock price.

Citi had historically performed its annual goodwill impairment test as of July 1 each year. During the quarter ended September 30, 2022, the Company voluntarily changed its annual impairment assessment date from July 1 to October 1. Based on interim impairment tests performed between the previous annual test on July 1, 2021 and the annual test to be performed on October 1, 2022, no more than 12 months have elapsed between goodwill impairment tests of any of Citi's reporting units. The change in measurement date represents a change in method of applying an accounting principle. This change is preferable because it better aligns the Company's goodwill impairment testing procedures with its annual planning process and with its fiscal year-end. Citi continues to monitor each reporting unit for triggering events for purposes of goodwill impairment testing. The change in accounting principle did not result in any delay, acceleration or avoidance of an impairment charge. During the fourth quarter of 2022, the annual test was performed, which resulted in no goodwill impairment as described in Note 16.

As of December 31, 2022, Citigroup's activities were conducted through the *Institutional Clients Group*, *Personal Banking and Wealth Management* and *Legacy Franchises* operating segments and *Corporate/Other*. Goodwill impairment testing is performed at the level below the business segment (referred to as a reporting unit).

Citi utilizes allocated equity as a proxy for the carrying value of its reporting units for purposes of goodwill impairment testing. The allocated equity in the reporting units is determined based on the capital the business would require

if it were operating as a standalone entity, incorporating sufficient capital to be in compliance with both current and expected regulatory capital requirements, including capital for specifically identified goodwill and intangible assets. The capital allocated to the reporting units is incorporated into the annual budget process, which is approved by Citi's Board of Directors.

Goodwill impairment testing involves management judgment, requiring an assessment of whether the carrying value of a reporting unit can be supported by its fair value, using widely accepted valuation techniques, such as the market approach (earnings multiples and/or transaction multiples) and/or the income approach (discounted cash flow (DCF) method). In applying these methodologies, Citi utilizes a number of factors, including actual operating results, future business plans, economic projections and market data. Where applicable, bids from buyers are also utilized to determine fair value.

Similar to 2021, Citi engaged an independent valuation specialist in 2022 to assist in Citi's valuation of all the reporting units, primarily employing both the income and market approach to determine the fair value of the reporting units. Bids from buyers were also used, where available. The resulting fair values were relatively consistent and appropriate weighting was given to outputs from the income and market approach valuations. The income approach utilized discount rates that Citi believes adequately reflected the risk and uncertainty in the financial markets in the internally generated cash flow projections.

The income approach employs a capital asset pricing model in estimating the discount rate. Since none of the Company's reporting units are publicly traded, individual reporting unit fair value determinations cannot be directly correlated to Citigroup's common stock price. The sum of the fair values of the reporting units exceeded the overall market capitalization of Citi as of October 1, 2022. However, Citi believes that it is not meaningful to reconcile the sum of the fair values of the Company's reporting units to its market capitalization due to several factors. The market capitalization of Citigroup reflects the execution risk in a transaction involving Citigroup due to its size. However, the individual reporting units' fair values are not subject to the same level of execution risk nor a business model that is as international. In addition, the market capitalization of Citigroup does not include consideration of the individual reporting unit's control premium.

As discussed in Note 3, effective January 1, 2022, as part of its strategic refresh, Citi made changes to its management structure, which resulted in changes in its operating segments and reporting units to reflect how the CEO, who is the chief operating decision maker, manages the Company, including allocating resources and measuring performance. Goodwill balances were reallocated across the new reporting units based on their relative fair values using the valuation performed as of the effective date of the reorganization. Further, the goodwill balances associated with certain Asia Consumer businesses within the *Legacy Franchises* operating segment were reclassified to HFS as of March 31, 2022. See Note 2 for a discussion of Citi's divestiture activities.

The reorganization of Citi's management structure and the announced sales of businesses within the *Legacy Franchises* operating segment were identified as triggering events for purposes of goodwill impairment testing. Consistent with the requirements of ASC 350, interim goodwill impairment tests were performed that resulted in an impairment of $535 million to the Asia Consumer reporting unit within the *Legacy Franchises* operating segment, due to the implementation of Citi's revised operating segments and reporting units, as well as the timing of mutual execution of sale agreements for certain of the Asia consumer banking businesses. This impairment was recorded in the first quarter of 2022 as an operating expense.

During the second quarter of 2022, Citi's Banking reporting unit within the *ICG* operating segment was negatively impacted by the industry-wide decline in investment banking activity and macroeconomic challenges and uncertainties. These conditions resulted in a corresponding decline in the operating results of the Banking reporting unit as of June 30, 2022, and were identified as a triggering event for purposes of goodwill impairment testing. Consistent with the requirements of ASC 350, an interim goodwill impairment test was performed that resulted in no impairment of the Banking reporting unit within the *ICG* operating segment.

During the third quarter of 2022, Citi's Banking reporting unit within the *ICG* operating segment continued to be negatively impacted by the industry-wide decline in investment banking activity amid ongoing macroeconomic challenges and uncertainties. The presence of these conditions was identified as a triggering event for the purposes of goodwill impairment testing. Consistent with the requirements of ASC 350, an interim goodwill impairment test was performed that resulted in no impairment of the Banking reporting unit.

Also, during the third quarter of 2022, Citi performed an interim goodwill impairment test on the Mexico Consumer/SBMM reporting unit as of July 1, 2022 to satisfy the requirement that no more than 12 months elapse between the tests for all reporting units. The test resulted in no impairment as the fair value of the Mexico Consumer/SBMM reporting unit was greater than its carrying value.

During the fourth quarter of 2022, Citi performed its annual goodwill impairment test as of October 1, 2022, which resulted in no impairment. The result of the impairment test showed that the fair value of Citi's reporting units exceeded their carrying value for all reporting units. The fair value of two reporting units (Banking and Mexico Consumer/SBMM) ranged from 102% to 106% of their carrying values. The carrying values of the Banking and Mexico Consumer/SBMM reporting units included approximately $1.5 billion and $1 billion of goodwill, respectively. The fair values of Citi's other reporting units as a percentage of their carrying values ranged from approximately 111% to 277%.

While the inherent risk related to uncertainty is embedded in the key assumptions used in the valuations of the reporting units, the economic and business environments continue to evolve as Citi's management implements its strategic refresh. If management's future estimates of key economic and market assumptions were to differ from its current assumptions, Citi could potentially experience material goodwill impairment

charges in the future. See Notes 1 and 16 for additional information on goodwill, including the changes in the goodwill balance year-over-year and the segments' goodwill balances as of December 31, 2022.

Litigation Accruals

See the discussion in Note 29 for information regarding Citi's policies on establishing accruals for litigation and regulatory contingencies.

Income Taxes

Overview

Citi is subject to the income tax laws of the U.S., its states and local municipalities and the non-U.S. jurisdictions in which Citi operates. These tax laws are complex and are subject to differing interpretations by the taxpayer and the relevant governmental taxing authorities. Disputes over interpretations of the tax laws may be subject to review and adjudication by the court systems of the various tax jurisdictions or may be settled with the taxing authority upon audit.

In establishing a provision for income tax expense, Citi must make judgments and interpretations about the application of these inherently complex tax laws. Citi must also make estimates about when in the future certain items will affect taxable income in the various tax jurisdictions, both domestic and foreign. Deferred taxes are recorded for the future consequences of events that have been recognized in the financial statements or tax returns, based upon enacted tax laws and rates. Deferred tax assets (DTAs) are recognized subject to management's judgment that realization is more-likely-than-not. For example, if it is more-likely-than-not that a carry-forward would expire unused, Citi would set up a valuation allowance (VA) against that DTA. Citi has established valuation allowances as described below.

As a result of the Tax Cuts and Jobs Act (Tax Reform), beginning in 2018, Citi is taxed on income generated by its U.S. operations at a federal tax rate of 21%. The effect on Citi's state tax rate is dependent upon how and when the individual states that have not yet addressed the federal tax law changes choose to adopt the various new provisions of the U.S. Internal Revenue Code.

Citi's non-U.S. branches and subsidiaries are subject to tax at their local tax rates. Non-U.S. branches also continue to be subject to U.S. taxation. The impact of this on Citi's earnings depends on the level of branch pretax income, the local branch tax rate and allocations of overall domestic loss (ODL) and expenses for U.S. tax purposes to branch earnings. Citi expects no residual U.S. tax on such earnings. With respect to non-U.S. subsidiaries, dividends from these subsidiaries are excluded from U.S. taxation. While the majority of Citi's non-U.S. subsidiary earnings are classified as Global Intangible Low Taxed Income (GILTI), Citi expects no material residual U.S. tax on such earnings based on its non-U.S. subsidiaries' local tax rates, which exceed, on average, the GILTI tax rate. Finally, Citi does not expect the Base Erosion Anti-Abuse Tax (BEAT) to affect its tax provision.

On January 4, 2022, final foreign tax credit (FTC) regulations were published in the Federal Register. These regulations eliminate the creditability of foreign taxes paid in certain situations. These include countries that do not align with U.S. tax principles in significant part and for services performed outside the recipient country. The impact on Citi's 2022 effective tax rate was not material.

The Inflation Reduction Act, signed into law on August 16, 2022, had no impact on Citi's 2022 results. The Act includes a new corporate alternative minimum tax (AMT) and a 1% excise tax on stock buybacks, both effective January 1, 2023. The corporate AMT is a 15% minimum tax on financial statement income after adjusting for foreign taxes paid. Corporate AMT paid in one year is creditable against regular corporate tax liability in future years. Citi does not expect to pay material amounts of corporate AMT given its profitability and tax profile.

The 1% excise tax is a non-deductible tax on the fair market value of stock repurchased in the taxable year, reduced by the fair market value of any stock issued in the same year, and is accounted for in equity.

Deferred Tax Assets and Valuation Allowances (VA)

At December 31, 2022, Citi had net DTAs of $27.7 billion. In the fourth quarter of 2022, Citi's DTAs increased by $0.6 billion, primarily as a result of losses in *Other comprehensive income*. On a full-year basis, Citi's DTAs increased by $2.9 billion from $24.8 billion at December 31, 2021.

Of Citi's total net DTAs of $27.7 billion as of December 31, 2022, $10.9 billion, primarily related to tax carry-forwards, was deducted in calculating Citi's regulatory capital. Net DTAs arising from temporary differences are deducted from regulatory capital if in excess of the 10%/15% limitations (see "Capital Resources" above). For the quarter and year ended December 31, 2022, Citi had $0.3 billion of disallowed temporary difference DTAs (included in the $10.9 billion above). The remaining $16.8 billion of net DTAs as of December 31, 2022 was not deducted in calculating regulatory capital pursuant to Basel III standards, and was appropriately risk weighted under those rules.

Citi's total VA at December 31, 2022 was $2.4 billion, a decrease of $1.8 billion from $4.2 billion at December 31, 2021. The decrease was primarily driven by a release of the remaining general basket FTC VA and expirations in the FTC branch basket. Citi's VA of $2.4 billion is composed of $0.9 billion on its FTC branch basket carry-forwards, $1.0 billion on its U.S. residual DTA related to its non-U.S. branches, $0.4 billion on local non-U.S. DTAs and $0.1 billion on state net operating loss carry-forwards.

As stated above with regard to the impact of non-U.S. branches on Citi's earnings, the level of branch pretax income, the local branch tax rate and the allocations of ODL and expenses for U.S. tax purposes to the branch basket are the main factors in determining the branch VA. The allocated ODL was enhanced by significant taxable income generated in the current year.

Citi's VA against FTC carry-forwards in its general basket was fully reversed in 2022 from $0.8 billion in 2021, primarily as a result of the effect of higher interest rates on the projections of future interest income. See Note 9.

Recognized FTCs comprised approximately $1.9 billion of Citi's DTAs as of December 31, 2022, compared to

approximately $2.8 billion as of December 31, 2021. The decrease in FTCs year-over-year was primarily due to current-year usage, net of the VA release. The FTC carry-forward period represents the most time-sensitive component of Citi's DTAs.

Citi had an ODL of approximately $8 billion at December 31, 2022, which allows it to elect a percentage between 50% and 100% of future years' domestic source income to be reclassified as foreign source income. (See Note 9 for a description of the ODL.)

The majority of Citi's U.S. federal net operating loss carry-forward and all of its New York State and New York City net operating loss carry-forwards are subject to a carry-forward period of 20 years. This provides enough time to fully utilize the net DTAs pertaining to these existing net operating loss carry-forwards. This is due to Citi's forecast of sufficient U.S. taxable income and the continued taxation of Citi's non-U.S. income by New York State and the City of New York.

Although realization is not assured, Citi believes that the realization of its recognized net DTAs of $27.7 billion at December 31, 2022 is more-likely-than-not, based upon management's expectations of future taxable income in the jurisdictions in which the DTAs arise, as well as available tax planning strategies (as defined in ASC Topic 740, *Income Taxes*). Citi has concluded that it has the necessary positive evidence to support the realization of its net DTAs after taking its VAs into consideration.

See Note 9 for additional information on Citi's income taxes, including its income tax provision, tax assets and liabilities and a tabular summary of Citi's net DTAs balance as of December 31, 2022 (including the FTCs and applicable expiration dates of the FTCs). For information on Citi's ability to use its DTAs, see "Risk Factors—Strategic Risks" above and Note 9.

Accounting Changes

See Note 1 for a discussion of changes in accounting standards.

DISCLOSURE CONTROLS AND PROCEDURES

Citi's disclosure controls and procedures are designed to ensure that information required to be disclosed under the Securities Exchange Act of 1934, as amended, is recorded, processed, summarized and reported within the time periods specified in the SEC's rules and forms, including without limitation that information required to be disclosed by Citi in its SEC filings is accumulated and communicated to management, including the Chief Executive Officer (CEO) and Chief Financial Officer (CFO), as appropriate, to allow for timely decisions regarding required disclosure.

Citi's Disclosure Committee assists the CEO and CFO in their responsibilities to design, establish, maintain and evaluate the effectiveness of Citi's disclosure controls and procedures. The Disclosure Committee is responsible for, among other things, the oversight, maintenance and implementation of the disclosure controls and procedures, subject to the supervision and oversight of the CEO and CFO.

Citi's management, with the participation of its CEO and CFO, has evaluated the effectiveness of Citigroup's disclosure controls and procedures (as defined in Rule 13a-15(e) under the Securities Exchange Act of 1934) as of December 31, 2022. Based on that evaluation, the CEO and CFO have concluded that at that date Citigroup's disclosure controls and procedures were effective.

MANAGEMENT'S ANNUAL REPORT ON INTERNAL CONTROL OVER FINANCIAL REPORTING

Citi's management is responsible for establishing and maintaining adequate internal control over financial reporting. Citi's internal control over financial reporting is designed to provide reasonable assurance regarding the reliability of its financial reporting and the preparation of financial statements for external reporting purposes in accordance with U.S. generally accepted accounting principles. Citi's internal control over financial reporting includes those policies and procedures that (i) pertain to the maintenance of records that in reasonable detail accurately and fairly reflect the transactions and dispositions of Citi's assets, (ii) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles and that Citi's receipts and expenditures are made only in accordance with authorizations of Citi's management and directors and (iii) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use or disposition of Citi's assets that could have a material effect on its financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect all misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions or that the degree of compliance with the policies or procedures may deteriorate.

Citi's management assessed the effectiveness of Citigroup's internal control over financial reporting as of December 31, 2022 based on the criteria set forth by the Committee of Sponsoring Organizations of the Treadway Commission (COSO) in *Internal Control—Integrated Framework (2013)*. Based on this assessment, management believes that, as of December 31, 2022, Citi's internal control over financial reporting was effective. In addition, there were no changes in Citi's internal control over financial reporting during the fiscal quarter ended December 31, 2022 that materially affected, or are reasonably likely to materially affect, Citi's internal control over financial reporting.

The effectiveness of Citi's internal control over financial reporting as of December 31, 2022 has been audited by KPMG LLP, Citi's independent registered public accounting firm, as stated in their report below, which expressed an unqualified opinion on the effectiveness of Citi's internal control over financial reporting as of December 31, 2022.

FORWARD-LOOKING STATEMENTS

Certain statements in this report, including but not limited to statements included within the Management's Discussion and Analysis of Financial Condition and Results of Operations, are "forward-looking statements" within the meaning of the Private Securities Litigation Reform Act of 1995. In addition, Citigroup also may make forward-looking statements in its other documents filed with or furnished to the SEC, and its management may make forward-looking statements orally to analysts, investors, representatives of the media and others.

Generally, forward-looking statements are not based on historical facts but instead represent Citigroup's and its management's beliefs regarding future events. Such statements may be identified by words such as believe, expect, anticipate, intend, estimate, may increase, may fluctuate, target and illustrative, and similar expressions or future or conditional verbs such as will, should, may, would and could.

Such statements are based on management's current expectations and are subject to risks, uncertainties and changes in circumstances. Actual results of operations and financial conditions including capital and liquidity may differ materially from those included in these statements due to a variety of factors, including without limitation (i) the precautionary statements included within the "Executive Summary" and each individual business's discussion and analysis of its results of operations and (ii) the factors listed and described under "Risk Factors" above.

Any forward-looking statements made by or on behalf of Citigroup speak only as to the date they are made, and Citi does not undertake to update forward-looking statements to reflect the impact of circumstances or events that arise after the forward-looking statements were made.

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Stockholders and Board of Directors
Citigroup Inc.:

Opinions on the Consolidated Financial Statements and Internal Control Over Financial Reporting
We have audited the accompanying consolidated balance sheets of Citigroup Inc. and subsidiaries (the Company) as of December 31, 2022 and 2021, the related consolidated statements of income, comprehensive income, changes in stockholders' equity, and cash flows for each of the years in the three-year period ended December 31, 2022, and the related notes (collectively, the consolidated financial statements). We also have audited the Company's internal control over financial reporting as of December 31, 2022, based on criteria established in *Internal Control – Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission.

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of the Company as of December 31, 2022 and 2021, and the results of its operations and its cash flows for each of the years in the three-year period ended December 31, 2022, in conformity with U.S. generally accepted accounting principles. Also in our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2022 based on criteria established in *Internal Control – Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission.

Basis for Opinions
The Company's management is responsible for these consolidated financial statements, for maintaining effective internal control over financial reporting, and for its assessment of the effectiveness of internal control over financial reporting, included in the accompanying management's annual report on internal controls over financial reporting. Our responsibility is to express an opinion on the Company's consolidated financial statements and an opinion on the Company's internal control over financial reporting based on our audits. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) (PCAOB) and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audits to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement, whether due to error or fraud, and whether effective internal control over financial reporting was maintained in all material respects.

Our audits of the consolidated financial statements included performing procedures to assess the risks of material misstatement of the consolidated financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the consolidated financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements. Our audit of internal control over financial reporting included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, and testing and evaluating the design and operating effectiveness of internal control based on the assessed risk. Our audits also included performing such other procedures as we considered necessary in the circumstances. We believe that our audits provide a reasonable basis for our opinions.

Definition and Limitations of Internal Control Over Financial Reporting
A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

Critical Audit Matters
The critical audit matters communicated below are matters arising from the current period audit of the consolidated financial statements that were communicated or required to be communicated to the audit committee and that: (1) relate to accounts or disclosures that are material to the consolidated financial statements and (2) involved our especially

challenging, subjective, or complex judgments. The communication of critical audit matters does not alter in any way our opinion on the consolidated financial statements, taken as a whole, and we are not, by communicating the critical audit matters below, providing separate opinions on the critical audit matters or on the accounts or disclosures to which they relate.

Assessment of the fair value of certain Level 3 assets and liabilities measured on a recurring basis

As described in Notes 1, 6, 25 and 26 to the consolidated financial statements, the Company's net assets and liabilities recorded at fair value on a recurring basis were $840.9 billion and $360.1 billion, respectively at December 31, 2022. The Company estimated the fair value of Level 3 assets and liabilities measured on a recurring basis ($15.8 billion and $46.5 billion, respectively at December 31, 2022) utilizing various valuation techniques with one or more significant inputs or significant value drivers being unobservable including, but not limited to, complex internal valuation models, alternative pricing procedures or comparables analysis and discounted cash flows.

We identified the assessment of the measurement of fair value for certain Level 3 assets and liabilities recorded at fair value on a recurring basis as a critical audit matter. A high degree of effort, including specialized skills and knowledge, and subjective and complex auditor judgment was involved in the assessment of the Level 3 fair values due to measurement uncertainty. Specifically, the assessment encompassed the evaluation of the fair value methodology, including methods, models and significant assumptions and inputs used to estimate fair value. Significant assumptions include proxy data, forecast data, the extrapolation and interpolation of proxy data, forecast data, and historic data as well as certain model assumptions. The assessment also included an evaluation of the conceptual soundness and performance of the valuation models.

The following are the primary procedures we performed to address this critical audit matter. We involved valuation professionals with specialized skills and knowledge who assisted in evaluating the design and testing the operating effectiveness of certain internal controls related to the Company's Level 3 fair value measurements including controls over:

- valuation methodologies, including significant inputs and assumptions
- independent price verification
- evaluating that significant model assumptions and inputs reflected those which a market participant would use to determine an exit price in the current market environment
- the valuation models used were mathematically accurate and appropriate to value the financial instruments and
- relevant information used within the Company's models that was reasonably available was considered in the fair value determination.

Assessment of the allowance for credit losses collectively evaluated for impairment

As described in Notes 1 and 15 to the consolidated financial statements, the Company's allowance for credit losses was $19.1 billion as of December 31, 2022, which includes the allowance related to loans and unfunded lending commitments collectively evaluated for impairment (the collective ACLL). The expected credit losses for the quantitative component of the collective ACLL is the product of multiplying the probability of default (PD), loss given default (LGD), and exposure at default (EAD) for consumer and corporate loans. For consumer U.S. credit cards, the Company uses the payment rate approach over the life of the loan, which leverages payment rate curves, to determine the payments that should be applied to liquidate the end-of-period balance in the estimation of EAD. For unconditionally cancelable accounts, reserves are based on the expected life of the balance as of the evaluation date and do not include any undrawn commitments that are unconditionally cancelable. The credit loss factors applied are determined based on three macroeconomic scenarios (base, downside and upside) multiplied by their respective scenario probability weights, that take into consideration both internal and external forecasted macroeconomic variables, the most significant of which are U.S. unemployment and U.S. real gross domestic product (GDP). Additionally, for consumer U.S. credit card loans, these models consider leading credit indicators including loan delinquencies, as well as economic factors. For corporate loans, these models consider the credit quality as measured by risk ratings and economic factors. The qualitative component considers idiosyncratic events and the uncertainty of forward-looking economic scenarios.

We identified the assessment of the collective ACLL, specifically for consumer U.S. credit cards and corporate portfolios as a critical audit matter. Auditing the assessment involved significant measurement uncertainty requiring complex auditor judgment, and specialized skills and knowledge as well as experience in the industry. Our assessment encompassed the evaluation of the various components of the collective ACLL methodology, including the methods and models used to estimate the PD, LGD, and EAD and certain key assumptions and inputs for the Company's quantitative and qualitative components. Key assumptions and inputs for consumer loans included loan delinquencies, certain credit indicators, reasonable and supportable forecasts, expected life as well as economic factors, including unemployment rates, GDP, and housing prices which are considered in the model. For corporate loans, key assumptions and inputs included risk ratings, reasonable and supportable forecast, credit conversion factor for unfunded lending commitments, and economic factors, including GDP and unemployment rate considered in the model. Key assumptions and inputs for the qualitative component for consumer U.S. credit card loans include the expected normalization in portfolio performance and consumer behavior, after lower losses observed as a result of government stimulus and market liquidity. Key

assumptions and inputs for the qualitative component for corporate loan portfolios include uncertainty around the war in Ukraine and global recession, considering macroeconomic and market factors, including inflation, interest rates and commodity prices and their impacts on industries and sectors that are considered more vulnerable. The assessment also included an evaluation of the conceptual soundness and performance of the PD, LGD, and EAD models. In addition, auditor judgment was required to evaluate the sufficiency of audit evidence obtained.

The following are the primary procedures we performed to address this critical audit matter. We evaluated the design and tested the operating effectiveness of certain internal controls related to the Company's measurement of the collective ACLL estimate, including controls over the:

- approval of the collective ACLL methodologies
- determination of the key assumptions and inputs used to estimate the quantitative and qualitative components of the collective ACLL
- performance monitoring of the PD, LGD, and EAD models.

We evaluated the Company's process to develop the collective ACLL estimate by testing certain sources of data and assumptions that the Company used and considered the relevance and reliability of such data and assumptions. In addition, we involved credit risk professionals with specialized skills and knowledge, who assisted in:

- reviewing the Company's collective ACLL methodologies and key assumptions for compliance with U.S. generally accepted accounting principles
- assessing the conceptual soundness and performance testing of the PD, LGD, and EAD models by inspecting the model documentation to determine whether the models are suitable for their intended use
- evaluating judgments made by the Company relative to the development and performance monitoring testing of the PD, LGD, and EAD models by comparing them to relevant Company-specific metrics
- assessing the conceptual soundness and performance testing of the macroeconomic scenario weights model by inspecting the model documentation to determine whether the model is suitable for its intended use
- assessing the economic forecast scenarios through comparison to publicly available forecasts
- evaluating the methodologies used to develop certain economic forecast scenarios by comparing it to relevant industry practices
- testing corporate loan risk ratings for a selection of borrowers by evaluating the financial performance of the borrower, sources of repayment, and any relevant guarantees or underlying collateral
- evaluating the methodologies used in determining the qualitative components and the effect of that component on the collective ACLL compared with relevant credit risk factors and consistency with credit trends.

We also assessed the sufficiency of the audit evidence obtained related to the collective ACLL by evaluating the:

- cumulative results of the audit procedures
- qualitative aspects of the Company's accounting practices
- potential bias in the accounting estimates.

Evaluation of goodwill in the ICG Banking and PBWM US PB reporting units

As discussed in Notes 1 and 16 to the consolidated financial statements, the goodwill balance as of December 31, 2022 was $19.7 billion, of which $9.7 billion related to reporting units within the Personal Banking and Wealth Management (PBWM) segment, $9.0 billion related to reporting units within the Institutional Clients Group (ICG) segment, and $1.0 billion related to reporting units within the Legacy Franchises segment. The Company performs goodwill impairment testing on an annual basis and whenever events or changes in circumstances indicate that the carrying value of a reporting unit likely exceeds its fair value. This involves estimating the fair value of the reporting units using both discounted cash flow analyses and a market multiples approach.

We identified the evaluation of the goodwill impairment analysis for the ICG Banking and PBWM United States Personal Banking reporting units, one of the three reporting units within the ICG segment and one of the two reporting units in the PBWM segment, as a critical audit matter. The estimated fair value of the ICG Banking and PBWM United States Personal Banking reporting units marginally exceeded their carrying values, indicating a higher risk due to measurement uncertainty that the goodwill may be impaired and, therefore, involved a high degree of subjective auditor judgment. Specifically, the assessment encompassed the evaluation of the key assumptions used in estimating the fair value of the ICG Banking and PBWM United States Personal Banking reporting units, which include the long-term growth rate, discount rate, exit multiple assumptions, certain forecasted macroeconomic assumptions used to inform the forecasted income by reporting unit, and forecasted revenues and operating expenses by reporting unit used in the discounted cash flow analyses.

The following are the primary procedures we performed to address this critical audit matter. We evaluated the design and tested the operating effectiveness of certain internal controls related to the Company's determination of the estimated fair value of the ICG Banking and PBWM United States Personal Banking reporting units, including controls related to management's process for assessing the appropriateness of:

- certain assumptions including the long-term growth rate, discount rate and exit multiple assumptions used in the discounted cash flow analyses

- certain forecasted macroeconomic assumptions used to inform the forecasted income by reporting unit
- forecasted revenues and operating expenses by reporting unit.

We compared the Company's historical forecasts to actual results at a consolidated level to assess the Company's ability to accurately forecast key metrics such as revenues and operating expenses. We also compared prior year actuals to the expected trends for revenues and operating expenses at the reporting unit level to assess the Company's ability to achieve their forecasts. We compared the Company's fourth quarter 2022 forecasts to actual fourth quarter 2022 results at the reporting unit level to assess the Company's ability to accurately forecast. We evaluated the reasonableness of the Company's forecasts by comparing to analyst reports.

In addition, we involved a valuation professional with specialized skills and knowledge, who assisted in:

- developing an independent range of long-term growth rate assumptions by reviewing publicly available data and comparable industries and comparing it to the Company's assumption
- evaluating the discount rate by assessing the methodology used by management and developing an independent assumption for the discount rate
- developing an independent range of the exit multiple assumptions using publicly available data for comparable entities and comparing it to the Company's assumption utilized in the discounted cash flow analysis
- developing an independent estimate of the fair value of ICG Banking and PBWM United States Personal Banking reporting units using the income and market multiple approaches and comparing the results to the Company's fair value estimate
- assessing the reasonableness of the market capitalization reconciliation.

/s/ KPMG LLP

We have served as the Company's auditor since 1969.

New York, New York
February 24, 2023

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In millions of dollars, except per share amounts	Years ended December 31, 2022	2021	2020
Revenues			
Interest revenue	**$ 74,408**	$ 50,475	$ 58,089
Interest expense	**25,740**	7,981	13,338
Net interest income	**$ 48,668**	$ 42,494	$ 44,751
Commissions and fees	**$ 9,175**	$ 13,672	$ 11,385
Principal transactions	**14,159**	10,154	13,885
Administration and other fiduciary fees	**3,784**	3,943	3,472
Realized gains on sales of investments, net	**67**	665	1,756
Impairment losses on investments:			
Impairment losses on investments and other assets	**(499)**	(206)	(165)
Provision for credit losses on AFS debt securities[1]	**5**	(3)	(3)
Net impairment losses recognized in earnings	**$ (494)**	$ (209)	$ (168)
Other revenue	**$ (21)**	$ 1,165	$ 420
Total non-interest revenues	**$ 26,670**	$ 29,390	$ 30,750
Total revenues, net of interest expense	**$ 75,338**	$ 71,884	$ 75,501
Provisions for credit losses and for benefits and claims			
Provision for credit losses on loans	**$ 4,745**	$ (3,103)	$ 15,922
Provision for credit losses on held-to-maturity (HTM) debt securities	**33**	(3)	7
Provision for credit losses on other assets	**76**	—	7
Policyholder benefits and claims	**94**	116	113
Provision for credit losses on unfunded lending commitments	**291**	(788)	1,446
Total provisions for credit losses and for benefits and claims[2]	**$ 5,239**	$ (3,778)	$ 17,495
Operating expenses			
Compensation and benefits	**$ 26,655**	$ 25,134	$ 22,214
Premises and equipment	**2,320**	2,314	2,333
Technology/communication	**8,587**	7,828	7,383
Advertising and marketing	**1,556**	1,490	1,217
Other operating	**12,174**	11,427	11,227
Total operating expenses	**$ 51,292**	$ 48,193	$ 44,374
Income from continuing operations before income taxes	**$ 18,807**	$ 27,469	$ 13,632
Provision for income taxes	**3,642**	5,451	2,525
Income from continuing operations	**$ 15,165**	$ 22,018	$ 11,107
Discontinued operations			
Income (loss) from discontinued operations	**$ (272)**	$ 7	$ (20)
Benefit for income taxes	**(41)**	—	—
Income (loss) from discontinued operations, net of taxes	**$ (231)**	$ 7	$ (20)
Net income before attribution of noncontrolling interests	**$ 14,934**	$ 22,025	$ 11,087
Noncontrolling interests	**89**	73	40
Citigroup's net income	**$ 14,845**	$ 21,952	$ 11,047
Basic earnings per share[3]			
Income from continuing operations	**$ 7.16**	$ 10.21	$ 4.75
Loss from discontinued operations, net of taxes	**(0.12)**	—	(0.01)
Net income	**$ 7.04**	$ 10.21	$ 4.74
Weighted average common shares outstanding *(in millions)*	**1,946.7**	2,033.0	2,085.8
Diluted earnings per share[3]			
Income from continuing operations	**$ 7.11**	$ 10.14	$ 4.73
Loss from discontinued operations, net of taxes	**(0.12)**	—	(0.01)
Net income	**$ 7.00**	$ 10.14	$ 4.72
Adjusted weighted average diluted common shares outstanding *(in millions)*	**1,964.3**	2,049.4	2,099.0

(1) In accordance with ASC 326, which requires the provision for credit losses on AFS securities to be included in revenue.
(2) This total excludes the provision for credit losses on AFS securities, which is disclosed separately above.
(3) Due to rounding, earnings per share on continuing operations and discontinued operations may not sum to earnings per share on net income.

The Notes to the Consolidated Financial Statements are an integral part of these Consolidated Financial Statements.

CONSOLIDATED STATEMENT OF COMPREHENSIVE INCOME

Citigroup Inc. and Subsidiaries

	Years ended December 31,		
In millions of dollars	**2022**	2021	2020
Citigroup's net income	**$ 14,845**	$ 21,952	$ 11,047
Add: Citigroup's other comprehensive income (loss)[1]			
Net change in unrealized gains and losses on debt securities, net of taxes[2]	**$ (5,384)**	$ (3,934)	$ 3,585
Net change in debt valuation adjustment (DVA), net of taxes[3]	**2,029**	232	(475)
Net change in cash flow hedges, net of taxes	**(2,623)**	(1,492)	1,470
Benefit plans liability adjustment, net of taxes[4]	**97**	1,012	(55)
Net change in CTA, net of taxes and hedges	**(2,471)**	(2,525)	(250)
Net change in excluded component of fair value hedges, net of taxes	**55**	—	(15)
Citigroup's total other comprehensive income (loss)	**$ (8,297)**	$ (6,707)	$ 4,260
Citigroup's total comprehensive income	**$ 6,548**	$ 15,245	$ 15,307
Add: Other comprehensive income (loss) attributable to noncontrolling interests	**$ (58)**	$ (99)	$ 26
Add: Net income attributable to noncontrolling interests	**89**	73	40
Total comprehensive income	**$ 6,579**	$ 15,219	$ 15,373

(1) See Note 20.
(2) See Note 1.
(3) See Note 25.
(4) See Note 8.

The Notes to the Consolidated Financial Statements are an integral part of these Consolidated Financial Statements.

In millions of dollars	December 31, 2022	2021
Assets		
Cash and due from banks (including segregated cash and other deposits)	**$ 30,577**	$ 27,515
Deposits with banks, net of allowance	**311,448**	234,518
Securities borrowed and purchased under agreements to resell (including $239,527 and $216,466 as of December 31, 2022 and 2021, respectively, at fair value), net of allowance	**365,401**	327,288
Brokerage receivables, net of allowance	**54,192**	54,340
Trading account assets (including $133,535 and $133,828 pledged to creditors at December 31, 2022 and 2021, respectively)	**334,114**	331,945
Investments:		
Available-for-sale debt securities (including $10,933 and $9,226 pledged to creditors as of December 31, 2022 and 2021, respectively), net of allowance	**249,679**	288,522
Held-to-maturity debt securities (fair value of which is $243,648 and $216,038 as of December 31, 2022 and 2021, respectively) (includes $— and $1,460 pledged to creditors as of December 31, 2022 and 2021, respectively), net of allowance	**268,863**	216,963
Equity securities (including $895 and $1,032 as of December 31, 2022 and 2021, respectively, at fair value)	**8,040**	7,337
Total investments	**$ 526,582**	$ 512,822
Loans:		
Consumer (including $237 and $12 as of December 31, 2022 and 2021, respectively, at fair value)	**368,067**	376,534
Corporate (including $5,123 and $6,070 as of December 31, 2022 and 2021, respectively, at fair value)	**289,154**	291,233
Loans, net of unearned income	**$ 657,221**	$ 667,767
Allowance for credit losses on loans (ACLL)	**(16,974)**	(16,455)
Total loans, net	**$ 640,247**	$ 651,312
Goodwill	**19,691**	21,299
Intangible assets (including MSRs of $665 and $404 as of December 31, 2022 and 2021, respectively, at fair value)	**4,428**	4,495
Premises and equipment, net of depreciation and amortization	**26,253**	24,328
Other assets (including $10,658 and $12,342 as of December 31, 2022 and 2021, respectively, at fair value), net of allowance	**103,743**	101,551
Total assets	**$ 2,416,676**	$ 2,291,413

Statement continues on the next page.

In millions of dollars, except shares and per share amounts	December 31, 2022	2021
Liabilities		
Deposits (including $1,875 and $1,666 as of December 31, 2022 and 2021, respectively, at fair value)	**$ 1,365,954**	$ 1,317,230
Securities loaned and sold under agreements to repurchase (including $70,886 and $56,694 as of December 31, 2022 and 2021, respectively, at fair value)	**202,444**	191,285
Brokerage payables (including $4,439 and $3,575 as of December 31, 2022 and 2021, respectively, at fair value)	**69,218**	61,430
Trading account liabilities	**170,647**	161,529
Short-term borrowings (including $6,222 and $7,358 as of December 31, 2022 and 2021, respectively, at fair value)	**47,096**	27,973
Long-term debt (including $105,995 and $82,609 as of December 31, 2022 and 2021, respectively, at fair value)	**271,606**	254,374
Other liabilities	**87,873**	74,920
Total liabilities	**$ 2,214,838**	$ 2,088,741
Stockholders' equity		
Preferred stock ($1.00 par value; authorized shares: 30 million), issued shares: **759,800 as of December 31, 2022** and 759,800 as of December 31, 2021, at aggregate liquidation value	**$ 18,995**	$ 18,995
Common stock ($0.01 par value; authorized shares: 6 billion), issued shares: **3,099,669,424 as of December 31, 2022** and 3,099,651,835 as of December 31, 2021	**31**	31
Additional paid-in capital	**108,458**	108,003
Retained earnings	**194,734**	184,948
Treasury stock, at cost: **1,162,682,999 shares as of December 31, 2022** and 1,115,296,641 shares as of December 31, 2021	**(73,967)**	(71,240)
Accumulated other comprehensive income (loss) (*AOCI*)	**(47,062)**	(38,765)
Total Citigroup stockholders' equity	**$ 201,189**	$ 201,972
Noncontrolling interests	**649**	700
Total equity	**$ 201,838**	$ 202,672
Total liabilities and equity	**$ 2,416,676**	$ 2,291,413

The Notes to the Consolidated Financial Statements are an integral part of these Consolidated Financial Statements.

CONSOLIDATED STATEMENT OF CHANGES IN STOCKHOLDERS' EQUITY *Citigroup Inc. and Subsidiaries*

	Years ended December 31,					
	Amounts			Shares		
In millions of dollars, except shares in thousands	**2022**	2021	2020	**2022**	2021	2020
Preferred stock at aggregate liquidation value						
Balance, beginning of year	**$ 18,995**	$ 19,480	$ 17,980	**760**	779	719
Issuance of new preferred stock	**—**	3,300	3,000	**—**	132	120
Redemption of preferred stock	**—**	(3,785)	(1,500)	**—**	(151)	(60)
Balance, end of year	**$ 18,995**	$ 18,995	$ 19,480	**760**	760	779
Common stock and additional paid-in capital (APIC)						
Balance, beginning of year	**$ 108,034**	$ 107,877	$ 107,871	**3,099,652**	3,099,633	3,099,603
Employee benefit plans	**455**	85	5	**17**	19	30
Preferred stock issuance costs (new issuances, net of reclassifications to retained earnings for redemptions)	**—**	25	(4)	**—**	—	—
Other	**—**	47	5	**—**	—	—
Balance, end of year	**$ 108,489**	$ 108,034	$ 107,877	**3,099,669**	3,099,652	3,099,633
Retained earnings						
Balance, beginning of year	**$ 184,948**	$ 168,272	$ 165,369			
Adjustments to opening balance, net of taxes[1]						
Financial instruments—credit losses (CECL adoption)	**—**	—	(3,076)			
Variable post-charge-off third-party collection costs	**—**	—	330			
Adjusted balance, beginning of year	**$ 184,948**	$ 168,272	$ 162,623			
Citigroup's net income	**14,845**	21,952	11,047			
Common dividends[2]	**(4,028)**	(4,196)	(4,299)			
Preferred dividends	**(1,032)**	(1,040)	(1,095)			
Other (primarily reclassifications from APIC for preferred issuance costs on redemptions)	**1**	(40)	(4)			
Balance, end of year	**$ 194,734**	$ 184,948	$ 168,272			
Treasury stock, at cost						
Balance, beginning of year	**$ (71,240)**	$ (64,129)	$ (61,660)	**(1,115,297)**	(1,017,544)	(985,480)
Employee benefit plans[3]	**523**	489	456	**8,190**	7,745	8,676
Treasury stock acquired[4]	**(3,250)**	(7,600)	(2,925)	**(55,576)**	(105,498)	(40,740)
Balance, end of year	**$ (73,967)**	$ (71,240)	$ (64,129)	**(1,162,683)**	(1,115,297)	(1,017,544)
Citigroup's accumulated other comprehensive income (loss)						
Balance, beginning of year	**$ (38,765)**	$ (32,058)	$ (36,318)			
Citigroup's total other comprehensive income (loss)	**(8,297)**	(6,707)	4,260			
Balance, end of year	**$ (47,062)**	$ (38,765)	$ (32,058)			
Total Citigroup common stockholders' equity	**$ 182,194**	$ 182,977	$ 179,962	**1,936,986**	1,984,355	2,082,089
Total Citigroup stockholders' equity	**$ 201,189**	$ 201,972	$ 199,442			
Noncontrolling interests						
Balance, beginning of year	**$ 700**	$ 758	$ 704			
Transactions between Citigroup and the noncontrolling-interest shareholders	**(34)**	(10)	(4)			
Net income attributable to noncontrolling-interest shareholders	**89**	73	40			
Distributions paid to noncontrolling-interest shareholders	**(51)**	(10)	(2)			
Other comprehensive income (loss) attributable to noncontrolling-interest shareholders	**(58)**	(99)	26			
Other	**3**	(12)	(6)			
Net change in noncontrolling interests	**$ (51)**	$ (58)	$ 54			
Balance, end of year	**$ 649**	$ 700	$ 758			
Total equity	**$ 201,838**	$ 202,672	$ 200,200			

(1) See Note 1 for additional details.
(2) Common dividends declared were $0.51 per share in the first, second, third and fourth quarters of 2022, 2021 and 2020.

(3) Includes treasury stock related to (i) certain activity on employee stock option program exercises where the employee delivers existing shares to cover the option exercise, or (ii) under Citi's employee restricted or deferred stock programs where shares are withheld to satisfy tax requirements.
(4) Primarily consists of open market purchases under Citi's Board of Directors-approved common stock repurchase program.

The Notes to the Consolidated Financial Statements are an integral part of these Consolidated Financial Statements.

In millions of dollars	Years ended December 31, 2022	2021	2020
Cash flows from operating activities of continuing operations			
Net income before attribution of noncontrolling interests	**$ 14,934**	$ 22,025	$ 11,087
Net income attributable to noncontrolling interests	**89**	73	40
Citigroup's net income	**$ 14,845**	$ 21,952	$ 11,047
Income (loss) from discontinued operations, net of taxes	**(231)**	7	(20)
Income from continuing operations—excluding noncontrolling interests	**$ 15,076**	$ 21,945	$ 11,067
Adjustments to reconcile net income to net cash provided by (used in) operating activities of continuing operations			
Net loss (gain) on sale of significant disposals[1]	**(762)**	700	—
Depreciation and amortization	**4,262**	3,964	3,937
Deferred income taxes	**(1,141)**	1,413	(2,333)
Provisions for credit losses on loans and unfunded lending commitments	**5,036**	(3,891)	17,368
Realized gains from sales of investments	**(67)**	(665)	(1,756)
Impairment losses on investments and other assets	**499**	206	165
Goodwill impairment	**535**	—	—
Change in trading account assets	**(2,273)**	43,059	(98,997)
Change in trading account liabilities	**9,118**	(6,498)	48,133
Change in brokerage receivables net of brokerage payables	**7,936**	1,412	(3,066)
Change in loans held-for-sale (HFS)	**4,421**	(3,809)	1,202
Change in other assets	**(4,992)**	(2,139)	(1,012)
Change in other liabilities	**5,343**	6,839	558
Other, net[2]	**(17,922)**	(15,446)	1,246
Total adjustments	**$ 9,993**	$ 25,145	$ (34,555)
Net cash provided by (used in) operating activities of continuing operations[2]	**$ 25,069**	$ 47,090	$ (23,488)
Cash flows from investing activities of continuing operations			
Change in securities borrowed and purchased under agreements to resell	**$ (38,113)**	$ (32,576)	$ (43,390)
Change in loans	**(16,591)**	(1,173)	14,249
Proceeds from sales and securitizations of loans	**4,709**	2,918	1,495
Proceeds from divestitures[1]	**5,741**	—	—
Available-for-sale (AFS) debt securities[3]			
Purchases of investments[2]	**(218,747)**	(205,980)	(306,801)
Proceeds from sales of investments	**79,687**	125,895	144,035
Proceeds from maturities of investments	**140,934**	120,936	110,941
Held-to-maturity (HTM) debt securities[3]			
Purchases of investments	**(42,903)**	(136,450)	(25,586)
Proceeds from maturities of investments	**12,188**	21,164	15,215
Capital expenditures on premises and equipment and capitalized software	**(5,632)**	(4,119)	(3,446)
Proceeds from sales of premises and equipment, subsidiaries and affiliates and repossessed assets	**63**	190	50
Other, net[2]	**(791)**	(1,551)	793
Net cash used in investing activities of continuing operations[2]	**$ (79,455)**	$ (110,746)	$ (92,445)
Cash flows from financing activities of continuing operations			
Dividends paid	**$ (5,003)**	$ (5,198)	$ (5,352)
Issuance of preferred stock	**—**	3,300	2,995
Redemption of preferred stock	**—**	(3,785)	(1,500)
Treasury stock acquired	**(3,250)**	(7,601)	(2,925)
Stock tendered for payment of withholding taxes	**(344)**	(337)	(411)

	Years ended December 31,		
In millions of dollars	**2022**	2021	2020
Change in securities loaned and sold under agreements to repurchase	**$ 11,159**	$ (8,240)	$ 33,186
Issuance of long-term debt	**104,748**	70,658	76,458
Payments and redemptions of long-term debt	**(57,085)**	(74,950)	(63,402)
Change in deposits	**68,415**	44,966	210,081
Change in short-term borrowings	**19,123**	(1,541)	(15,535)
Net cash provided by financing activities of continuing operations	**$ 137,763**	$ 17,272	$ 233,595
Effect of exchange rate changes on cash and due from banks	**$ (3,385)**	$ (1,198)	$ (1,966)
Change in cash, due from banks and deposits with banks	**79,992**	(47,582)	115,696
Cash, due from banks and deposits with banks at beginning of year	**262,033**	309,615	193,919
Cash, due from banks and deposits with banks at end of year	**$ 342,025**	$ 262,033	$ 309,615
Cash and due from banks (including segregated cash and other deposits)	**$ 30,577**	$ 27,515	$ 26,349
Deposits with banks, net of allowance	**311,448**	234,518	283,266
Cash, due from banks and deposits with banks at end of year	**$ 342,025**	$ 262,033	$ 309,615
Supplemental disclosure of cash flow information for continuing operations			
Cash paid during the year for income taxes	**$ 3,733**	$ 4,028	$ 4,797
Cash paid during the year for interest	**22,615**	7,143	12,094
Non-cash investing activities[1][4]			
Transfer of investment securities from AFS to HTM	**$ 21,688**	$ —	$ —
Decrease in net loans associated with divestitures reclassified to HFS	**16,956**	9,945	—
Decrease in goodwill associated with divestitures reclassified to HFS	**876**	—	—
Transfers to loans HFS (*Other assets*) from loans	**5,582**	7,414	2,614
Non-cash financing activities[1]			
Decrease in long-term debt associated with divestitures reclassified to HFS	**$ —**	$ 479	$ —
Decrease in deposits associated with divestitures reclassified to HFS	**19,691**	8,407	—

(1) See Note 2 for further information on significant disposals.
(2) See "Statement of Cash Flows" in Note 1.
(3) Citi has revised the Consolidated Statement of Cash Flows to present purchases of investments, sales of investments and proceeds from maturities of investments separately between AFS debt securities and HTM debt securities. Citi had no sales of HTM debt securities during the periods presented.
(4) Operating and finance lease right-of-use assets and lease liabilities represent non-cash investing and financing activities, respectively, and are not included in the non-cash investing activities presented here. See Note 28 for more information and balances as of December 31, 2022 and 2021, respectively.

The Notes to the Consolidated Financial Statements are an integral part of these Consolidated Financial Statements.

1. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

Throughout these Notes, "Citigroup," "Citi" and the "Company" refer to Citigroup Inc. and its consolidated subsidiaries.

Certain reclassifications and updates have been made to the prior periods' financial statements and notes to conform to the current period's presentation.

Principles of Consolidation

The Consolidated Financial Statements include the accounts of Citigroup and its subsidiaries prepared in accordance with U.S. generally accepted accounting principles (GAAP). The Company consolidates subsidiaries in which it holds, directly or indirectly, more than 50% of the voting rights or where it exercises control. Entities in which the Company holds 20% to 50% of the voting rights and/or has the ability to exercise significant influence, other than investments of designated venture capital subsidiaries or investments accounted for at fair value under the fair value option, are accounted for under the equity method, and the pro rata share of their income (loss) is included in *Other revenue*. Income from investments in less-than-20%-owned companies is recognized when dividends are received. As discussed in more detail in Note 22, Citigroup also consolidates entities deemed to be variable interest entities when Citigroup is determined to be the primary beneficiary. Gains and losses on the disposition of branches, subsidiaries, affiliates, buildings and other investments are included in *Other revenue*.

Citibank

Citibank, N.A. (Citibank) is a commercial bank and indirect wholly owned subsidiary of Citigroup. Citibank's principal offerings include investment banking, commercial banking, cash management, trade finance and e-commerce; private banking products and services; consumer finance, credit cards, and mortgage lending; and retail banking products and services.

Variable Interest Entities (VIEs)

An entity is a variable interest entity (VIE) if it meets either of the criteria outlined in Accounting Standards Codification (ASC) Topic 810, *Consolidation*, which are (i) the entity has equity that is insufficient to permit the entity to finance its activities without additional subordinated financial support from other parties, or (ii) the entity has equity investors that cannot make significant decisions about the entity's operations or that do not absorb their proportionate share of the entity's expected losses or expected returns.

The Company consolidates a VIE when it has both the power to direct the activities that most significantly impact the VIE's economic performance and a right to receive benefits or the obligation to absorb losses of the entity that could be potentially significant to the VIE (that is, Citi is the primary beneficiary). In addition to variable interests held in consolidated VIEs, the Company has variable interests in other VIEs that are not consolidated because the Company is not the primary beneficiary.

All unconsolidated VIEs are monitored by the Company to assess whether any events have occurred to cause its primary beneficiary status to change.

All entities not deemed to be VIEs with which the Company has involvement are evaluated for consolidation under other subtopics of ASC 810. See Note 22 for more detailed information.

Foreign Currency Translation

Assets and liabilities of Citi's foreign operations are translated from their respective functional currencies into U.S. dollars using period-end spot foreign exchange rates. The effects of those translation adjustments are reported in *Accumulated other comprehensive income (loss) (AOCI)*, a component of stockholders' equity, net of any related hedge and tax effects, until realized upon sale or substantial liquidation of the foreign entity, at which point such amounts are reclassified into earnings. Revenues and expenses of Citi's foreign operations are translated monthly from their respective functional currencies into U.S. dollars at amounts that approximate weighted average exchange rates.

For transactions that are denominated in a currency other than the functional currency, including transactions denominated in the local currencies of foreign operations that use the U.S. dollar as their functional currency, the effects of changes in exchange rates are primarily included in *Principal transactions*, along with the related effects of any economic hedges. Instruments used to hedge foreign currency exposures include foreign currency forward, option and swap contracts and, in certain instances, designated issues of non-U.S.-dollar debt. Foreign operations in countries with highly inflationary economies designate the U.S. dollar as their functional currency, with the effects of changes in exchange rates primarily included in *Other revenue*.

Investment Securities

Investments include debt and equity securities. Debt securities include bonds, notes and redeemable preferred stocks, as well as certain loan-backed and structured securities that are subject to prepayment risk. Equity securities include common and nonredeemable preferred stock.

Debt Securities

- Debt securities classified as "held-to-maturity" (HTM) are securities that the Company has both the ability and the intent to hold until maturity and are carried at amortized cost. Interest income on such securities is included in *Interest revenue*.
- Debt securities classified as "available-for-sale" (AFS) are carried at fair value with changes in fair value reported in *Accumulated other comprehensive income (loss)*, a component of stockholders' equity, net of applicable income taxes and hedges. Interest income on such securities is included in *Interest revenue*.

For investments in debt securities classified as HTM or AFS, the accrual of interest income is suspended for investments that are in default or for which it is likely that future interest payments will not be made as scheduled.

Investment securities not measured at fair value through earnings include (i) debt securities held in HTM or AFS, (ii) equity securities accounted for under the Measurement Alternative or equity method, (iii) Federal Reserve Bank and Federal Home Loan Bank stock and (iv) certain exchange memberships. These securities are subject to evaluation for impairment as described in Note 15 for HTM securities and in Note 13 for AFS, Measurement Alternative and equity method investments. Realized gains and losses on sales of investments are included in earnings, primarily on a specific identification basis.

The Company uses a number of valuation techniques for investments carried at fair value, which are described in Note 25.

Equity Securities

- Marketable equity securities are measured at fair value with changes in fair value recognized in earnings.
- Non-marketable equity securities are measured at fair value with changes in fair value recognized in earnings unless (i) the measurement alternative is elected or (ii) the investment represents Federal Reserve Bank and Federal Home Loan Bank stock or certain exchange seats that continue to be carried at cost. Non-marketable equity securities under the measurement alternative are carried at cost less impairment (if any), plus or minus changes resulting from observed prices for orderly transactions for the identical or a similar investment of the same issuer.
- Certain investments that would otherwise have been accounted for using the equity method are carried at fair value with changes in fair value recognized in earnings, since the Company elected to apply fair value accounting.

Trading Account Assets and Liabilities

Trading account assets include debt and marketable equity securities, derivatives in a receivable position, residual interests in securitizations and physical commodities inventory. In addition, as described in Note 26, certain assets that Citigroup has elected to carry at fair value under the fair value option, such as loans and purchased guarantees, are also included in *Trading account assets*.

Trading account liabilities include securities sold, not yet purchased (short positions) and derivatives in a net payable position, as well as certain liabilities that Citigroup has elected to carry at fair value (as described in Note 26).

Other than physical commodities inventory, all trading account assets and liabilities are carried at fair value. Revenues generated from trading assets and trading liabilities are generally reported in *Principal transactions* and include realized gains and losses as well as unrealized gains and losses resulting from changes in the fair value of such instruments. Interest income on trading assets is recorded in *Interest revenue* reduced by interest expense on trading liabilities.

Physical commodities inventory is carried at the lower of cost or market with related losses reported in *Principal transactions*, except when included in a hedging relationship. Realized gains and losses on sales of commodities inventory are included in *Principal transactions*. Investments in unallocated precious metals accounts (gold, silver, platinum and palladium) are accounted for as hybrid instruments containing a debt host contract and an embedded non-financial derivative instrument indexed to the price of the relevant precious metal. The embedded derivative instrument and debt host contract are carried at fair value under the fair value option, as described in Note 26.

Derivatives used for trading purposes include interest rate, currency, equity, credit and commodity swap agreements, options, caps and floors, warrants, and financial and commodity futures and forward contracts. Derivative asset and liability positions are presented net by counterparty on the Consolidated Balance Sheet when a valid master netting agreement exists and the other conditions set out in ASC Topic 210-20, *Balance Sheet—Offsetting*, are met. See Note 23.

The Company uses a number of techniques to determine the fair value of trading assets and liabilities, which are described in Note 25.

Securities Borrowed and Securities Loaned

Securities borrowing and lending transactions do not constitute a sale of the underlying securities for accounting purposes and are treated as collateralized financing transactions. Such transactions are recorded at the amount of proceeds advanced or received plus accrued interest. As described in Note 26, the Company has elected to apply fair value accounting to a number of securities borrowing and lending transactions. Fees received or paid for all securities borrowing and lending transactions are recorded in *Interest revenue* or *Interest expense* at the contractually specified rate.

Where the conditions of ASC 210-20-45-1, *Balance Sheet—Offsetting: Right of Setoff Conditions*, are met, securities borrowing and lending transactions are presented net on the Consolidated Balance Sheet.

The Company monitors the fair value of securities borrowed or loaned on a daily basis and obtains or posts additional collateral in order to maintain contractual margin protection.

As described in Note 25, the Company uses a discounted cash flow technique to determine the fair value of securities lending and borrowing transactions.

Repurchase and Resale Agreements

Securities sold under agreements to repurchase (repos) and securities purchased under agreements to resell (reverse repos) do not constitute a sale (or purchase) of the underlying securities for accounting purposes and are treated as collateralized financing transactions. As described in Note 26, the Company has elected to apply fair value accounting to certain portions of such transactions, with changes in fair value reported in earnings. Any transactions for which fair value accounting has not been elected are recorded at the amount of cash advanced or received plus accrued interest. Irrespective of whether the Company has elected fair value accounting, interest paid or received on all repo and reverse

repo transactions is recorded in *Interest expense* or *Interest revenue* at the contractually specified rate.

Where the conditions of ASC 210-20-45-11, *Balance Sheet—Offsetting: Repurchase and Reverse Repurchase Agreements*, are met, repos and reverse repos are presented net on the Consolidated Balance Sheet.

The Company's policy is to take possession of securities purchased under reverse repurchase agreements. The Company monitors the fair value of securities subject to repurchase or resale on a daily basis and obtains or posts additional collateral in order to maintain contractual margin protection.

As described in Note 25, the Company uses a discounted cash flow technique to determine the fair value of repo and reverse repo transactions.

Loans

Loans are reported at their outstanding principal balances net of any unearned income and unamortized deferred fees and costs, except for credit card receivable balances, which include accrued interest and fees. Loan origination fees and certain direct origination costs are generally deferred and recognized as adjustments to income over the lives of the related loans.

As described in Note 26, Citi has elected fair value accounting for certain loans. Such loans are carried at fair value with changes in fair value reported in earnings. Interest income on such loans is recorded in *Interest revenue* at the contractually specified rate.

Loans that are held-for-investment are classified as *Loans, net of unearned income* on the Consolidated Balance Sheet, and the related cash flows are included within the cash flows from the investing activities category in the Consolidated Statement of Cash Flows on the line *Change in loans*. However, when the initial intent for holding a loan has changed from held-for-investment to held-for-sale (HFS), the loan is reclassified to HFS, but the related cash flows continue to be reported in cash flows from investing activities in the Consolidated Statement of Cash Flows on the line *Proceeds from sales and securitizations of loans*.

Consumer Loans

Consumer loans represent loans and leases managed primarily by the *Personal Banking and Wealth Management* and *Legacy Franchises* businesses (except Mexico SBMM loans).

Consumer Non-accrual and Re-aging Policies

As a general rule, interest accrual ceases for installment and real estate (both open- and closed-end) loans when payments are 90 days contractually past due. For credit cards and other unsecured revolving loans, however, Citi generally accrues interest until payments are 180 days past due. As a result of OCC guidance, home equity loans in regulated bank entities are classified as non-accrual if the related residential first mortgage is 90 days or more past due. Also as a result of OCC guidance, mortgage loans in regulated bank entities are classified as non-accrual within 60 days of notification that the borrower has filed for bankruptcy, with the exception of Federal Housing Administration (FHA)-insured loans.

Loans that have been modified to grant a concession to a borrower in financial difficulty may not be accruing interest at the time of the modification. The policy for returning such modified loans to accrual status varies by product and/or region. In most cases, a minimum number of payments (ranging from one to six) is required, while in other cases the loan is never returned to accrual status. For regulated bank entities, such modified loans are returned to accrual status if a credit evaluation at the time of, or subsequent to, the modification indicates the borrower is able to meet the restructured terms, and the borrower is current and has demonstrated a reasonable period of sustained payment performance (minimum six months of consecutive payments).

For U.S. consumer loans, generally one of the conditions to qualify for modification (other than for loan modifications made through the CARES Act relief provisions or banking agency guidance for pandemic-related issues) is that a minimum number of payments (typically ranging from one to three) must be made. Upon modification, the loan is re-aged to current status. However, re-aging practices for certain open-ended consumer loans, such as credit cards, are governed by Federal Financial Institutions Examination Council (FFIEC) guidelines. For open-ended consumer loans subject to FFIEC guidelines, one of the conditions for the loan to be re-aged to current status is that at least three consecutive minimum monthly payments, or the equivalent amount, must be received. In addition, under FFIEC guidelines, the number of times that such a loan can be re-aged is subject to limitations (generally once in 12 months and twice in five years). Furthermore, FHA and Department of Veterans Affairs (VA) loans may only be modified under those respective agencies' guidelines, and payments are not always required in order to re-age a modified loan to current.

Consumer Charge-Off Policies

Citi's charge-off policies follow the general guidelines below:

- Unsecured installment loans are charged off at 120 days contractually past due.
- Unsecured revolving loans and credit card loans are charged off at 180 days contractually past due.
- Loans secured with non-real estate collateral are written down to the estimated value of the collateral, less costs to sell, at 120 days contractually past due.
- Real estate-secured loans are written down to the estimated value of the property, less costs to sell, at 180 days contractually past due.
- Real estate-secured loans are charged off no later than 180 days contractually past due if a decision has been made not to foreclose on the loans.
- Unsecured loans in bankruptcy are charged off within 60 days of notification of filing by the bankruptcy court or in accordance with Citi's charge-off policy, whichever occurs earlier.
- Real estate-secured loans in bankruptcy, other than FHA-insured loans, are written down to the estimated value of the property, less costs to sell, within 60 days of notification that the borrower has filed for bankruptcy or in accordance with Citi's charge-off policy, whichever is earlier.

Corporate Loans

Corporate loans represent loans and leases managed by *Institutional Clients Group (ICG)* and the Mexico SBMM component of *Legacy Franchises*. Corporate loans are identified as impaired and placed on a cash (non-accrual) basis when it is determined, based on actual experience and a forward-looking assessment of the collectability of the loan in full, that the payment of interest or principal is doubtful or when interest or principal is 90 days past due, except when the loan is well collateralized and in the process of collection. Any interest accrued on impaired corporate loans and leases is reversed at 90 days past due and charged against current earnings, and interest is thereafter included in earnings only to the extent actually received in cash. When there is doubt regarding the ultimate collectability of principal, all cash receipts are thereafter applied to reduce the recorded investment in the loan.

Impaired corporate loans and leases are written down to the extent that principal is deemed to be uncollectible. Impaired collateral-dependent loans and leases, where repayment is expected to be provided solely by the sale of the underlying collateral and there are no other available and reliable sources of repayment, are carried at the lower of amortized cost or collateral value. Cash-basis loans are returned to accrual status when all contractual principal and interest amounts are reasonably assured of repayment and there is a sustained period of repayment performance in accordance with the contractual terms.

Loans Held-for-Sale

Corporate and consumer loans that have been identified for sale are classified as loans HFS and included in *Other assets*. The practice of Citi's U.S. prime mortgage business has been to sell substantially all of its conforming loans. As such, U.S. prime mortgage conforming loans are classified as HFS and the fair value option is elected at origination, with changes in fair value recorded in *Other revenue*. With the exception of those loans for which the fair value option has been elected, HFS loans are accounted for at the lower of cost or market value, with any write-downs or subsequent recoveries charged to *Other revenue*. The related cash flows are classified in the Consolidated Statement of Cash Flows in the cash flows from operating activities category on the line *Change in loans HFS*. Gains and losses on loans HFS are generally presented in *Other revenue*. Gains on sales of fully or partially charged-off loans are presented as gross credit recoveries in the *Provision for credit losses* up to the amount of prior charge-offs.

Allowances for Credit Losses (ACL)

Commencing January 1, 2020, Citi adopted ASC 326, *Financial Instruments—Credit Losses*, using the methodologies described below.

The current expected credit losses (CECL) methodology is based on relevant information about past events, including historical experience, current conditions and reasonable and supportable (R&S) forecasts that affect the collectability of the reported financial asset balances. If the asset's life extends beyond the R&S forecast period, then historical experience is considered over the remaining life of the assets in the ACL. The resulting ACL is adjusted in each subsequent reporting period through *Provisions for credit losses* in the Consolidated Statement of Income to reflect changes in history, current conditions and forecasts as well as changes in asset positions and portfolios. ASC 326 defines the ACL as a valuation account that is deducted from the amortized cost of a financial asset to present the net amount that management expects to collect on the financial asset over its expected life. All financial assets carried at amortized cost are in the scope of ASC 326, while assets measured at fair value are excluded. See Note 13 for a discussion of impairment on available-for-sale (AFS) securities.

Increases and decreases to the allowances are recorded in *Provisions for credit losses*. The CECL methodology utilizes a lifetime expected credit loss (ECL) measurement objective for the recognition of credit losses for held-for-investment (HFI) loans, held-to-maturity (HTM) debt securities, receivables and other financial assets measured at amortized cost at the time the financial asset is originated or acquired. Within the life of a loan or other financial asset, the methodology generally results in the earlier recognition of the provision for credit losses and the related ACL than under the prior probable incurred loss model.

Estimation of ECLs requires Citi to make assumptions regarding the likelihood and severity of credit loss events and their impact on expected cash flows, which drive the probability of default (PD), loss given default (LGD) and exposure at default (EAD) models and, where Citi discounts the ECL, using discounting techniques for certain products.

Citi considers a multitude of global macroeconomic variables for the base, upside and downside probability-weighted macroeconomic scenario forecasts it uses to estimate the ACL. Citi's forecasts of the U.S. unemployment rate and U.S. real GDP growth rate represent the key macroeconomic variables that most significantly affect its estimate of the ACL. Under the base macroeconomic forecast as of 4Q22, U.S. real GDP growth is expected to decline during 2023, and the unemployment rate is expected to increase modestly over the forecast horizon, broadly returning to pre-pandemic levels.

The macroeconomic scenario weights are estimated using a statistical model, which, among other factors, takes into consideration key macroeconomic drivers of the ACL, severity of the scenario and other macroeconomic uncertainties and risks. Citi evaluates scenario weights on a quarterly basis.

Citi's downside scenario incorporates more adverse macroeconomic assumptions than the base scenario. For example, compared to the base scenario, Citi's downside scenario reflects a more severe recession, including an elevated average U.S. unemployment rate of 6.9% over the eight-quarter R&S period, with a peak difference of 2.9% in the second quarter of 2024. The downside scenario also reflects a year-over-year U.S. real GDP contraction in 2023 of 2.4%, with a peak quarter-over-quarter difference of 3.3% in the second quarter of 2023.

The following are the main factors and interpretations that Citi considers when estimating the ACL under the CECL methodology:

- CECL reserves are estimated over the contractual term of the financial asset, which is adjusted for expected prepayments. Expected extensions are generally not considered unless the option to extend the loan cannot be canceled unilaterally by Citi. Modifications are also not considered, unless Citi has a reasonable expectation that it will execute a troubled debt restructuring (TDR).
- Credit enhancements that are not freestanding (such as those that are included in the original terms of the contract or those executed in conjunction with the lending transaction) are considered loss mitigants for purposes of CECL reserve estimation.
- For unconditionally cancelable accounts (generally credit cards), reserves are based on the expected life of the balance as of the evaluation date (assuming no further charges) and do not include any undrawn commitments that are unconditionally cancelable. Reserves are included for undrawn commitments for accounts that are not unconditionally cancelable (such as letters of credit and corporate loan commitments, home equity lines of credit (HELOCs), undrawn mortgage loan commitments and financial guarantees).
- CECL models are designed to be economically sensitive. They utilize the macroeconomic forecasts provided by Citi's enterprise scenario group that are approved by senior management. Analysis is performed and documented to determine the necessary qualitative management adjustment (QMA) to capture idiosyncratic events and model uncertainty.
- The portion of the forecast that reflects the enterprise scenario group's R&S period indicates the maximum length of time its models can produce a R&S macroeconomic forecast, after which mean reversion reflecting historical loss experience is used for the remaining life of the loan to estimate expected credit losses. For the loss forecast, businesses consume the macroeconomic forecast as determined to be appropriate and justifiable.

Citi's ability to forecast credit losses over the R&S period is based on the ability to forecast economic activity over a reasonable and supportable time window. The R&S period reflects the overall ability to have a reasonable and supportable forecast of credit loss based on economic forecasts.

- The loss models consume all or a portion of the R&S economic forecast and then revert to historical loss experience. The R&S forecast period for consumer and corporate loans is eight quarters.
- The ACL incorporates provisions for accrued interest on products that are not subject to a non-accrual and timely write-off policy (e.g., credit cards, etc.).
- The reserves for TDRs are calculated using a method that considers discounted cash flows and appropriate macroeconomic forecast data for the exposure type. For TDR loans that are collateral dependent, the ACL is based on the fair value of the collateral.
- Citi uses the most recent available information to inform its macroeconomic forecasts, allowing sufficient time for analysis of the results and corresponding approvals. Key variables are reviewed for significant changes through year end and changes to portfolio positions are reflected in the ACL.
- Reserves are calculated at an appropriately granular level and on a pooled basis where financial assets share risk characteristics. At a minimum, reserves are calculated at a portfolio level (product and country). Where a financial asset does not share risk characteristics with any of the pools, it is evaluated for credit losses individually.

Quantitative and Qualitative Components of the ACL

The loss likelihood and severity models use both internal and external information and are sensitive to forecasts of different macroeconomic conditions. For the quantitative component, Citi uses multiple macroeconomic scenarios and associated probabilities to estimate the ECL. Estimates of these ECLs are based upon (i) Citigroup's internal system of credit risk ratings, (ii) historical default and loss data, including comprehensive internal history and rating agency information regarding default rates and internal data on the severity of losses in the event of default, and (iii) a R&S forecast of future macroeconomic conditions. ECL is determined primarily by utilizing models for the borrowers' PD, LGD and EAD. Adjustments may be made to this data, including (i) statistically calculated estimates to cover the historical fluctuation of the default rates over the credit cycle, the historical variability of loss severity among defaulted loans and the degree to which there are large obligor concentrations in the global portfolio, and (ii) adjustments made for specifically known items, such as current environmental factors and credit trends.

Any adjustments needed to the modeled expected losses in the quantitative calculations are addressed through a qualitative adjustment. The qualitative adjustment considers, among other things: certain portfolio characteristics and concentrations; collateral coverage; model limitations; idiosyncratic events; and other relevant criteria under banking supervisory guidance for the ACL. The qualitative adjustment also reflects the estimated impact of the pandemic on the economic forecasts and the impact on credit loss estimates. The total ACL is composed of the quantitative and qualitative components. Citi's qualitative component declined year-over-year, primarily driven by the incorporation of multiple macroeconomic scenarios in the quantitative component and releases of COVID-19–related uncertainty reserves as the portfolio continues to normalize toward pre-pandemic levels and as these risks are captured in the quantitative component of the ACL. See "Accounting Changes" below for information about how the calculation of the quantitative component of the ACL changed in 2022.

Consumer Loans

For consumer loans, most portfolios including North America cards, mortgages and personal installment loans (PILs) are covered by the PD, LGD and EAD loss forecasting models. Some smaller international portfolios are covered by econometric models where the gross credit loss (GCL) rate is forecasted. The modeling of all retail products is performed by examining risk drivers for a given portfolio; these drivers relate to exposures with similar credit risk characteristics and consider past events, current conditions and R&S forecasts. Under the PD x LGD x EAD approach, GCLs and recoveries are captured on an undiscounted basis. Citi incorporates expected recoveries on loans into its reserve estimate, including expected recoveries on assets previously written off.

CECL defines the exposure's expected life as the remaining contractual maturity including any expected prepayments. Subsequent changes to the contractual terms that are the result of a re-underwriting are not included in the loan's expected CECL life.

Citi does not establish reserves for the uncollectible accrued interest on non-revolving consumer products, such as mortgages and installment loans, which are subject to a non-accrual and timely write-off policy at 90 days past due. As such, only the principal balance is subject to the CECL reserve methodology and interest does not attract a further reserve. Deferred origination costs and fees related to new credit card account originations are amortized within a 12-month period, and an ACL is provided for components in the scope of the ASC.

Separate valuation allowances are determined for impaired smaller-balance homogeneous loans whose terms have been modified in a TDR. Long-term modification programs, and short-term (less than 12 months) modifications that provide concessions (such as interest rate reductions) to borrowers in financial difficulty, are reported as TDRs. In addition, loan modifications that involve a trial period are reported as TDRs at the start of the trial period. The ACL for TDRs is determined using a discounted cash flow (DCF) approach. When a DCF approach is used, the initial allowance for ECLs is calculated as the expected contractual cash flows discounted at the loan's original effective interest rate. DCF techniques are applied for consumer loans only if they are classified as TDR loan exposures.

For credit cards, Citi uses the payment rate approach, which leverages payment rate curves, to determine the payments that should be applied to liquidate the end-of-period balance (CECL balance) in the estimation of EAD. The payment rate approach uses customer payment behavior (payment rate) to establish the portion of the CECL balance that will be paid each month. These payment rates are defined as the percentage of principal payments received in the respective month divided by the prior month's billed principal balance. The liquidation (CECL payment) amount for each forecast period is determined by multiplying the CECL balance by that period's forecasted payment rate. The cumulative sum of these payments less the CECL balance produces the balance liquidation curve. Citi does not apply a non-accrual policy to credit card receivables; rather, they are subject to full charge-off at 180 days past due or bankruptcy. As such, the entire customer balance up until write-off, including accrued interest and fees, is subject to the CECL reserve methodology.

Corporate Loans, HTM Securities and Other assets

Citi records allowances for credit losses on all financial assets carried at amortized cost that are in the scope of CECL, including corporate loans classified as HFI, HTM debt securities and *Other assets*. Discounting techniques are applied for corporate loans classified as HFI and HTM securities and non-accrual/TDR loan exposures. All cash flows are fully discounted to the reporting date. The ACL includes Citi's estimate of all credit losses expected to be incurred over the estimated full contractual life of the financial asset. The contractual life of the financial asset does not include expected extensions, renewals or modifications, except for instances where the Company reasonably expects to extend the tenor of the financial asset pursuant to a future TDR. Where Citi has an unconditional option to extend the contractual term, Citi does not consider the potential extension in determining the contractual term; however, where the borrower has the sole right to exercise the extension option without Citi's approval, Citi does consider the potential extension in determining the contractual term. The decrease in credit losses under CECL at the date of adoption on January 1, 2020, compared with the prior incurred loss methodology, was largely due to more precise contractual maturities that resulted in shorter remaining tenors, the incorporation of recoveries and use of more specific historical loss data based on an increase in portfolio segmentation across industries and geographies.

The Company primarily bases its ACL on models that assess the likelihood and severity of credit events and their impact on cash flows under R&S forecasted economic scenarios. Allowances consider the probability of the borrower's default, the loss the Company would incur upon default and the borrower's exposure at default. Such models discount the present value of all future cash flows, using the asset's effective interest rate (EIR). Citi applies a more simplified approach based on historical loss rates to certain exposures recorded in *Other assets* and certain loan exposures in the private bank within *Consumer loans*.

The Company considers the risk of nonpayment to be zero for U.S. Treasuries and U.S. government-sponsored agency guaranteed mortgage-backed securities (MBS) and, as such, Citi does not have an ACL for these securities. For all other HTM debt securities, ECLs are estimated using PD models and discounting techniques, which incorporate assumptions regarding the likelihood and severity of credit losses. For structured securities, specific models use relevant assumptions for the underlying collateral type. A discounting approach is applied to HTM direct obligations of a single issuer, similar to that used for corporate HFI loans.

Other Financial Assets with Zero Expected Credit Losses

For certain financial assets, zero expected credit losses will be recognized where the expectation of nonpayment of the amortized cost basis is zero, based on there being no history of loss and the nature of the receivables.

Secured Financing Transactions

Most of Citi's reverse repurchase agreements, securities borrowing arrangements and margin loans require that the borrower continually adjust the amount of the collateral securing Citi's interest, primarily resulting from changes in the fair value of such collateral. In such arrangements, ACLs are recorded based only on the amount by which the asset's amortized cost basis exceeds the fair value of the collateral. No ACLs are recorded where the fair value of the collateral is equal to or exceeds the asset's amortized cost basis, as Citi does not expect to incur credit losses on such well-collateralized exposures. For certain margin loans presented in *Loans* on the Consolidated Balance Sheet, ACLL is estimated using the same approach as corporate loans.

Accrued Interest

CECL permits entities to make an accounting policy election not to reserve for interest, if the entity has a policy in place that will result in timely reversal or write-off of interest. However, when a non-accrual or timely charge-off policy is not applied, an ACL is recognized on accrued interest at 90 days past due. For HTM debt securities, Citi established a non-accrual policy that results in timely write-off of accrued interest. For corporate loans, where a timely charge-off policy is used, Citi has elected to recognize an ACL on accrued interest receivable. The LGD models for corporate loans include an adjustment for estimated accrued interest.

Reasonably Expected TDRs

For corporate loans, the reasonable expectation of the TDR concept requires that the contractual life over which ECLs are estimated be extended when a TDR that results in a tenor extension is reasonably expected. Reasonably expected TDRs are included in the life of the asset. A discounting technique or collateral-dependent practical expedient is used for non-accrual and TDR loan exposures that do not share risk characteristics with other loans and are individually assessed. Loans modified in accordance with the CARES Act and bank regulatory guidance are not classified as TDRs.

Purchased Credit-Deteriorated (PCD) Assets

ASC 326 requires entities that have acquired financial assets (such as loans and HTM securities) with an intent to hold, to evaluate whether those assets have experienced a more-than-insignificant deterioration in credit quality since origination. These assets are subject to specialized accounting at initial recognition under CECL. Subsequent measurement of PCD assets will remain consistent with other purchased or originated assets, i.e., non-PCD assets. CECL introduces the notion of PCD assets, which replaces purchased credit impaired (PCI) accounting under prior U.S. GAAP.

CECL requires the estimation of credit losses to be performed on a pool basis unless a PCD asset does not share characteristics with any pool. If certain PCD assets do not meet the conditions for aggregation, those PCD assets should be accounted for separately. This determination must be made at the date the PCD asset is purchased. In estimating ECLs from day 2 onward, pools can potentially be reassembled based upon similar risk characteristics. When PCD assets are pooled, Citi determines the amount of the initial ACL at the pool level. The amount of the initial ACL for a PCD asset represents the portion of the total discount at acquisition that relates to credit and is recognized as a "gross-up" of the purchase price to arrive at the PCD asset's (or pool's) amortized cost. Any difference between the unpaid principal balance and the amortized cost is considered to be related to non-credit factors and results in a discount or premium, which is amortized to interest income over the life of the individual asset (or pool). Direct expenses incurred related to the acquisition of PCD assets and other assets and liabilities in a business combination are expensed as incurred. Subsequent accounting for acquired PCD assets is the same as the accounting for originated assets; changes in the allowance are recorded in *Provisions for credit losses*.

Consumer

Citi does not purchase whole portfolios of PCD assets in its retail businesses. However, there may be a small portion of a purchased portfolio that is identified as PCD at the purchase date. Interest income recognition does not vary between PCD and non-PCD assets. A consumer financial asset is considered to be more-than-insignificantly credit deteriorated if it is more than 30 days past due at the purchase date.

Corporate

Citi generally classifies wholesale loans and debt securities classified as HTM or AFS as PCD when both of the following criteria are met: (i) the purchase price discount is at least 10% of par and (ii) the purchase date is more than 90 days after the origination or issuance date. Citi classifies HTM beneficial interests rated AA- and lower obtained at origination from certain securitization transactions as PCD when there is a significant difference (i.e., 10% or greater) between contractual cash flows, adjusted for prepayments, and expected cash flows at the date of recognition.

Reserve Estimates and Policies

Management provides reserves for an estimate of lifetime ECLs in the funded loan portfolio on the Consolidated Balance Sheet in the form of an ACL. These reserves are established in accordance with Citigroup's credit reserve policies, as approved by the Audit Committee of the Citigroup Board of Directors. Citi's Chief Risk Officer and Chief Financial Officer review the adequacy of the credit loss reserves each quarter with risk management and finance representatives for each applicable business area. Applicable business areas include those having classifiably managed portfolios, where internal credit risk ratings are assigned (primarily *ICG*) and delinquency-managed portfolios (primarily *PBWM*) or modified consumer loans, where concessions were granted due to the borrowers' financial difficulties. The aforementioned representatives for these business areas present recommended reserve balances for their funded and unfunded lending portfolios along with supporting quantitative and qualitative data discussed below.

Estimated Credit Losses for Portfolios of Performing Exposures

Risk management and finance representatives who cover business areas with delinquency-managed portfolios

containing smaller-balance homogeneous loans present their recommended reserve balances based on leading credit indicators, including loan delinquencies and changes in portfolio size as well as economic trends, including current and future housing prices, unemployment, length of time in foreclosure, costs to sell and GDP. This methodology is applied separately for each product within each geographic region in which these portfolios exist. This evaluation process is subject to numerous estimates and judgments.

Risk management and finance representatives who cover business areas with classifiably managed portfolios present their recommended reserve balances based on the frequency of default, risk ratings, loss recovery rates, size and diversity of individual large credits, and ability of borrowers with foreign currency obligations to obtain the foreign currency necessary for orderly debt servicing. Changes in these estimates could have a direct impact on the credit costs in any period and could result in a change in the allowance.

Allowance for Unfunded Lending Commitments

Credit loss reserves are recognized on all off-balance sheet commitments that are not unconditionally cancelable. Corporate loan EAD models include an incremental usage factor (or credit conversion factor) to estimate ECLs on amounts undrawn at the reporting date. Off-balance sheet commitments include unfunded exposures, revolving facilities, securities underwriting commitments, letters of credit, HELOCs and financial guarantees (excluding performance guarantees). This reserve is classified on the Consolidated Balance Sheet in *Other liabilities*. Changes to the allowance for unfunded lending commitments are recorded in *Provision for credit losses on unfunded lending commitments*.

Mortgage Servicing Rights (MSRs)

Mortgage servicing rights (MSRs) are recognized as intangible assets when purchased or when the Company sells or securitizes loans acquired through purchase or origination and retains the right to service the loans. Mortgage servicing rights are accounted for at fair value, with changes in value recorded in *Other revenue* in the Company's Consolidated Statement of Income.

For additional information on the Company's MSRs, see Notes 16 and 21.

Goodwill

Goodwill represents the excess of acquisition cost over the fair value of net tangible and intangible assets acquired in a business combination. Goodwill is subject to annual impairment testing and interim assessments between annual tests if an event occurs or circumstances change that would more-likely-than-not reduce the fair value of a reporting unit below its carrying amount.

Under ASC Topic 350, *Intangibles—Goodwill and Other* and upon the adoption of ASU No. 2017-04 on January 1, 2020, the Company has an option to assess qualitative factors to determine if it is necessary to perform the goodwill impairment test. If, after assessing the totality of events or circumstances, the Company determines that it is not more-likely-than-not that the fair value of a reporting unit is less than its carrying amount, no further testing is necessary. If, however, the Company determines that it is more-likely-than-not that the fair value of a reporting unit is less than its carrying amount, then the Company must perform the quantitative test.

The Company has an unconditional option to bypass the qualitative assessment for any reporting unit in any reporting period and proceed directly to the quantitative test.

The quantitative test requires a comparison of the fair value of the individual reporting unit to its carrying value, including goodwill. If the fair value of the reporting unit is in excess of the carrying value, the related goodwill is considered not impaired and no further analysis is necessary. If the carrying value of the reporting unit exceeds the fair value, an impairment loss is recognized in an amount equal to that excess, limited to the total amount of goodwill allocated to that reporting unit.

Upon any business disposition, goodwill is allocated to, and derecognized with, the disposed business based on the ratio of the fair value of the disposed business to the fair value of the reporting unit.

Additional information on Citi's goodwill impairment testing can be found in Note 16.

Intangible Assets

Intangible assets—including core deposit intangibles, present value of future profits, purchased credit card relationships, credit card contract-related intangibles, other customer relationships and other intangible assets, but excluding MSRs—are amortized over their estimated useful lives. Credit card contract-related intangibles include fixed and unconditional costs incurred to renew or extend the contract with a card partner. In estimating the useful life of a credit card contract-related intangible, the Company considers the probability of contract renewal or extension to determine the period that the asset is expected to contribute future cash flows. Intangible assets that are deemed to have indefinite useful lives, primarily trade names, are not amortized and are subject to annual impairment tests. An impairment exists if the carrying value of the indefinite-lived intangible asset exceeds its fair value. For other intangible assets subject to amortization, an impairment is recognized if the carrying amount is not recoverable and exceeds the fair value of the intangible asset.

Premises and Equipment

Premises and equipment includes lease right-of-use assets, property and equipment (including purchased and developed software), net of depreciation and amortization. Substantially all lease right-of-use assets are amortized on a straight-line basis over the lease term, and substantially all property and equipment is depreciated or amortized on a straight-line basis over the useful life of the asset.

Other Assets and Other Liabilities

Other assets include, among other items, loans HFS, deferred tax assets, equity method investments, interest and fees receivable, repossessed assets, other receivables, and assets from businesses classified as HFS that are reclassified from other balance sheet line items. *Other liabilities* include, among other items, accrued expenses, lease liabilities, deferred tax liabilities, reserves for legal claims and legal fee accruals,

taxes, unfunded lending commitments, repositioning reserves, other payables, and liabilities from businesses classified as HFS that are reclassified from other balance sheet line items. Legal fee accruals are recognized as incurred.

Other Real Estate Owned and Repossessed Assets
Real estate or other assets received through foreclosure or repossession are generally reported in *Other assets*, net of a valuation allowance for selling costs and subsequent declines in fair value.

Securitizations
There are two key accounting determinations that must be made relating to securitizations. Citi first makes a determination as to whether the securitization entity must be consolidated. Second, it determines whether the transfer of financial assets to the entity is considered a sale under GAAP. If the securitization entity is a VIE, the Company consolidates the VIE if it is the primary beneficiary (as discussed in "Variable Interest Entities" above). For all other securitization entities determined not to be VIEs in which Citigroup participates, consolidation is based on which party has voting control of the entity, giving consideration to removal and liquidation rights in certain partnership structures. Only securitization entities controlled by Citigroup are consolidated.

Interests in the securitized and sold assets may be retained in the form of subordinated or senior interest-only strips, subordinated tranches, spread accounts and servicing rights. In credit card securitizations, the Company retains a seller's interest in the credit card receivables transferred to the trusts, which is not in securitized form. In the case of consolidated securitization entities, including the credit card trusts, these retained interests are not reported on Citi's Consolidated Balance Sheet. The securitized loans remain on the balance sheet. Substantially all of the consumer loans sold or securitized through non-consolidated trusts by Citigroup are U.S. prime residential mortgage loans. Retained interests in non-consolidated mortgage securitization trusts are classified as *Trading account assets*, except for MSRs, which are included in *Intangible assets* on Citigroup's Consolidated Balance Sheet.

Debt
Short-term borrowings and *Long-term debt* are accounted for at amortized cost, except where the Company has elected to report the debt instruments (including certain structured notes) at fair value, or debt that is in a fair value hedging relationship. Premiums, discounts and issuance costs on long-term debt accounted for at amortized cost are amortized over the contractual term using the effective interest method.

Transfers of Financial Assets
For a transfer of financial assets to be considered a sale, (i) the assets must be legally isolated from the Company, even in bankruptcy or other receivership, (ii) the purchaser must have the right to pledge or sell the assets transferred (or, if the purchaser is an entity whose sole purpose is to engage in securitization and asset-backed financing activities through the issuance of beneficial interests and that entity is constrained from pledging the assets it receives, each beneficial interest holder must have the right to sell or pledge their beneficial interests) and (iii) the Company may not have an option or obligation to reacquire the assets.

If these sale requirements are met, the assets are removed from the Company's Consolidated Balance Sheet. If the conditions for sale are not met, the transfer is considered to be a secured borrowing, the assets remain on the Consolidated Balance Sheet and the sale proceeds are recognized as the Company's liability. A legal opinion on a sale generally is obtained for complex transactions or where the Company has continuing involvement with assets transferred or with the securitization entity. For a transfer to be eligible for sale accounting, that opinion must state that the asset transfer would be considered a sale and that the assets transferred would not be consolidated with the Company's other assets in the event of the Company's insolvency.

For a transfer of a portion of a financial asset to be considered a sale, the portion transferred must meet the definition of a participating interest. A participating interest must represent a pro rata ownership in an entire financial asset; all cash flows must be divided proportionately, with the same priority of payment; no participating interest in the transferred asset may be subordinated to the interest of another participating interest holder; and no party may have the right to pledge or exchange the entire financial asset unless all participating interest holders agree. Otherwise, the transfer is accounted for as a secured borrowing.

See Note 22 for further discussion.

Risk Management Activities—Derivatives Used for Hedging Purposes
The Company manages its exposures to market movements outside of its trading activities by modifying the asset and liability mix, either directly or through the use of derivative financial products, including interest rate swaps, futures, forwards, purchased options and commodities, as well as foreign-exchange contracts. These end-user derivatives are carried at fair value in *Trading account assets* and *Trading account liabilities*.

See Note 23 for a further discussion of the Company's hedging and derivative activities.

Instrument-Specific Credit Risk
Citi presents separately in *AOCI* the portion of the total change in the fair value of a liability resulting from a change in the instrument-specific credit risk, when the entity has elected to measure the liability at fair value in accordance with the fair value option for financial instruments. Accordingly, the change in fair value of liabilities for which the fair value option was elected, related to changes in Citigroup's own credit spreads, is presented in *AOCI*.

Employee Benefits Expense
Employee benefits expense includes current service costs of pension and other postretirement benefit plans (which are accrued on a current basis), contributions and unrestricted awards under other employee plans, the amortization of restricted stock awards and costs of other employee benefits. For its most significant pension and postretirement benefit plans (Significant Plans), Citigroup measures and discloses

plan obligations, plan assets and periodic plan expense quarterly, instead of annually. The effect of remeasuring the Significant Plan obligations and assets by updating plan actuarial assumptions on a quarterly basis is reflected in *Accumulated other comprehensive income (loss)* and periodic plan expense. All other plans (All Other Plans) are remeasured annually. Benefits earned during the year are reported in *Compensation and benefits expenses* and all other components of the net annual benefit cost are reported in *Other operating expenses* in the Consolidated Statement of Income. See Note 8.

Stock-Based Compensation

The Company recognizes compensation expense related to stock awards over the requisite service period, generally based on the instruments' grant-date fair value, reduced by actual forfeitures as they occur. Compensation cost related to awards granted to employees who meet certain age plus years-of-service requirements (retirement-eligible employees) is accrued in the year prior to the grant date, in the same manner as the accrual for cash incentive compensation. Certain stock awards with performance conditions or certain clawback provisions are subject to variable accounting, pursuant to which the associated compensation expense fluctuates with changes in Citigroup's common stock price. See Note 7.

Income Taxes

The Company is subject to the income tax laws of the U.S. and its states and municipalities, as well as the non-U.S. jurisdictions in which it operates. These tax laws are complex and may be subject to different interpretations by the taxpayer and the relevant governmental taxing authorities. In establishing a provision for income tax expense, the Company must make judgments and interpretations about these tax laws. The Company must also make estimates about when in the future certain items will affect taxable income in the various tax jurisdictions, both domestic and foreign.

Disputes over interpretations of the tax laws may be subject to review and adjudication by the court systems of the various tax jurisdictions or, may be settled with the taxing authority upon examination or audit. The Company treats interest and penalties on income taxes as a component of *Income tax expense*.

Deferred taxes are recorded for the future consequences of events that have been recognized in financial statements or tax returns, based upon enacted tax laws and rates. Deferred tax assets are recognized subject to management's judgment about whether realization is more-likely-than-not. ASC 740, *Income Taxes*, sets out a consistent framework to determine the appropriate level of tax reserves to maintain for uncertain tax positions. This interpretation uses a two-step approach wherein a tax benefit is recognized if a position is more-likely-than-not to be sustained. The amount of the benefit is then measured to be the highest tax benefit that is more than 50% likely to be realized. ASC 740 also sets out disclosure requirements to enhance transparency of an entity's tax reserves.

See Note 9 for a further description of the Company's tax provision and related income tax assets and liabilities.

Commissions, Underwriting and Principal Transactions

Commissions and fees revenues are recognized in income when earned. Underwriting revenues are recognized in income typically at the closing of the transaction. *Principal transactions* revenues are recognized in income on a trade-date basis. See Note 5 for a description of the Company's revenue recognition policies for *Commissions and fees*, and Note 6 for details of *Principal transactions* revenue.

Earnings per Share

Earnings per share (EPS) is calculated using the two-class method. Under the two-class method, all earnings (distributed and undistributed) are allocated to common stock and participating securities. Undistributed earnings are calculated after deducting preferred stock dividends, any issuance cost incurred at the time of issuance of redeemed preferred stock and dividends paid and accrued to common stocks and RSU/DSA share awards. Citi grants restricted and deferred share awards under its shares-based compensation programs, which entitle recipients to receive nonforfeitable dividends during the vesting period on a basis equivalent to dividends paid to holders of the Company's common stock. These unvested awards meet the definition of participating securities based on their respective rights to receive nonforfeitable dividends, and they are treated as a separate class of securities and are not included in computing basic EPS.

Diluted EPS incorporates the potential impact of contingently issuable shares, stock options and awards which require future service as a condition of delivery of the underlying common stock. Anti-dilutive options and warrants are disregarded in the EPS calculations. Diluted EPS is calculated under both the two-class and treasury stock methods, and the more dilutive amount is reported. Participating securities are not included as incremental shares in computing diluted EPS.

Use of Estimates

Management must make estimates and assumptions that affect the Consolidated Financial Statements and the related Notes. Such estimates are used in connection with certain fair value measurements. See Note 25 for further discussions on estimates used in the determination of fair value. Moreover, estimates are significant in determining the amounts of other-than-temporary impairments, impairments of goodwill and other intangible assets, provisions for probable losses that may arise from credit-related exposures, probable and estimable losses related to litigation and regulatory proceedings, and income taxes. While management makes its best judgment, actual amounts or results could differ from those estimates.

Cash Equivalents and Restricted Cash Flows

Cash equivalents are defined as those amounts included in *Cash and due from banks* and *Deposits with banks*. Certain cash balances are restricted by regulatory or contractual requirements. See Note 27 for additional information on restricted cash.

Related Party Transactions
The Company has related party transactions with certain of its subsidiaries and affiliates. These transactions, which are primarily short-term in nature, include cash accounts, collateralized financing transactions, margin accounts, derivative transactions, charges for operational support and the borrowing and lending of funds, and are entered into in the ordinary course of business.

ACCOUNTING CHANGES

Reference Rate Reform
On December 21, 2022, the Financial Accounting Standards Board (FASB) issued ASU No. 2022-06, *Reference Rate Reform (Topic 848): Deferral of the Sunset Date of Topic 848*, which extends the period of time preparers can utilize the reference rate reform relief guidance. In 2020, the FASB issued ASU No. 2020-04, *Reference Rate Reform (Topic 848): Facilitation of the Effects of Reference Rate Reform on Financial Reporting*, which provides optional guidance to ease the potential burden in accounting for (or recognizing the effects of) reference rate reform on financial reporting. In 2021, the U.K. Financial Conduct Authority (FCA) delayed the intended cessation date of certain tenors of USD LIBOR to June 30, 2023. To ensure the relief in Topic 848 covers the period of time during which a significant number of modifications may take place, the ASU defers the sunset date of Topic 848 from December 31, 2022 to December 31, 2024. The extension allows Citi to transition its remaining contracts and maintain hedge accounting. The ASU was adopted by Citi upon issuance and did not impact financial results in 2022.

Voluntary Change in Goodwill Impairment Assessment Date
During 2022, the Company voluntarily changed its annual goodwill impairment assessment date from July 1 to October 1. See Note 16 for additional information.

Multiple Macroeconomic Scenarios-Based ACL Approach
During the second quarter of 2022, Citi refined its ACL methodology to utilize multiple macroeconomic scenarios to estimate its allowance for credit losses. The ACL was previously estimated using a combination of a single base-case forecast scenario as part of its quantitative component and a component of its qualitative management adjustment that reflects economic uncertainty from downside macroeconomic scenarios. As a result of this change, Citi now explicitly incorporates multiple macroeconomic scenarios—base, upside, and downside—and associated probabilities in the quantitative component when estimating its ACL, while still retaining certain of its qualitative management adjustments.

This refinement represents a "change in accounting estimate" under ASC Topic 250, *Accounting Changes and Error Corrections*, with prospective application beginning in the period of change. This change in accounting estimate resulted in a decrease of approximately $0.3 billion in the allowance for credit losses in the second quarter of 2022, partially offsetting an increase of $0.8 billion in the allowance for credit losses due to the increased macroeconomic uncertainty and other factors in the second quarter of 2022.

Accounting for Deposit Insurance Expenses
During the fourth quarter of 2021, Citi changed its presentation of the deposit insurance costs paid to the Federal Deposit Insurance Corporation (FDIC) and similar foreign regulators. These costs were previously presented within *Interest expense* and, as a result of this change, are now presented within *Other operating expenses*. Citi concluded that this presentation was preferable in Citi's circumstances, as it better reflected the nature of these deposit insurance costs in that these costs do not directly represent interest payments to creditors, but are similar in nature to other payments to regulatory agencies that are accounted for as operating expenses.

This change in income statement presentation represents a "change in accounting principle" under ASC Topic 250, *Accounting Changes and Error Corrections*, with retrospective application to the earliest period presented. This change in accounting principle resulted in a reclassification of $1,207 million, $1,203 million and $781 million of deposit insurance expenses from *Interest expense* to *Other operating expenses*, for the years ended December 31, 2021, 2020 and 2019, respectively. This change had no impact on Citi's net income or the total deposit insurance expense incurred by Citi.

Accounting for Financial Instruments—Credit Losses

Overview
In June 2016, the FASB issued ASU No. 2016-13, *Financial Instruments—Credit Losses (Topic 326)*. The ASU introduced a new credit loss methodology, the CECL methodology, which requires earlier recognition of credit losses while also providing additional disclosure about credit risk. Citi adopted the ASU as of January 1, 2020, which, as discussed below, resulted in an increase in Citi's *Allowance for credit losses* and a decrease to opening *Retained earnings*, net of deferred income taxes, at January 1, 2020.

The CECL methodology utilizes a lifetime "expected credit loss" measurement objective for the recognition of credit losses for loans, HTM debt securities, receivables and other financial assets measured at amortized cost at the time the financial asset is originated or acquired. The ACL is adjusted each period for changes in lifetime expected credit losses. The CECL methodology represents a significant change from prior U.S. GAAP and replaced the prior multiple existing impairment methods, which generally required that a loss be incurred before it was recognized. Within the life cycle of a loan or other financial asset, the methodology generally results in the earlier recognition of the provision for credit losses and the related ACL than prior U.S. GAAP. For available-for-sale debt securities where fair value is less than cost that Citi intends to hold or more-likely-than-not will not be required to sell, credit-related impairment, if any, is recognized through an ACL and adjusted each period for changes in credit risk.

January 1, 2020 CECL Transition (Day 1) Impact
The CECL methodology's impact on expected credit losses, among other things, reflects Citi's view of the current state of the economy, forecasted macroeconomic conditions and quality of Citi's portfolios. At the January 1, 2020 date of

adoption, based on forecasts of macroeconomic conditions and exposures at that time, the aggregate impact to Citi was an approximate $4.1 billion, or an approximate 29%, pretax increase in the *Allowance for credit losses*, along with a $3.1 billion after-tax decrease in *Retained earnings* and a deferred tax asset increase of $1.0 billion. This transition impact reflects (i) a $4.9 billion build to the *Allowance for credit losses* for Citi's consumer exposures, primarily driven by the impact on credit card receivables of longer estimated tenors under the CECL lifetime expected credit loss methodology (loss coverage of approximately 23 months) compared to shorter estimated tenors under the probable loss methodology under prior U.S. GAAP (loss coverage of approximately 14 months), net of recoveries, and (ii) a release of $0.8 billion of reserves primarily related to Citi's corporate net loan loss exposures, largely due to more precise contractual maturities that result in shorter remaining tenors, incorporation of recoveries and use of more specific historical loss data based on an increase in portfolio segmentation across industries and geographies.

Accounting for Variable Post-Charge-Off Third-Party Collection Costs

During the second quarter of 2020, Citi changed its accounting for variable post-charge-off third-party collection costs, whereby these costs were accounted for as an increase in expenses as incurred rather than a reduction in expected credit recoveries. Citi concluded that such a change in the method of accounting is preferable in Citi's circumstances as it better reflects the nature of these collection costs. That is, these costs do not represent reduced payments from borrowers and are similar to Citi's other executory third-party vendor contracts that are accounted for as operating expenses as incurred. As a result of this change, Citi had a consumer ACL release of $426 million in the second quarter of 2020 for its U.S. cards portfolios and $122 million in the third quarter of 2020 for its international portfolios.

In the fourth quarter of 2020, Citi revised the second quarter of 2020 accounting conclusion from a "change in accounting estimate effected by a change in accounting principle" to a "change in accounting principle," which required an adjustment to opening retained earnings rather than net income, with retrospective application to the earliest period presented. Citi considered the guidance in ASC Topic 250, *Accounting Changes and Error Corrections*; ASC Topic 270, *Interim Reporting*; ASC Topic 250-S99-1, *Assessing Materiality*; and ASC Topic 250-S99-23, *Accounting Changes Not Retroactively Applied Due to Immateriality, Considering the Effects of Prior Year Misstatements when Quantifying Misstatements in Current Year Financial Statements*. Citi believes that the effects of the revisions were not material to any previously reported quarterly or annual period. As a result, Citi's full-year and quarterly results were revised to reflect this change as if it were effective as of January 1, 2020 (impacts to 2018 and 2019 were de minimis). Accordingly, Citi recorded an increase to its beginning retained earnings on January 1, 2020 of $330 million and a decrease of $443 million to its ACL. Further, Citi recorded a decrease of $18 million to its provisions for credit losses on loans in the first quarter of 2020 and an increase of $339 million and $122 million to its provisions for credit losses on loans in the second and third quarters of 2020, respectively. In addition, Citi's operating expenses increased by $49 million and $45 million, with a corresponding decrease in net credit losses, in the first and second quarters of 2020, respectively. As a result of these changes, Citi's net income for the year ended December 31, 2020 was $330 million lower, or $0.16 per share lower, than under the previous presentation as a change in accounting estimate effected by a change in accounting principle.

Statement of Cash Flows

In the fourth quarter of 2022, Citi identified that certain 2021 and 2020 cash flows related to purchases of short-term negotiable certificates of deposit (NCD) and maturities of long-term NCDs were misclassified between purchases and maturities of AFS securities within investing activities and cash flows from operating activities, based on its accounting policy during those periods. As such, Citi revised its 2021 and 2020 cash flows within its 2022 Consolidated Statement of Cash Flows, as follows:

	2021			2020		
In millions of dollars	As reported	Revision	As revised	As reported	Revision	As revised
Other, net	$ (1,287)	$ (16,115)	$ (17,402)	$ 4,113	$ (2,897)	$ 1,216
Impact to cash from (used in) operating activities		(16,115)			(2,897)	
AFS purchases	(222,095)	16,115	(205,980)	(307,771)	970	(306,801)
AFS maturities	120,936	—	120,936	109,014	1,927	110,941
Impact to cash from (used in) investing activities		16,115			2,897	

After the revision, there were ($2) billion and ($30) million of net NCD cash flows presented within operating activities for 2021 and 2020, respectively. Citi evaluated the effect of the revision, both qualitatively and quantitatively, and concluded that the impact of the revision was not material.

Subsequently, in the fourth quarter of 2022, Citi voluntarily changed its policy to instead present all short-term NCD cash flows in cash flows from investing activities within *Other, net*. Although immaterial, Citi has adjusted both 2021 and 2020 cash flows within the 2022 Consolidated Statement of Cash Flows in accordance with this change in presentation. After considering the impact of the revision described above, the impact of the change in presentation resulted in immaterial increases in cash flows from operating activities and corresponding decreases in cash flows from investing activities of $2 billion and $30 million in 2021 and 2020, respectively.

FUTURE ACCOUNTING CHANGES

TDRs and Vintage Disclosures

In March 2022, the FASB issued ASU No. 2022-02, *Financial Instruments—Credit Losses (Topic 326): Troubled Debt Restructurings and Vintage Disclosures*. Citi adopted the ASU on January 1, 2023. The ASU eliminates the accounting and disclosure requirements for TDRs, including the requirement to measure the ACLL for TDRs using a discounted cash flow (DCF) approach. Citi adopted the guidance on the recognition and measurement of TDRs under the modified retrospective approach. Upon adoption, Citi discontinued the use of a DCF approach for consumer loans formerly considered TDRs. Beginning January 1, 2023, Citi measured the ACLL for all consumer loans under approaches that do not incorporate discounting, primarily utilizing models that consider the borrowers' probability of default, loss given default and exposure at default. This change resulted in a decrease to the ACLL and deferred tax assets of approximately $350 million and $100 million, respectively, and an increase to retained earnings and other assets of approximately $300 million and $50 million, respectively, on January 1, 2023. The ACLL for corporate loans was unaffected because the measurement approach used for corporate loans is not in the scope of this ASU.

The ASU also requires disclosure of modifications of loans to borrowers experiencing financial difficulty if the modification involves principal forgiveness, an interest rate reduction, an other-than-insignificant payment delay, a term extension or a combination of those types of modifications. In addition, the ASU requires the disclosure of current-period gross write-offs by year of loan origination (vintage). The amendments related to disclosures are required to be applied prospectively beginning as of the date of adoption. Citi will present the new disclosures for periods beginning on and after January 1, 2023.

Fair Value Hedging—Portfolio Layer Method

In March 2022, the FASB issued ASU No. 2022-01, *Derivatives and Hedging (Topic 815): Fair Value Hedging—Portfolio Layer Method*, intended to better align hedge accounting with an organization's risk management strategies. Specifically, the guidance expands the current single-layer method to allow multiple hedge layers of a single closed portfolio of qualifying assets, which include both prepayable and non-prepayable assets. Upon the adoption of the guidance, entities may elect to reclassify securities held-to-maturity to the available-for-sale category provided that the reclassified securities are designated in a portfolio hedge. Coincident with the adoption of this ASU, on January 1, 2023, Citi transferred HTM mortgage-backed securities with an amortized cost and fair value of approximately $3.3 billion and $3.4 billion, respectively, into AFS as permitted under the guidance, and hedged them under the portfolio layer method.

Fair Value Measurement of Equity Securities Subject to Contractual Sale Restrictions

In June 2022, the FASB issued ASU No. 2022-3, *Fair Value Measurement (Topic 820): Fair Value Measurement of Equity Securities Subject to Contractual Sale Restrictions*. The ASU was issued to address diversity in practice whereby certain entities included the impact of contractual restrictions when valuing equity securities, and it clarifies that a contractual restriction on the sale of an equity security should not be considered part of the unit of account of the equity security and, therefore, should not be considered in measuring fair value. The ASU also includes requirements for entities to disclose the fair value of equity securities subject to contractual sale restrictions, the nature and remaining duration of the restrictions and the circumstances that could cause a lapse in the restrictions.

The ASU is to be adopted on a prospective basis and will be effective for Citi on January 1, 2024, although early adoption is permitted. Adoption of the accounting standard is not expected to have an impact on Citi's operating results or financial position, as the Company excludes such restrictions when valuing equity securities.

Long-Duration Insurance Contracts

In August 2018, the FASB issued ASU No. 2018-12, *Financial Services—Insurance: Targeted Improvements to the Accounting for Long-Duration Contracts*, which changes the existing recognition, measurement, presentation and disclosures for long-duration contracts issued by an insurance entity. Specifically, the guidance (i) improves the timeliness of recognizing changes in the liability for future policy benefits and prescribes the rate used to discount future cash flows for long-duration insurance contracts, (ii) simplifies and improves the accounting for certain market-based options or guarantees associated with deposit (or account balance) contracts, (iii) simplifies the amortization of deferred acquisition costs and (iv) introduces additional quantitative and qualitative disclosures. Citi has certain insurance subsidiaries, primarily in Mexico, that issue long-duration insurance contracts such as traditional life insurance policies and life-contingent annuity contracts that are impacted by the requirements of ASU 2018-12.

The effective date of ASU 2018-12 was deferred for all insurance entities by ASU 2019-09, *Finance Services—Insurance: Effective Date* (issued in October 2019) and by ASU 2020-11, *Financial Services—Insurance: Effective Date and Early Application* (issued in November 2020). Citi adopted the targeted improvements in ASU 2018-12 on January 1, 2023. There was no material impact to Citi's financial position upon adoption, and Citi expects no material impact to its results of operations as a result of adopting the amendments.

2. DISCONTINUED OPERATIONS, SIGNIFICANT DISPOSALS AND OTHER BUSINESS EXITS

Summary of Discontinued Operations

The Company's results from *Discontinued operations* consisted of residual activities related to the sales of the Egg Banking plc credit card business in 2011 and the German retail banking business in 2008. All *Discontinued operations* results are recorded within *Corporate/Other*.

The following table summarizes financial information for all *Discontinued operations*:

In millions of dollars	**2022**	2021	2020
Total revenues, net of interest expense	**$ (260)**	$ —	$ —
Income (loss) from discontinued operations	**$ (272)**	$ 7	$ (20)
Benefit for income taxes	**(41)**	—	—
Income (loss) from discontinued operations, net of taxes	**$ (231)**	$ 7	$ (20)

During 2022, the Company settled certain liabilities related to its legacy consumer operation in the U.K. (the legacy operation), including an indemnification liability related to its sale of the Egg Banking business in 2011, which led to the substantial liquidation of the legacy operation. As a result, a CTA loss (net of hedges) in *AOCI* of approximately $400 million pretax ($345 million after-tax) related to the legacy operation was released to earnings in 2022. Out of the total CTA release, a $260 million pretax loss ($221 million after-tax loss) was attributable to the Egg Banking business noted above, reported in *Discontinued operations* and, therefore, the corresponding CTA release was also reported in *Discontinued operations* during 2022. The remaining CTA release of a $140 million pretax loss ($124 million after-tax loss) related to Legacy Holdings Assets was reported as part of *Continuing operations* within *Legacy Franchises*.

While the legacy operation was divested in multiple sales over the years, each transaction did not result in substantial liquidation given that Citi retained certain liabilities noted above, which were gradually settled over time until reaching the point of substantial liquidation during 2022, triggering the release of the CTA loss to earnings.

Cash flows from *Discontinued operations* were not material for any period presented.

Significant Disposals

As of December 31, 2022, Citi had entered into sale agreements for nine consumer banking businesses within *Legacy Franchises*. Australia closed in the second quarter of 2022, the Philippines closed in the third quarter of 2022, and Bahrain, Malaysia and Thailand each closed in the fourth quarter of 2022. Entry of sale agreements for the other four consumer banking businesses has resulted in the reclassification to HFS on the Consolidated Balance Sheet of approximately $20 billion in assets within *Other assets*, including approximately $12 billion of loans (net of allowance of $164 million), and approximately $17 billion in liabilities within *Other liabilities*, including approximately $16 billion in deposits. Of the nine sale agreements, the five below were identified as significant disposals as of December 31, 2022. The Taiwan and India sales have yet to close and are subject to regulatory approvals and other closing conditions, as are the potential sales of the Poland and Mexico consumer banking businesses.

			December 31, 2022									
In millions of dollars			Assets						Liabilities			
Consumer banking business in	**Sale agreement date**	**Expected close**	**Cash and deposits with banks**	**Loans[1]**	**Goodwill**	**Other assets, advances to/from subsidiaries**	**Other assets**	**Total assets**	**Deposits**	**Long-term debt**	**Other liabilities**	**Total liabilities**
Australia[2]	8/9/21	closed 6/1/2022	$ —	$ —	$ —	$ —	$ —	$ —	$ —	$ —	$ —	$ —
Philippines[3]	12/23/21	closed 8/1/2022	—	—	—	—	—	—	—	—	—	—
Thailand[4]	1/14/22	closed 11/1/2022	$ —	$ —	$ —	$ —	$ —	$ —	$ —	$ —	$ —	$ —
Taiwan[5]	1/28/22	second half 2023	**123**	**7,865**	**202**	**4,758**	**198**	**13,146**	**10,049**	**—**	**237**	**10,286**
India[5]	3/30/22	first half 2023	**25**	**3,423**	**329**	**1,924**	**114**	**5,815**	**5,266**	**—**	**204**	**5,470**

	Income (loss) before taxes[6]		
In millions of dollars	**2022**	2021	2020
Australia[2]	**$ 193**	$ 306	$ 181
Philippines[3]	**72**	145	42
Thailand[4]	**122**	139	93
Taiwan	**140**	282	311
India	**194**	213	117

(1) Loans, net of allowance as of December 31, 2022 includes $64 million and $37 million for Taiwan and India, respectively.

(2) On June 1, 2022, Citi completed the sale of its Australia consumer banking business, which was part of *Legacy Franchises*. The business had approximately $9.4 billion in assets, including $9.3 billion of loans (net of allowance of $140 million) and excluding goodwill. The total amount of liabilities was $7.3 billion including $6.8 billion in deposits. The transaction generated a pretax loss on sale of approximately $760 million ($640 million after-tax), subject to closing adjustments, recorded in *Other revenue*. The loss on sale primarily reflected the impact of an approximate pretax $620 million CTA loss (net of hedges) ($470 million after-tax) already reflected in the *AOCI* component of equity. The sale closed on June 1, 2022, and the CTA-related balance was removed from *AOCI*, resulting in a neutral CTA impact to Citi's CET1 Capital. The income before taxes shown in the above table for Australia reflects Citi's ownership through June 1, 2022.

(3) On August 1, 2022, Citi completed the sale of its Philippines consumer banking business, which was part of *Legacy Franchises*. The business had approximately $1.8 billion in assets, including $1.2 billion of loans (net of allowance of $80 million) and excluding goodwill. The total amount of liabilities was $1.3 billion, including $1.2 billion in deposits. The sale resulted in a pretax gain on sale of approximately $618 million ($290 million after-tax), subject to closing adjustments, recorded in *Other revenue*. The income before taxes shown in the above table for the Philippines reflects Citi's ownership through August 1, 2022.

(4) On November 1, 2022, Citi completed the sale of its Thailand consumer banking business, which was part of *Legacy Franchises*. The business had approximately $2.7 billion in assets, including $2.4 billion of loans (net of allowance of $67 million) and excluding goodwill. The total amount of liabilities was $1.0 billion, including $0.8 billion in deposits. The sale resulted in a pretax gain on sale of approximately $209 million ($115 million after-tax), subject to closing adjustments, recorded in *Other revenue*. The income before taxes shown in the above table for Thailand reflects Citi's ownership through November 1, 2022.

(5) These sales are expected to result in an after-tax gain upon closing.

(6) Income before taxes for the period in which the individually significant component was classified as HFS for all prior periods presented. For Australia, excludes the pretax loss on sale. For the Philippines and Thailand, excludes the pretax gain on sale.

Citi did not have any other significant disposals as of December 31, 2022.

For a description of the Company's significant disposal transactions in prior periods and financial impact, see Note 2 to the Consolidated Financial Statements in Citi's 2021 Form 10-K.

Other Business Exits

Wind-Down of Korea Consumer Banking Business

On October 25, 2021, Citi disclosed its decision to wind down and close its Korea consumer banking business, which is reported in the *Legacy Franchises* operating segment. In connection with the announcement, Citibank Korea Inc. (CKI) commenced a voluntary early termination program (Korea VERP). Due to the voluntary nature of this termination program, no liabilities for termination benefits are recorded until CKI makes formal offers to employees that are then irrevocably accepted by those employees. Related charges are recorded as *Compensation and benefits*.

During the first quarter of 2022, Citi recorded an additional pretax charge of $31 million, composed of gross charges connected to the Korea VERP.

The following table summarizes the reserve charges related to the Korea VERP and other initiatives reported in the *Legacy Franchises* operating segment and *Corporate/Other*:

In millions of dollars		**Employee termination costs**
Total Citigroup (pretax)		
Original charges in fourth quarter 2021	$	1,052
Utilization		(1)
Foreign exchange		3
Balance at December 31, 2021	$	1,054
Additional charges in first quarter 2022	$	31
Utilization		(347)
Foreign exchange		(24)
Balance at March 31, 2022	$	714
Additional charges (releases)	$	(3)
Utilization		(670)
Foreign exchange		(41)
Balance at June 30, 2022	$	—
Additional charges (releases)	**$**	—
Utilization		—
Foreign exchange		—
Balance at September 30, 2022	**$**	—

The total estimated cash charges for the wind-down are $1.1 billion, most of which were recognized in 2021.

See Note 8 for details on the pension impact of the Korea wind-down.

Wind-Down of Russia Consumer and Institutional Banking Businesses

On August 25, 2022, Citi announced its decision to wind down its consumer banking and local commercial banking operations in Russia. As part of the wind-down, Citi is also actively pursuing sales of certain Russian consumer banking portfolios.

On October 14, 2022, Citi disclosed that it will be ending nearly all of the institutional banking services it offers in Russia by the end of the first quarter of 2023. Going forward, Citi's only operations in Russia will be those necessary to fulfill its remaining legal and regulatory obligations.

On December 12, 2022, Citi completed the sale of a portfolio of ruble-denominated personal installment loans, totaling approximately $240 million in outstanding loan balances, to Uralsib, a Russian commercial bank, resulting in a pretax net loss of approximately $12 million. The net loss on sale of the loan portfolio included a $32 million adjustment to record the loans at lower of cost or fair value recognized in *Other revenue.* In addition, the sale of the loans resulted in a release in the allowance for credit losses on loans of approximately $20 million recognized in the *Provision for credit losses on loans*.

In connection with the portfolio sale, Citi also entered into a referral agreement to transfer to Uralsib a portfolio of ruble-denominated credit card loans, subject to customer consents. The outstanding card loans balance was approximately $219 million as of the fourth quarter of 2022. Citi will refer credit card customers, who at the customers' sole discretion will be eligible to refinance their outstanding card loan balances with Uralsib.

During 2022, Citi recorded a pretax charge of approximately $28 million as *Compensation and benefits* composed of severance costs reported in the *Legacy Franchises* operating segment and *Institutional Clients Group*.

In connection with the wind-down plans of the Russia consumer and institutional banking businesses, Citi expects to incur approximately $190 million in costs, primarily through 2024, largely driven by restructuring, vendor termination fees and other related charges. These costs do not include the impact of any potential portfolio sales.

3. OPERATING SEGMENTS

Effective January 1, 2022, Citi changed its management structure resulting in changes in its operating segments and reporting units to reflect how the CEO, who is the chief operating decision maker, manages the Company, including allocating resources and measuring performance. Citi reorganized its reporting into three operating segments: *Institutional Clients Group (ICG)*, *Personal Banking and Wealth Management (PBWM)* and *Legacy Franchises*, with *Corporate/Other* including activities not assigned to a specific operating segment, as well as discontinued operations. The prior-period balances reflect reclassifications to conform the presentation in those periods to the current operating segment structure. Citi's consolidated results were not impacted by the changes discussed above and remain unchanged for all periods presented.

ICG consists of Services, Markets and Banking, providing corporate, institutional and public sector clients around the world with a full range of wholesale banking products and services.

PBWM consists of U.S. Personal Banking and Global Wealth Management (Global Wealth), providing traditional banking services and credit cards to retail and small business customers in the U.S., and financial services to clients from affluent to ultra-high-net-worth through banking, lending, mortgages, investment, custody and trust product offerings in 20 countries, including the U.S., Mexico and the four wealth management centers: Singapore, Hong Kong, the UAE and London.

Legacy Franchises consists of Asia Consumer and Mexico Consumer/SBMM businesses that Citi intends to exit, and its remaining Legacy Holdings Assets.

Corporate/Other includes activities not assigned to the operating segments, including certain unallocated costs of global functions, other corporate expenses and net treasury results, offsets to certain line-item reclassifications and eliminations, and unallocated taxes, as well as discontinued operations.

Revenues and expenses directly associated with each respective business segment or component are included in determining respective operating results. Other revenues and expenses that are not directly attributable to a particular business segment or component are generally allocated from *Corporate/Other* based on respective net revenues, non-interest expenses or other relevant measures.

As a result of revenues and expenses from transactions with other operating segments or component being treated as transactions with external parties for purposes of segment disclosures, the Company includes intersegment eliminations within *Corporate/Other* to reconcile the business segment results to Citi's consolidated results.

The accounting policies of these operating segments are the same as those disclosed in Note 1.

The following table presents certain information regarding the Company's continuing operations by operating segment and *Corporate/Other*:

In millions of dollars, except identifiable assets, average loans and average deposits in billions	ICG			PBWM			Legacy Franchises			Corporate/Other			Total Citi		
	2022	2021	2020	**2022**	2021	2020	**2022**	2021	2020	**2022**	2021	2020	**2022**	2021	2020
Net interest income	**$17,911**	$14,999	$15,750	**$22,656**	$20,646	$22,326	**$5,691**	$6,250	$6,973	**$2,410**	$ 599	$ (298)	**$48,668**	$42,494	$44,751
Non-interest revenue	**23,295**	24,837	25,343	**1,561**	2,681	2,814	**2,781**	2,001	2,481	**(967)**	(129)	112	**26,670**	29,390	30,750
Total revenues, net of interest expense[(1)]	**$41,206**	$39,836	$41,093	**$24,217**	$23,327	$25,140	**$8,472**	$8,251	$9,454	**$1,443**	$ 470	$ (186)	**$75,338**	$71,884	$75,501
Operating expense	**26,299**	23,949	22,336	**16,258**	14,610	13,599	**7,782**	8,259	6,890	**953**	1,375	1,549	**51,292**	48,193	44,374
Provisions for credit losses	**911**	(2,490)	4,869	**3,754**	(1,224)	9,885	**571**	(62)	2,739	**3**	(2)	2	**5,239**	(3,778)	17,495
Income (loss) from continuing operations before taxes	**$13,996**	$18,377	$13,888	**$ 4,205**	$ 9,941	$ 1,656	**$ 119**	$ 54	$ (175)	**$ 487**	$ (903)	$(1,737)	**$18,807**	$27,469	$13,632
Provision (benefits) for income taxes	**3,258**	4,069	3,077	**886**	2,207	334	**128**	63	(33)	**(630)**	(888)	(853)	**3,642**	5,451	2,525
Income (loss) from continuing operations	**$10,738**	$14,308	$10,811	**$ 3,319**	$ 7,734	$ 1,322	**$ (9)**	$ (9)	$ (142)	**$1,117**	$ (15)	$ (884)	**$15,165**	$22,018	$11,107
Identifiable assets at December 31[(2)]	**$ 1,730**	$ 1,613	$ 1,592	**$ 494**	$ 464	$ 453	**$ 97**	$ 125	$ 131	**$ 96**	$ 89	$ 84	**$ 2,417**	$ 2,291	$ 2,260
Average loans	**291**	287	298	**321**	307	304	**41**	74	83	**—**	—	—	**653**	668	685
Average deposits	**830**	828	780	**435**	417	358	**52**	82	81	**16**	8	11	**1,333**	1,335	1,230

(1) Includes total Citi revenues, net of interest expense (excluding *Corporate/Other*), in North America of $34.4 billion, $34.4 billion and $37.1 billion; in EMEA of $14.9 billion, $13.4 billion and $13.4 billion; in Latin America of $9.9 billion, $9.2 billion and $9.4 billion; and in Asia of $14.7 billion, $14.4 billion and $15.8 billion in 2022, 2021 and 2020, respectively. These regional numbers exclude *Corporate/Other*, which largely reflects U.S. activities.

(2) Includes total Citi identifiable assets (excluding *Corporate/Other*), in North America of $776 billion, $709 billion and $741 billion; in EMEA of $773 billion, $742 billion and $684 billion; in Latin America of $184 billion, $179 billion and $180 billion; and in Asia of $588 billion, $572 billion and $572 billion in 2022, 2021 and 2020, respectively. These regional numbers exclude *Corporate/Other*, which largely reflects U.S. activities. The Company's long-lived assets for the periods presented are not considered to be significant in relation to its total assets. The majority of Citi's long-lived assets are located in the U.S.

4. INTEREST REVENUE AND EXPENSE

Interest revenue and *Interest expense* consisted of the following:

In millions of dollars	**2022**	2021	2020
Interest revenue			
Consumer loans	**$ 28,391**	$ 26,408	$ 27,763
Corporate loans	**12,851**	9,032	12,422
Loan interest, including fees	**$ 41,242**	$ 35,440	$ 40,185
Deposits with banks	**4,515**	577	928
Securities borrowed and purchased under agreements to resell	**7,154**	1,052	2,283
Investments, including dividends	**11,214**	7,388	7,989
Trading account assets[(1)]	**7,418**	5,365	6,125
Other interest-bearing assets[(2)]	**2,865**	653	579
Total interest revenue	**$ 74,408**	$ 50,475	$ 58,089
Interest expense			
Deposits	**$ 11,559**	$ 2,896	$ 5,334
Securities loaned and sold under agreements to repurchase	**4,455**	1,012	2,077
Trading account liabilities[(1)]	**1,437**	482	628
Short-term borrowings and other interest-bearing liabilities[(3)]	**2,488**	121	630
Long-term debt	**5,801**	3,470	4,669
Total interest expense	**$ 25,740**	$ 7,981	$ 13,338
Net interest income	**$ 48,668**	$ 42,494	$ 44,751
Provision (benefit) for credit losses on loans	**4,745**	(3,103)	15,922
Net interest income after provision for credit losses on loans	**$ 43,923**	$ 45,597	$ 28,829

(1) Interest expense on *Trading account liabilities* of *ICG* is reported as a reduction of *Interest revenue. Interest revenue* and *Interest expense* on cash collateral positions are reported in interest on *Trading account assets* and *Trading account liabilities*, respectively.
(2) Includes assets from businesses held-for-sale (see Note 2) and *Brokerage receivables*.
(3) Includes liabilities from businesses held-for-sale (see Note 2) and *Brokerage payables*.

5. COMMISSIONS AND FEES; ADMINISTRATION AND OTHER FIDUCIARY FEES

Commissions and Fees

The primary components of *Commissions and fees* revenue are investment banking fees, brokerage commissions, credit card and bank card income and deposit-related fees.

Investment banking fees are substantially composed of underwriting and advisory revenues. Such fees are recognized at the point in time when Citigroup's performance under the terms of a contractual arrangement is completed, which is typically at the closing of a transaction. Reimbursed expenses related to these transactions are recorded as revenue and are included within investment banking fees. In certain instances for advisory contracts, Citi will receive amounts in advance of the deal's closing. In these instances, the amounts received will be recognized as a liability and not recognized in revenue until the transaction closes. For the periods presented, the contract liability amount was negligible.

Out-of-pocket expenses associated with underwriting activity are deferred and recognized at the time the related revenue is recognized, while out-of-pocket expenses associated with advisory arrangements are expensed as incurred. In general, expenses incurred related to investment banking transactions, whether consummated or not, are recorded in *Other operating expenses*. The Company has determined that it acts as principal in the majority of these transactions and therefore presents expenses gross within *Other operating expenses*.

Brokerage commissions primarily include commissions and fees from the following: executing transactions for clients on exchanges and over-the-counter markets; sales of mutual funds and other annuity products; and assisting clients in clearing transactions, providing brokerage services and other such activities. Brokerage commissions are recognized in *Commissions and fees* at the point in time the associated service is fulfilled, generally on the trade execution date. Sales of certain investment products include a portion of variable consideration associated with the underlying product. In these instances, a portion of the revenue associated with the sale of the product is not recognized until the variable consideration becomes fixed and determinable. The Company recognized $538 million, $639 million and $495 million of revenue related to such variable consideration for the years ended December 31, 2022, 2021 and 2020, respectively. These amounts primarily relate to performance obligations satisfied in prior periods.

Credit card and bank card income is primarily composed of interchange fees, which are earned by card issuers based on purchase sales, and certain card fees, including annual fees. Costs related to customer reward programs and certain payments to partners (primarily based on program sales, profitability and customer acquisitions) are recorded as a reduction of credit card and bank card income. Citi's credit card programs have certain partner sharing agreements that vary by partner. These partner sharing agreements are subject to contractually based performance thresholds that, if met, would require Citi to make ongoing payments to the partner. The threshold is based on the profitability of a program and is generally calculated based on predefined program revenues less predefined program expenses. In most of Citi's partner sharing agreements, program expenses include net credit losses, which, to the extent that the increase in net credit losses reduces Citi's liability for the partners' share for a given program year, would generally result in lower payments to partners in total for that year and vice versa. Further, in some instances, other partner payments are based on program sales and new account acquisitions. Interchange revenues are recognized as earned on a daily basis when Citi's performance obligation to transmit funds to the payment networks has been satisfied. Annual card fees, net of origination costs, are deferred and amortized on a straight-line basis over a 12-month period. Costs related to card reward programs are recognized when the rewards are earned by the cardholders. Payments to partners are recognized when incurred.

Deposit-related fees consist of service charges on deposit accounts and fees earned from performing cash management activities and other deposit account services. Such fees are recognized in the period in which the related service is provided.

Transactional service fees primarily consist of fees charged for processing services such as cash management, global payments, clearing, international funds transfer and other trade services. Such fees are recognized as/when the associated service is satisfied, which normally occurs at the point in time the service is requested by the customer and provided by Citi.

Insurance distribution revenue consists of commissions earned from third-party insurance companies for marketing and selling insurance policies on behalf of such entities. Such commissions are recognized in *Commissions and fees* at the point in time the associated service is fulfilled, generally when the insurance policy is sold to the policyholder. Sales of certain insurance products include a portion of variable consideration associated with the underlying product. In these instances, a portion of the revenue associated with the sale of the policy is not recognized until the variable consideration becomes fixed and determinable. The Company recognized $201 million, $260 million and $290 million of revenue related to such variable consideration for the years ended December 31, 2022, 2021 and 2020, respectively. These amounts primarily relate to performance obligations satisfied in prior periods.

Insurance premiums consist of premium income from insurance policies that Citi has underwritten and sold to policyholders.

The following table presents *Commissions and fees* revenue:

In millions of dollars	**2022**				2021				2020			
	ICG	**PBWM**	**LF**	**Total**	ICG	PBWM	LF	Total	ICG	PBWM	LF	Total
Investment banking	**$ 3,084**	**$ —**	**$ —**	**$ 3,084**	$ 6,007	$ —	$ —	$ 6,007	$ 4,483	$ —	$ —	$ 4,483
Brokerage commissions	**1,570**	**767**	**209**	**2,546**	1,770	1,035	431	3,236	1,700	874	386	2,960
Credit and bank card income												
Interchange fees	**1,207**	**9,452**	**846**	**11,505**	817	8,119	885	9,821	704	6,526	774	8,004
Card-related loan fees	**44**	**256**	**289**	**589**	27	292	376	695	22	241	386	649
Card rewards and partner payments[1]	**(625)**	**(11,133)**	**(578)**	**(12,336)**	(405)	(9,296)	(534)	(10,235)	(380)	(7,688)	(605)	(8,673)
Deposit-related fees[2]	**1,061**	**157**	**56**	**1,274**	1,034	196	101	1,331	936	255	143	1,334
Transactional service fees	**1,057**	**17**	**95**	**1,169**	968	22	108	1,098	857	20	97	974
Corporate finance[3]	**454**	**4**	**—**	**458**	705	4	—	709	453	4	—	457
Insurance distribution revenue	**—**	**217**	**129**	**346**	—	309	164	473	—	318	185	503
Insurance premiums	**—**	**4**	**87**	**91**	—	10	84	94	—	6	119	125
Loan servicing	**39**	**48**	**16**	**103**	43	38	17	98	80	28	29	137
Other	**20**	**185**	141	**346**	20	186	139	345	15	300	117	432
Total commissions and fees[4]	**$ 7,911**	**$ (26)**	**$ 1,290**	**$ 9,175**	$ 10,986	$ 915	$ 1,771	$ 13,672	$ 8,870	$ 884	$ 1,631	$ 11,385

(1) Citi's consumer credit card programs have certain partner sharing agreements that vary by partner. These agreements are subject to contractually based performance thresholds that, if met, would require Citi to make ongoing payments to the partner. The threshold is based on the profitability of a program and is generally calculated based on predefined program revenues less predefined program expenses. In most of Citi's partner sharing agreements, program expenses include net credit losses and, to the extent that an increase in net credit losses reduces Citi's liability for the partners' share for a given program year, would generally result in lower payments to partners in total for that year and vice versa. Further, in some instances, other partner payments are based on program sales and new account acquisitions.

(2) Includes overdraft fees of $59 million (prior to the elimination of overdraft fees in June 2022), $107 million and $100 million for the years ended December 31, 2022, 2021 and 2020, respectively. Overdraft fees are accounted for under ASC 310. Citi eliminated overdraft fees, returned item fees and overdraft protection fees beginning in June 2022.

(3) Consists primarily of fees earned from structuring and underwriting loan syndications or related financing activity. This activity is accounted for under ASC 310.

(4) *Commissions and fees* include $(11,008) million, $(8,516) million and $(7,160) million not accounted for under ASC 606, *Revenue from Contracts with Customers*, for the years ended December 31, 2022, 2021 and 2020, respectively. Amounts reported in *Commissions and fees* accounted for under other guidance primarily include card-related loan fees, card reward programs and certain partner payments, corporate finance fees, insurance premiums and loan servicing fees.

LF *Legacy Franchises*

Administration and Other Fiduciary Fees

Administration and other fiduciary fees revenue is primarily composed of custody fees and fiduciary fees.

The custody product is composed of numerous services related to the administration, safekeeping and reporting for both U.S. and non-U.S. denominated securities. The services offered to clients include trade settlement, safekeeping, income collection, corporate action notification, record-keeping and reporting, tax reporting and cash management. These services are provided for a wide range of securities, including but not limited to equities, municipal and corporate bonds, mortgage- and asset-backed securities, money market instruments, U.S. Treasuries and agencies, derivative instruments, mutual funds, alternative investments and precious metals. Custody fees are recognized as or when the associated promised service is satisfied, which normally occurs at the point in time the service is requested by the customer and provided by Citi.

Fiduciary fees consist of trust services and investment management services. As an escrow agent, Citi receives, safekeeps, services and manages clients' escrowed assets, such as cash, securities, property (including intellectual property), contracts or other collateral. Citi performs its escrow agent duties by safekeeping the assets during the specified time period agreed upon by all parties and therefore earns its revenue evenly during the contract duration.

Investment management services consist of managing assets on behalf of Citi's retail and institutional clients. Revenue from these services primarily consists of asset-based fees for advisory accounts, which are based on the market value of the client's assets and recognized monthly, when the market value is fixed. In some instances, the Company contracts with third-party advisors and with third-party custodians. The Company has determined that it acts as principal in the majority of these transactions and therefore presents the amounts paid to third parties gross within *Other operating expenses*.

The following table presents *Administration and other fiduciary fees* revenue:

	2022				2021				2020			
In millions of dollars	**ICG**	**PBWM**	**LF**	**Total**	ICG	PBWM	LF	Total	ICG	PBWM	LF	Total
Custody fees[1]	**$ 1,781**	**$ 87**	**$ 9**	**$ 1,877**	$ 1,793	$ 91	$ 14	$ 1,898	$ 1,557	$ 80	$ 20	$ 1,657
Fiduciary fees	**284**	**752**	**314**	**1,350**	250	778	436	1,464	234	623	417	1,274
Guarantee fees	**508**	**43**	**6**	**557**	528	45	8	581	495	38	8	541
Total administration and other fiduciary fees[2]	**$ 2,573**	**$ 882**	**$ 329**	**$ 3,784**	$ 2,571	$ 914	$ 458	$ 3,943	$ 2,286	$ 741	$ 445	$ 3,472

(1) *ICG* in 2020 includes $38 million related to *Corporate/Other.*

(2) *Administration and other fiduciary fees* include $557 million, $581 million and $541 million for the years ended December 31, 2022, 2021 and 2020, respectively, that are not accounted for under ASC 606, *Revenue from Contracts with Customers.* These generally include guarantee fees.

LF *Legacy Franchises*

6. PRINCIPAL TRANSACTIONS

Principal transactions revenue consists of realized and unrealized gains and losses from trading activities. Trading activities include revenues from fixed income, equities, credit and commodities products and foreign exchange transactions that are managed on a portfolio basis and characterized below based on the primary risk managed by each trading desk (as such, the trading desks can be periodically reorganized and thus the risk categories). Not included in the table below is the impact of net interest income related to trading activities, which is an integral part of trading activities' profitability (see Note 4 for information about net interest income related to trading activities). Principal transactions include CVA (credit valuation adjustments) and FVA (funding valuation adjustments) on over-the-counter derivatives, and gains (losses) on certain economic hedges on loans in *ICG*. These adjustments are discussed further in Note 25.

In certain transactions, Citi incurs fees and presents these fees paid to third parties in operating expenses.

The following table presents *Principal transactions* revenue:

In millions of dollars	**2022**	2021	2020
Interest rate risks[1]	**$ 3,940**	$ 1,993	$ 4,668
Foreign exchange risks[2]	**6,593**	4,668	4,923
Equity risks[3]	**1,858**	2,197	1,431
Commodity and other risks[4]	**1,801**	1,123	1,140
Credit products and risks[5]	**(33)**	173	1,723
Total	**$ 14,159**	$ 10,154	$ 13,885

(1) Includes revenues from government securities and corporate debt, municipal securities, mortgage securities and other debt instruments. Also includes spot and forward trading of currencies and exchange-traded and over-the-counter (OTC) currency options, options on fixed income securities, interest rate swaps, currency swaps, swap options, caps and floors, financial futures, OTC options and forward contracts on fixed income securities.

(2) Includes revenues from foreign exchange spot, forward, option and swap contracts, as well as foreign currency translation (FX translation) gains and losses.

(3) Includes revenues from common, preferred and convertible preferred stock, convertible corporate debt, equity-linked notes and exchange-traded and OTC equity options and warrants.

(4) Primarily includes revenues from crude oil, refined oil products, natural gas and other commodities trades.

(5) Includes revenues from structured credit products.

7. INCENTIVE PLANS

Discretionary Annual Incentive Awards

Citigroup grants immediate cash bonus payments and various forms of immediate and deferred awards as part of its discretionary annual incentive award program involving a large segment of Citigroup's employees worldwide.

Discretionary annual incentive awards are generally awarded in the first quarter of the year based on the previous year's performance. Awards valued at less than U.S. $75,000 (or the local currency equivalent) are generally paid entirely in the form of an immediate cash bonus. Pursuant to Citigroup policy and/or regulatory requirements, certain employees are subject to mandatory deferrals of incentive pay and generally receive 15%–60% of their awards in the form of deferred stock or deferred cash stock units. Discretionary annual incentive awards to certain employees in the EU are subject to deferral requirements regardless of the total award value, with at least 50% of the immediate incentive delivered in the form of a stock payment award subject to a restriction on sale or transfer (generally, for 12 months).

For incentive awards granted in 2022, Citigroup changed the annual deferred compensation structure from granting deferred cash awards for certain regulated employees to deferred stock awards. Certain employees located in countries that have regulations or tax advantages for offering deferred cash or deferred cash stock units received those types of awards as a part of their annual incentive compensation rather than deferred stock.

Subject to certain exceptions (principally, for retirement-eligible employees), continuous employment within Citigroup is required to vest in deferred annual incentive awards. Post employment vesting by retirement-eligible employees and participants who meet other conditions is generally conditioned upon their compliance with certain restrictions during the remaining vesting period.

Generally, the deferred awards vest in equal annual installments over three- or four-year periods. Vested stock awards are delivered in shares of common stock. Deferred cash awards are payable in cash and, except as prohibited by applicable regulatory guidance, earn a fixed notional rate of interest that is paid only if and when the underlying principal award amount vests. Deferred cash stock unit awards are payable in cash at the vesting value of the underlying stock. Generally, in the EU, vested shares are subject to a restriction on sale or transfer after vesting, and vested deferred cash awards and deferred cash stock units are subject to hold back (generally, for 6 or 12 months based on the award type).

Stock awards, deferred cash stock units and deferred cash awards are subject to one or more cancellation and clawback provisions that apply in certain circumstances, including gross misconduct.

Outstanding (Unvested) Stock Awards

A summary of the status of unvested stock awards granted as discretionary annual incentive or sign-on and replacement awards is presented below:

Unvested stock awards	Shares	Weighted-average grant date fair value per share
Unvested at December 31, 2021	31,644,684	$ 66.22
Granted[(1)]	25,729,643	65.07
Canceled	(2,007,260)	65.94
Vested[(2)]	(13,458,860)	67.17
Unvested at December 31, 2022	**41,908,207**	**$ 65.23**

(1) The weighted-average fair value of the shares granted during 2021 and 2020 was $62.10 and $76.68, respectively.

(2) The weighted-average fair value of the shares vesting during 2022 was approximately $64.13 per share on the vesting date, compared to $67.17 on the grant date.

Total unrecognized compensation cost related to unvested stock awards was $862 million at December 31, 2022. The cost is expected to be recognized over a weighted-average period of 1.7 years.

Performance Share Units

Executive officers were awarded performance share units (PSUs) every February from 2019 to 2022, for performance in the year prior to the award date based on two performance metrics. For PSUs awarded in 2019 and 2020, those metrics were return on tangible common equity and earnings per share. For PSUs awards in 2021 and 2022, the metrics were return on tangible common equity and tangible book value per share. In each year, the metrics were equally weighted.

For all award years, if the total shareholder return is negative over the three-year performance period, executives may earn no more than 100% of the target PSUs, regardless of the extent to which Citigroup outperforms against performance goals and/or peer firms. The number of PSUs ultimately earned could vary from zero, if performance goals are not met, to as much as 150% of target, if performance goals are meaningfully exceeded. The reported financial metrics during the performance period are adjusted to reflect an equitable adjustment as required under the applicable award agreements for unusual and non-recurring items, including divestitures, as well as accounting rule and tax law changes.

For all award years, the value of each PSU is equal to the value of one share of Citi common stock. Dividend equivalents are accrued and paid on the number of earned PSUs after the end of the performance period.

PSUs are subject to variable accounting, pursuant to which the associated value of the award will fluctuate with changes in Citigroup's stock price and the attainment of the specified performance goals for each award. The award is settled solely in cash after the end of each performance period. The value of the award, subject to the performance goals and taking into account any mandatory equitable adjustments as per the terms of the award agreement, is estimated using a simulation model that incorporates multiple valuation assumptions, including the probability of achieving the specified performance goals of each award. The risk-free rate used in the model is based on the applicable U.S. Treasury yield curve. Other significant assumptions for the awards are as follows:

Valuation assumptions	2022	2021	2020
Expected volatility	**37.01 %**	40.88 %	22.26 %
Expected dividend yield	**2.96**	4.21	2.82

A summary of the performance share unit activity for 2022 is presented below:

Performance share units	Units	Weighted-average grant date fair value per unit
Outstanding, beginning of year	**1,274,273**	**$ 77.67**
Granted[(1)]	**531,824**	**71.04**
Canceled	**(62,875)**	**72.83**
Payments[(2)]	**(461,087)**	**72.83**
Outstanding, end of year	**1,282,135**	**$ 76.90**

(1) The weighted-average grant date fair value per unit awarded in 2021 and 2020 was $78.55 and $83.45, respectively.
(2) The value of the payments was approximately $32 million.

Transformation Program
In order to provide an incentive for select employees to effectively execute Citi's transformation program, in August 2021 the Personnel and Compensation (P&C) Committee of Citigroup's Board of Directors, the predecessor of the Compensation, Performance Management and Culture (CPC) Committee of Citigroup's Board of Directors, approved a program for them to earn additional compensation based on the achievement of Citi's transformation goals from August 2021 through December 2024 and satisfaction of other conditions. Performance under the program is divided into three consecutive periods, ending on December 31, 2022, 2023 and 2024. The awards are subject to variable accounting, pursuant to which the associated value of the award will fluctuate with the attainment of the performance conditions for each tranche and changes to Citigroup's stock price for the third tranche. Payment for each period will be in cash, in a lump sum, with the third payment indexed to changes in the value of Citi's common stock from the service inception date through the payment date. Earnings generally will be based on collective performance with respect to Citi's transformation goals and will be evaluated and approved by the CPC Committee on an annual basis.

Payments in the event of any category of employment termination or change in job title or employment status are subject to Citi's discretion. Cancellation and clawback are provided for in the event of misconduct and certain other circumstances. The program applies to senior leaders, other than the CEO, critical to helping deliver a successful transformation with the value varying based on individual compensation levels.

Stock Option Program
All outstanding options were fully vested at December 31, 2020 and exercised during 2021, with none outstanding at December 31, 2022 and 2021.

Other Variable Incentive Compensation
Citigroup has various incentive plans globally that are used to motivate and reward performance primarily in the areas of sales, operational excellence and customer satisfaction. Participation in these plans is generally limited to employees who are not eligible for discretionary annual incentive awards. Other forms of variable compensation include commissions paid to financial advisors and mortgage loan officers.

Summary
Except for awards subject to variable accounting, the total expense recognized for stock awards represents the grant date fair value of such awards, which is generally recognized as a charge to income ratably over the vesting period, other than for awards to retirement-eligible employees and immediately vested awards. Whenever awards are granted or are expected to be granted to retirement-eligible employees, the charge to income is accelerated based on when the applicable conditions for retirement eligibility were or will be met. If the employee is retirement eligible on the grant date, or the award is vested at the grant date, Citi recognizes the expense each year equal to the grant date fair value of the awards that it estimates will be granted in the following year.

Recipients of Citigroup stock awards generally do not have any stockholder rights until shares are delivered upon vesting or exercise. Recipients of deferred stock awards and deferred cash stock unit awards, however, may, except as prohibited by applicable regulatory guidance, be entitled to receive or accrue dividend-equivalent payments during the vesting period. Recipients of stock payment awards and other stock awards subject to a sale-restriction period are generally entitled to vote the shares in their award and receive dividends on such shares during the sale-restriction period. Once a stock award vests, the shares delivered to the participant are freely transferable, unless they are subject to a restriction on sale or transfer for a specified period.

All equity awards granted since April 19, 2005 have been made pursuant to stockholder-approved stock incentive plans that are administered by the CPC Committee (or its predecessor), which is composed entirely of independent non-employee directors.

On December 31, 2022, approximately 48.0 million shares of Citigroup common stock were authorized and available for grant under Citigroup's 2019 Stock Incentive Plan, the only plan from which equity awards are currently granted.

The 2019 Stock Incentive Plan and predecessor plans permit the use of treasury stock or newly issued shares in connection with awards granted under the plans. Treasury shares were used to settle vestings from 2018 to 2021, and for the first quarter of 2022, except where local laws favor newly issued shares. The use of treasury stock or newly issued shares to settle stock awards does not affect the compensation expense recorded in the Consolidated Statement of Income for equity awards.

Incentive Compensation Cost

The following table shows components of compensation expense, relating to certain of the incentive compensation programs described above:

In millions of dollars	**2022**	2021	2020
Charges for estimated awards to retirement-eligible employees	**$ 742**	$ 807	$ 748
Amortization of deferred cash awards, deferred cash stock units and performance stock units	**463**	384	201
Immediately vested stock award expense[1]	**101**	99	95
Amortization of restricted and deferred stock awards[2]	**533**	395	420
Other variable incentive compensation	**304**	435	627
Total	**$ 2,143**	$ 2,120	$ 2,091

(1) Represents expense for immediately vested stock awards that generally were stock payments in lieu of cash compensation. The expense is generally accrued as cash incentive compensation in the year prior to grant.

(2) All periods include amortization expense for all unvested awards to non-retirement-eligible employees.

8. RETIREMENT BENEFITS

Pension and Postretirement Plans

The Company has several non-contributory defined benefit pension plans covering certain U.S. employees and has various defined benefit pension and termination indemnity plans covering employees outside the U.S.

The U.S. qualified defined benefit plan was frozen effective January 1, 2008 for most employees. Accordingly, no additional compensation-based contributions have been credited to the cash balance portion of the plan for existing plan participants after 2007. However, certain employees covered under the prior final pay plan formula continue to accrue benefits. The Company also offers postretirement health care and life insurance benefits to certain eligible U.S. retired employees, as well as to certain eligible employees outside the U.S.

The Company also sponsors a number of non-contributory, nonqualified pension plans. These plans, which are unfunded, provide supplemental defined pension benefits to certain U.S. employees. With the exception of certain employees covered under the prior final pay plan formula, the benefits under these plans were frozen in prior years.

The plan obligations, plan assets and periodic plan expense for the Company's most significant pension and postretirement benefit plans (Significant Plans) are measured and disclosed quarterly, instead of annually. The Significant Plans captured approximately 90% of the Company's global pension and postretirement plan obligations as of December 31, 2022. All other plans (All Other Plans) are measured annually with a December 31 measurement date.

Net (Benefit) Expense

The following table summarizes the components of net (benefit) expense recognized in the Consolidated Statement of Income for the Company's pension and postretirement plans for Significant Plans and All Other Plans. Benefits earned during the year are reported in *Compensation and benefits expenses* and all other components of the net annual benefit cost are reported in *Other operating expenses* in the Consolidated Statement of Income:

	Pension plans						Postretirement benefit plans					
	U.S. plans			Non-U.S. plans			U.S. plans			Non-U.S. plans		
In millions of dollars	**2022**	2021	2020	**2022**	2021	2020	**2022**	2021	2020	**2022**	2021	2020
Service cost	**$ —**	$ —	$ —	**$ 116**	$ 149	$ 147	**$ —**	$ —	$ —	**$ 2**	$ 6	$ 7
Interest cost on benefit obligation	**442**	351	378	**329**	268	246	**16**	13	17	**90**	96	93
Expected return on assets	**(612)**	(683)	(824)	**(263)**	(253)	(245)	**(11)**	(13)	(17)	**(69)**	(84)	(77)
Amortization of unrecognized:												
Prior service cost (benefit)	**2**	2	2	**(7)**	(6)	5	**(9)**	(9)	(2)	**(8)**	(9)	(9)
Net actuarial loss (gain)	**162**	228	233	**58**	62	70	**(9)**	(3)	—	**6**	13	20
Curtailment loss (gain)[1]	**—**	—	—	**(22)**	1	(8)	**—**	—	—	**—**	—	—
Settlement loss (gain)[1]	**—**	—	—	**(15)**	10	(1)	**—**	—	—	**—**	—	—
Total net (benefit) expense	**$ (6)**	$ (102)	$ (211)	**$ 196**	$ 231	$ 214	**$ (13)**	$ (12)	$ (2)	**$ 21**	$ 22	$ 34

(1) Curtailment and settlement relate to divestiture activities. Total net expense for non-U.S. plans includes a $36 million net benefit related to the wind-down of Citi's consumer banking business in Korea.

Contributions

The Company's funding practice for U.S. and non-U.S. pension and postretirement plans is generally to fund to minimum funding requirements in accordance with applicable local laws and regulations. The Company may increase its contributions above the minimum required contribution, if appropriate. In addition, management has the ability to change its funding practices. For the U.S. pension plans, there were no required minimum cash contributions for 2022 or 2021.

The following table summarizes the Company's actual contributions for the years ended December 31, 2022 and 2021, as well as expected Company contributions for 2023. Expected contributions are subject to change, since contribution decisions are affected by various factors, such as market performance, tax considerations and regulatory requirements.

	Pension plans[1]						Postretirement benefit plans[1]					
	U.S. plans[2]			Non-U.S. plans			U.S. plans			Non-U.S. plans		
In millions of dollars	**2023**	2022	2021	**2023**	2022	2021	**2023**	2022	2021	**2023**	2022	2021
Contributions made by the Company	**$ —**	$ —	$ —	**$ 71**	$ 158	$ 104	**$ —**	$ —	$ —	**$ 4**	$ 4	$ 3
Benefits paid directly by (reimbursements to) the Company[3]	**57**	55	56	**39**	336	51	**5**	14	22	**5**	5	5

(1) Amounts reported for 2023 are expected amounts.
(2) The U.S. pension plans include benefits paid directly by the Company for the nonqualified pension plans.
(3) 2022 benefit payments have increased due to the wind-down of Citi's consumer banking business in Korea. See Note 2 for additional information.

Funded Status and *Accumulated Other Comprehensive Income (AOCI)*

The following table summarizes the funded status and amounts recognized on the Consolidated Balance Sheet for the Company's pension and postretirement plans:

	Pension plans				Postretirement benefit plans			
	U.S. plans		Non-U.S. plans		U.S. plans		Non-U.S. plans	
In millions of dollars	**2022**	2021	**2022**	2021	**2022**	2021	**2022**	2021
Change in benefit obligation								
Benefit obligation at beginning of year	**$ 12,766**	$ 13,815	**$ 8,001**	$ 8,629	**$ 501**	$ 559	**$ 1,169**	$ 1,390
Service cost	**—**	—	**116**	149	**—**	—	**2**	6
Interest cost on benefit obligation	**442**	351	**329**	268	**16**	13	**90**	96
Plan amendments	**—**	—	**—**	6	**—**	—	**—**	—
Actuarial (gain)[2]	**(2,522)**	(447)	**(1,168)**	(344)	**(95)**	(28)	**(100)**	(110)
Benefits paid, net of participants' contributions	**(945)**	(953)	**(397)**	(345)	**(47)**	(43)	**(72)**	(78)
Divestitures	**—**	—	**(22)**	—	**—**	—	**—**	—
Settlement[4]	**—**	—	**(364)**	(124)	**—**	—	**—**	—
Curtailment[4]	**—**	—	**(35)**	(30)	**—**	—	**—**	—
Foreign exchange impact and other	**—**	—	**(85)**	(208)	**—**	—	**(76)**	(135)
Benefit obligation at year end	**$ 9,741**	$ 12,766	**$ 6,375**	$ 8,001	**$ 375**	$ 501	**$ 1,013**	$ 1,169
Change in plan assets								
Plan assets at fair value at beginning of year	**$ 12,977**	$ 13,309	**$ 7,614**	$ 7,831	**$ 319**	$ 331	**$ 1,043**	$ 1,146
Actual return on assets[2]	**(1,942)**	565	**(1,212)**	217	**(33)**	9	**(75)**	97
Company contributions, net of reimbursements	**55**	56	**495**	155	**14**	22	**9**	8
Benefits paid, net of participants' contributions	**(945)**	(953)	**(397)**	(345)	**(47)**	(43)	**(72)**	(78)
Divestitures	**—**	—	**(11)**	—	**—**	—	**—**	—
Settlement[4]	**—**	—	**(364)**	(124)	**—**	—	**—**	—
Foreign exchange impact and other	**—**	—	**(39)**	(120)	**—**	—	**(50)**	(130)
Plan assets at fair value at year end	**$ 10,145**	$ 12,977	**$ 6,086**	$ 7,614	**$ 253**	$ 319	**$ 855**	$ 1,043
Funded status of the plans								
Qualified plans[5]	**$ 949**	$ 894	**$ (289)**	$ (387)	**$ (122)**	$ (182)	**$ (158)**	$ (126)
Nonqualified plans[3]	**(545)**	(683)	**—**	—	**—**	—	**—**	—
Funded status of the plans at year end	**$ 404**	$ 211	**$ (289)**	$ (387)	**$ (122)**	$ (182)	**$ (158)**	$ (126)
Net amount recognized at year end								
Qualified plans								
Benefit asset	**$ 949**	$ 894	**$ 799**	$ 963	**$ —**	$ —	**$ 28**	$ 165
Benefit liability	**—**	—	**(1,088)**	(1,350)	**(122)**	(182)	**(186)**	(291)
Qualified plans	**$ 949**	$ 894	**$ (289)**	$ (387)	**$ (122)**	$ (182)	**$ (158)**	$ (126)
Nonqualified plans	**(545)**	(683)	**—**	—	**—**	—	**—**	—
Net amount recognized on the balance sheet	**$ 404**	$ 211	**$ (289)**	$ (387)	**$ (122)**	$ (182)	**$ (158)**	$ (126)
Amounts recognized in *AOCI* at year end[1]								
Net transition obligation	**$ —**	$ —	**$ —**	$ —	**$ —**	$ —	**$ —**	$ —
Prior service (cost) benefit	**(6)**	(8)	**7**	5	**82**	92	**36**	47
Net actuarial (loss) gain	**(6,445)**	(6,575)	**(1,671)**	(1,400)	**120**	77	**(206)**	(182)
Net amount recognized in equity (pretax)	**$ (6,451)**	$ (6,583)	**$ (1,664)**	$ (1,395)	**$ 202**	$ 169	**$ (170)**	$ (135)
Accumulated benefit obligation at year end	**$ 9,740**	$ 12,765	**$ 6,051**	$ 7,559	**$ 375**	$ 501	**$ 1,013**	$ 1,169

(1) The framework for the Company's pension oversight process includes monitoring of potential settlement charges for all plans. Settlement accounting is triggered when either the sum of all settlements (including lump sum payments) for the year is greater than service plus interest costs or if more than 10% of the plan's projected benefit obligation will be settled. Because some of Citi's Significant Plans are frozen and have no material service cost, settlement accounting may apply in the future.

(2) Actuarial gain was primarily due to the increase in global discount rates partially offset by lower than expected asset returns.

(3) The nonqualified plans of the Company are unfunded.

(4) Curtailment and settlement relate to divestiture activities.

(5) The U.S. qualified plan was fully funded as of January 1, 2022 and no minimum funding was required for 2022. The plan is also expected to be fully funded as of January 1, 2023 with no expected minimum funding requirement for 2023.

The following table shows the change in *AOCI* related to the Company's pension, postretirement and post employment plans:

In millions of dollars	**2022**	2021	2020
Beginning of year balance, net of tax[1][2]	**$ (5,852)**	$ (6,864)	$ (6,809)
Actuarial assumptions changes and plan experience	**3,923**	963	(1,464)
Net asset gain (loss) due to difference between actual and expected returns	**(4,225)**	(148)	1,076
Net amortization	**198**	280	318
Prior service credit (cost)	**—**	(7)	108
Curtailment/settlement gain (loss)[3]	**(37)**	11	(8)
Foreign exchange impact and other	**172**	153	(108)
Change in deferred taxes, net	**66**	(240)	23
Change, net of tax	**$ 97**	$ 1,012	$ (55)
End of year balance, net of tax[1][2]	**$ (5,755)**	$ (5,852)	$ (6,864)

(1) See Note 20 for further discussion of net *AOCI* balance.
(2) Includes net-of-tax amounts for certain profit-sharing plans outside the U.S.
(3) Curtailment and settlement relate to divestiture activities.

At December 31, 2022 and 2021, the aggregate projected benefit obligation (PBO), the aggregate accumulated benefit obligation (ABO) and the aggregate fair value of plan assets are presented for all defined benefit pension plans with a PBO in excess of plan assets and for all defined benefit pension plans with an ABO in excess of plan assets as follows:

	PBO exceeds fair value of plan assets				**ABO exceeds fair value of plan assets**			
	U.S. plans[1]		**Non-U.S. plans**		**U.S. plans**[1]		**Non-U.S. plans**	
In millions of dollars	**2022**	2021	**2022**	2021	**2022**	2021	**2022**	2021
Projected benefit obligation	**$ 545**	$ 683	**$ 3,463**	$ 3,966	**$ 545**	$ 683	**$ 3,315**	$ 3,809
Accumulated benefit obligation	**545**	683	**3,179**	3,574	**545**	682	**3,088**	3,477
Fair value of plan assets	**—**	—	**2,374**	2,616	**—**	—	**2,252**	2,486

(1) As of December 31, 2022 and 2021, only the nonqualified plans' PBO and ABO exceeded plan assets.

Plan Assumptions

The Company utilizes a number of assumptions to determine plan obligations and expenses. Changes in one or a combination of these assumptions will have an impact on the Company's pension and postretirement PBO, funded status and (benefit) expense. Changes in the plans' funded status resulting from changes in the PBO and fair value of plan assets will have a corresponding impact on *Accumulated other comprehensive income (loss)*.

The actuarial assumptions at the respective years ended December 31 in the table below are used to measure the year-end PBO and the net periodic (benefit) expense for the subsequent year (period). Since Citi's Significant Plans are measured on a quarterly basis, the year-end rates for those plans are used to calculate the net periodic (benefit) expense for the subsequent year's first quarter.

As a result of the quarterly measurement process, the net periodic (benefit) expense for the Significant Plans is calculated at each respective quarter end based on the preceding quarter-end rates (as shown below for the U.S. and non-U.S. pension and postretirement plans). The actuarial assumptions for All Other Plans are measured annually.

Certain assumptions used in determining pension and postretirement benefit obligations and net benefit expense for the Company's plans are shown in the following table:

At year end	**2022**	2021
Discount rate		
U.S. plans		
Qualified pension	**5.50%**	2.80%
Nonqualified pension	**5.55**	2.80
Postretirement	**5.60**	2.75
Non-U.S. pension plans		
Range[1]	**1.75 to 25.20**	-0.10 to 11.95
Weighted average	**6.66**	3.96
Non-U.S. postretirement plans		
Range	**3.25 to 10.60**	1.05 to 10.00
Weighted average	**9.80**	8.28
Future compensation increase rate[2]		
Non-U.S. pension plans		
Range	**1.30 to 23.11**	1.30 to 11.25
Weighted average	**3.76**	3.10
Expected return on assets		
U.S. plans		
Qualified pension	**5.70**	5.00
Postretirement[3]	**5.70/3.00**	5.00/1.50
Non-U.S. pension plans		
Range	**1.00 to 11.50**	0.00 to 11.50
Weighted average	**6.05**	3.69
Non-U.S. postretirement plans		
Range	**8.70 to 9.10**	6.00 to 8.00
Weighted average	**8.70**	7.99

(1) In 2021, due to historically low global interest rates, there were negative discount rates for plans with relatively short duration in certain major markets, such as the Eurozone and Switzerland.
(2) Not material for U.S. plans.
(3) For the years ended 2022 and 2021, the expected return on assets for the VEBA Trust was 3.00% and 1.50%, respectively.

During the year	**2022**	2021	2020
Discount rate			
U.S. plans			
Qualified pension	**2.80%/3.80%/ 4.80%/5.65%**	2.45%/3.10%/ 2.75%/2.80%	3.25%/3.20%/ 2.60%/2.55%
Nonqualified pension	**2.80/3.85/ 4.80/5.60**	2.35/3.00/ 2.70/2.75	3.25/3.25/ 2.55/2.50
Postretirement	**2.75/3.85/ 4.75/5.65**	2.20/2.85/ 2.60/2.65	3.15/3.20/ 2.45/2.35
Non-U.S. pension plans[1]			
Range[2]	**-0.10 to 11.95**	-0.25 to 11.15	-0.10 to 11.30
Weighted average	**3.96**	3.14	3.65
Non-U.S. postretirement plans[1]			
Range	**1.05 to 11.25**	0.80 to 9.80	0.90 to 9.75
Weighted average	**8.28**	7.42	7.76
Future compensation increase rate[3]			
Non-U.S. pension plans[1]			
Range	**1.30 to 11.25**	1.20 to 11.25	1.50 to 11.50
Weighted average	**3.10**	3.10	3.17
Expected return on assets			
U.S. plans			
Qualified pension[4]	**5.00**	5.80/5.60/ 5.60/5.00	6.70
Postretirement[4]	**5.00/1.50**	5.80/5.60/ 5.00/1.50	6.70/3.00
Non-U.S. pension plans[1]			
Range	**0.00 to 11.50**	0.00 to 11.50	0.00 to 11.50
Weighted average	**3.69**	3.39	3.95
Non-U.S. postretirement plans[1]			
Range	**6.00 to 8.00**	5.95 to 8.00	6.20 to 8.00
Weighted average	**7.99**	7.99	7.99

(1) Reflects rates utilized to determine the quarterly expense for Significant non-U.S. pension and postretirement plans.
(2) In 2021, due to historically low global interest rates, there were negative discount rates for plans with relatively short duration in certain major markets, such as the Eurozone and Switzerland.
(3) Not material for U.S. plans.
(4) The expected return on assets for the U.S. pension and postretirement plans was adjusted from 5.00% to 5.70% effective January 1, 2023 to reflect a significant change in economic market conditions. The expected return on assets for the U.S. pension and postretirement plans changed from 6.70% to 5.80% effective as of January 1, 2021, reduced to 5.60% effective April 1, 2021 and further reduced to 5.00% effective October 1, 2021.

Discount Rate

The discount rates for the U.S. pension and postretirement plans were selected by reference to a Citigroup-specific analysis using each plan's specific cash flows and a hypothetical bond portfolio of U.S. high-quality corporate bonds that match each plan's projected cash flows. The discount rates for the non-U.S. pension and postretirement plans are selected by reference to each plan's specific cash flows and a market-based yield curve developed from the available local high-quality corporate bonds. However, where developed corporate bond markets do not exist, the discount rates are selected by reference to local government bonds with an estimated premium added to reflect the additional risk for corporate bonds in certain countries. Where available, the resulting plan yields by jurisdiction are compared with published, high-quality corporate bond indices for reasonableness.

Expected Return on Assets

The Company determines its assumptions for the expected return on assets for its U.S. pension and postretirement plans using a "building block" approach, which focuses on ranges of anticipated rates of return for each asset class. A weighted average range of nominal rates is then determined based on target allocations to each asset class. Market performance over a number of earlier years is evaluated covering a wide range of economic conditions to determine whether there are sound reasons for projecting any past trends.

The Company considers the expected return on assets to be a long-term assessment of return expectations and does not anticipate changing this assumption unless there are significant changes in investment strategy or economic conditions. This contrasts with the selection of the discount rate and certain other assumptions, which are reconsidered annually (or quarterly for the Significant Plans) in accordance with GAAP.

The expected return on assets reflects the expected annual appreciation of the plan assets and reduces the Company's annual pension expense. The expected return on assets is deducted from the sum of service cost, interest cost and other components of pension expense to arrive at the net pension (benefit) expense.

The following table shows the expected return on assets used in determining the Company's pension expense compared to the actual return on assets during 2022, 2021 and 2020 for the U.S. pension and postretirement plans:

U.S. plans (During the year)	**2022**	2021	2020
Expected return on assets			
U.S. pension and postretirement trust	**5.00%**	5.80%/5.60%/ 5.60%/5.00%	6.70%
VEBA Trust[2]	**1.50**	1.50	3.00
Actual return on assets[1]			
U.S. pension and postretirement trust	**(15.52)**	5.14	12.84
VEBA Trust	**1.40**	1.52	2.11

(1) Actual return on assets is presented net of fees.

(2) The expected return on assets for the VEBA Trust was adjusted from 1.50% to 3.00% effective January 1, 2023 to reflect significant change in economic condition.

Sensitivities of Certain Key Assumptions

The following tables summarize the effect on pension expense:

	Discount rate		
	One-percentage-point increase		
In millions of dollars	**2022**	2021	2020
U.S. plans	**$ 27**	$ 35	$ 34
Non-U.S. plans	**(5)**	(4)	(16)

	One-percentage-point decrease		
In millions of dollars	**2022**	2021	2020
U.S. plans	**$ (34)**	$ (49)	$ (52)
Non-U.S. plans	**15**	25	25

The U.S. Qualified Pension Plan was frozen in 2008, and as a result, most of the prospective service costs have been eliminated and the gain/loss amortization period was changed to the life expectancy for inactive participants. As a result, pension expense for the U.S. Qualified Pension Plan is driven more by interest costs than service costs, and an increase in the discount rate would increase pension expense, while a decrease in discount rate would decrease pension expense.

For Non-U.S. Pension Plans that are not frozen (in countries such as Mexico, the U.K. and South Korea), there is more service cost. The pension expense for the Non-U.S. Plans is driven by both service cost and interest cost. An increase in the discount rate generally decreases pension expense due to the greater impact on service cost compared to interest cost.

The following tables summarize the effect on pension expense:

	Expected return on assets		
	One-percentage-point increase		
In millions of dollars	**2022**	2021	2020
U.S. plans	**$ (123)**	$ (124)	$ (123)
Non-U.S. plans	**(60)**	(70)	(66)

	One-percentage-point decrease		
In millions of dollars	**2022**	2021	2020
U.S. plans	**$ 123**	$ 124	$ 123
Non-U.S. plans	**60**	70	66

Health Care Cost Trend Rate

Assumed health care cost trend rates were as follows:

	2022	2021
Health care cost increase rate for U.S. plans		
Following year	**7.00%**	6.25%
Ultimate rate to which cost increase is assumed to decline	**5.00**	5.00
Year in which the ultimate rate is reached	**2031**	2027
Health care cost increase rate for non-U.S. plans (weighted average)		
Following year	**7.05%**	6.92%
Ultimate rate to which cost increase is assumed to decline	**7.05**	6.92
Year in which the ultimate rate is reached	**2023**	2022

Interest Crediting Rate

The Company has cash balance plans and other plans with promised interest crediting rates. For these plans, the interest crediting rates are set in line with plan rules or country legislation and do not change with market conditions.

	Weighted average interest crediting rate		
At year end	**2022**	2021	2020
U.S. plans	**4.50%**	1.80%	1.45%
Non-U.S. plans	**1.73**	1.61	1.60

Plan Assets

Citigroup's pension and postretirement plans' asset allocations for the U.S. plans and the target allocations by asset category based on asset fair values are as follows:

	Target asset allocation	**U.S. pension assets at December 31,**		**U.S. postretirement assets at December 31,**	
Asset category[1]	2023	**2022**	2021	**2022**	2021
Equity securities[2]	0–22%	**7 %**	7 %	**7 %**	7 %
Debt securities[3]	55–114	**71**	72	**71**	72
Real estate	0–4	**3**	2	**3**	2
Private equity	0–5	**7**	6	**7**	6
Other investments	0–23	**12**	13	**12**	13
Total		**100 %**	100 %	**100 %**	100 %

(1) Target asset allocations are set by investment strategy, whereas pension and postretirement assets as of December 31, 2022 and 2021 are based on the underlying investment product. For example, the private equity investment strategy may include underlying investments in real estate within the target asset allocation; however, within pension and postretirement assets, the underlying investment in real estate is reflected in the real estate category and not private equity.

(2) Equity securities in the U.S. pension and postretirement plans do not include any Citigroup common stock at the end of 2022 and 2021.

(3) The VEBA Trust for postretirement benefits is primarily invested in cash equivalents and debt securities in 2022 and 2021 and is not reflected in the table above.

Third-party investment managers and advisors provide their services to Citigroup's U.S. pension and postretirement plans. Assets are rebalanced as the Company's Pension Plan Investment Committee deems appropriate. Citigroup's investment strategy, with respect to its assets, is to maintain a globally diversified investment portfolio across several asset classes that, when combined with Citigroup's contributions to the plans, will maintain the plans' ability to meet all required benefit obligations.

Citigroup's pension and postretirement plans' weighted-average asset allocations for the non-U.S. plans and the actual ranges, and the weighted-average target allocations by asset category based on asset fair values, are as follows:

	Non-U.S. pension plans				
	Target asset allocation	Actual range at December 31,		Weighted-average at December 31,	
Asset category[1]	2023	**2022**	2021	**2022**	2021
Equity securities	0–100%	**0–63%**	0–100%	**19 %**	16 %
Debt securities	0–100	**0–100**	0–100	**73**	76
Real estate	0–15	**0–15**	0–14	**1**	1
Other investments	0–100	**0–100**	0–100	**7**	7
Total				**100 %**	100 %

	Non-U.S. postretirement plans				
	Target asset allocation	Actual range at December 31,		Weighted-average at December 31,	
Asset category[1]	2023	**2022**	2021	**2022**	2021
Equity securities	0–46%	**0–48%**	0–42%	**47 %**	41 %
Debt securities	50–100	**45–100**	53–100	**49**	53
Other investments	0–4	**0–7**	0–6	**4**	6
Total				**100 %**	100 %

(1) Similar to the U.S. plans, asset allocations for certain non-U.S. plans are set by investment strategy, not by investment product.

Fair Value Disclosure

For information on fair value measurements, including descriptions of Levels 1, 2 and 3 of the fair value hierarchy and the valuation methodology utilized by the Company, see Notes 1 and 25. Investments measured using the NAV per share practical expedient are excluded from Level 1, Level 2 and Level 3 in the tables below.

Certain investments may transfer between the fair value hierarchy classifications during the year due to changes in valuation methodology and pricing sources.

Plan assets by detailed asset categories and the fair value hierarchy are as follows:

	U.S. pension and postretirement benefit plans[1]			
In millions of dollars	**Fair value measurement at December 31, 2022**			
Asset categories	**Level 1**	**Level 2**	**Level 3**	**Total**
U.S. equities	**$ 233**	**$ —**	**$ —**	**$ 233**
Non-U.S. equities	**346**	**—**	**—**	**346**
Mutual funds and other registered investment companies	**243**	**—**	**—**	**243**
Commingled funds	**—**	**818**	**—**	**818**
Debt securities	**929**	**4,638**		**5,567**
Annuity contracts	**—**	**—**	**3**	**3**
Derivatives	**2**	**34**	**—**	**36**
Other investments	**—**	**—**	**4**	**4**
Total investments	**$ 1,753**	**$ 5,490**	**$ 7**	**$ 7,250**
Cash and short-term investments	**$ 39**	**$ 563**	**$ —**	**$ 602**
Other investment liabilities	**(10)**	**(45)**	**—**	**(55)**
Net investments at fair value	**$ 1,782**	**$ 6,008**	**$ 7**	**$ 7,797**
Other investment receivables redeemed at NAV				**$ 21**
Securities valued at NAV				**2,580**
Total net assets				**$ 10,398**

(1) The investments of the U.S. pension and postretirement plans are commingled in one trust. At December 31, 2022, the allocable interests of the U.S. pension and postretirement plans were 98.0% and 2.0%, respectively. The investments of the VEBA Trust for postretirement benefits are reflected in the above table.

	U.S. pension and postretirement benefit plans[1]			
In millions of dollars	Fair value measurement at December 31, 2021			
Asset categories	Level 1	Level 2	Level 3	Total
U.S. equities	$ 358	$ —	$ —	$ 358
Non-U.S. equities	460	—	—	460
Mutual funds and other registered investment companies	297	—	—	297
Commingled funds	—	1,143	—	1,143
Debt securities	1,657	5,770	—	7,427
Annuity contracts	—	—	4	4
Derivatives	2	17	—	19
Other investments	13	—	25	38
Total investments	$ 2,787	$ 6,930	$ 29	$ 9,746
Cash and short-term investments	$ 25	$ 627	$ —	$ 652
Other investment liabilities	(7)	(17)	—	(24)
Net investments at fair value	$ 2,805	$ 7,540	$ 29	$ 10,374
Other investment liabilities redeemed at NAV				$ (29)
Securities valued at NAV				2,951
Total net assets				$ 13,296

(1) The investments of the U.S. pension and postretirement plans are commingled in one trust. At December 31, 2021, the allocable interests of the U.S. pension and postretirement plans were 98.0% and 2.0%, respectively. The investments of the VEBA Trust for postretirement benefits are reflected in the above table.

In millions of dollars	Non-U.S. pension and postretirement benefit plans Fair value measurement at December 31, 2022			
Asset categories	**Level 1**	**Level 2**	**Level 3**	**Total**
U.S. equities	**$ 121**	**$ 10**	**$ —**	**$ 131**
Non-U.S. equities	**718**	**19**	**—**	**737**
Mutual funds and other registered investment companies	**2,416**	**296**	**—**	**2,712**
Commingled funds	**13**	**—**	**—**	**13**
Debt securities	**2,959**	**980**	**—**	**3,939**
Real estate	**—**	**2**	**2**	**4**
Annuity contracts	**—**	**—**	**2**	**2**
Derivatives	**—**	**1,490**	**—**	**1,490**
Other investments	**—**	**—**	**258**	**258**
Total investments	**$ 6,227**	**$ 2,797**	**$ 262**	**$ 9,286**
Cash and short-term investments	**$ 69**	**$ 6**	**$ —**	**$ 75**
Other investment liabilities	**—**	**(2,436)**	**—**	**(2,436)**
Net investments at fair value	**$ 6,296**	**$ 367**	**$ 262**	**$ 6,925**
Securities valued at NAV				**$ 16**
Total net assets				**$ 6,941**

In millions of dollars	Non-U.S. pension and postretirement benefit plans Fair value measurement at December 31, 2021			
Asset categories	Level 1	Level 2	Level 3	Total
U.S. equities	$ 127	$ 19	$ —	$ 146
Non-U.S. equities	713	92	—	805
Mutual funds and other registered investment companies	2,888	66	—	2,954
Commingled funds	21	—	—	21
Debt securities	4,263	1,341	—	5,604
Real estate	—	3	2	5
Annuity contracts	—	—	2	2
Derivatives	—	239	—	239
Other investments	—	—	318	318
Total investments	$ 8,012	$ 1,760	$ 322	$ 10,094
Cash and short-term investments	$ 117	$ 5	$ —	$ 122
Other investment liabilities	—	(1,578)	—	(1,578)
Net investments at fair value	$ 8,129	$ 187	$ 322	$ 8,638
Securities valued at NAV				$ 19
Total net assets				$ 8,657

Level 3 Rollforward

The reconciliations of the beginning and ending balances during the year for Level 3 assets are as follows:

In millions of dollars	**U.S. pension and postretirement benefit plans**					
Asset categories	**Beginning Level 3 fair value at Dec. 31, 2021**	**Realized (losses)**	**Unrealized gains**	**Purchases, sales and issuances**	**Transfers in and/ or out of Level 3**	**Ending Level 3 fair value at Dec. 31, 2022**
Annuity contracts	$ 4	$ —	$ —	$ (1)	$ —	**$ 3**
Other investments	25	(3)	2	(20)	—	**4**
Total investments	$ 29	$ (3)	$ 2	$ (21)	$ —	**$ 7**

In millions of dollars	U.S. pension and postretirement benefit plans					
Asset categories	Beginning Level 3 fair value at Dec. 31, 2020	Realized (losses)	Unrealized gains	Purchases, sales and issuances	Transfers in and/ or out of Level 3	Ending Level 3 fair value at Dec. 31, 2021
Annuity contracts	$ 1	$ —	$ —	$ 3	$ —	$ 4
Other investments	57	(6)	2	(28)	—	25
Total investments	$ 58	$ (6)	$ 2	$ (25)	$ —	$ 29

In millions of dollars	**Non-U.S. pension and postretirement benefit plans**				
Asset categories	**Beginning Level 3 fair value at Dec. 31, 2021**	**Unrealized gains**	**Purchases, sales and issuances**	**Transfers in and/ or out of Level 3**	**Ending Level 3 fair value at Dec. 31, 2022**
Real estate	$ 2	$ —	$ —	$ —	**$ 2**
Annuity contracts	2	—	—	—	**2**
Other investments	318	—	(60)	—	**258**
Total investments	$ 322	$ —	$ (60)	$ —	**$ 262**

In millions of dollars	Non-U.S. pension and postretirement benefit plans				
Asset categories	Beginning Level 3 fair value at Dec. 31, 2020	Unrealized gains	Purchases, sales and issuances	Transfers in and/ or out of Level 3	Ending Level 3 fair value at Dec. 31, 2021
Real estate	$ 2	$ —	$ —	$ —	$ 2
Annuity contracts	5	—	(3)	—	2
Other investments	312	4	2	—	318
Total investments	$ 319	$ 4	$ (1)	$ —	$ 322

Investment Strategy
The Company's global pension and postretirement funds' investment strategy is to invest in a prudent manner for the exclusive purpose of providing benefits to participants. The investment strategies are targeted to produce a total return that, when combined with the Company's contributions to the funds, will maintain the funds' ability to meet all required benefit obligations. Risk is controlled through diversification of asset types and investments in domestic and international equities, fixed income securities and cash and short-term investments. The target asset allocation in most locations outside the U.S. is primarily in equity and debt securities. These allocations may vary by geographic region and country depending on the nature of applicable obligations and various other regional considerations. The wide variation in the actual range of plan asset allocations for the funded non-U.S. plans is a result of differing local statutory requirements and economic conditions. For example, in certain countries local law requires that all pension plan assets must be invested in fixed income investments, government funds or local-country securities.

Significant Concentrations of Risk in Plan Assets
The assets of the Company's pension plans are diversified to limit the impact of any individual investment. The U.S. qualified pension plan is diversified across multiple asset classes, with publicly traded fixed income, publicly traded equity, hedge funds and real estate representing the most significant asset allocations. Investments in these four asset classes are further diversified across funds, managers, strategies, vintages, sectors and geographies, depending on the specific characteristics of each asset class. The pension assets for the Company's non-U.S. Significant Plans are primarily invested in publicly traded fixed income and publicly traded equity securities.

Oversight and Risk Management Practices
The framework for the Company's pension oversight process includes monitoring of retirement plans by plan fiduciaries and/or management at the global, regional or country level, as appropriate. Independent Risk Management contributes to the risk oversight and monitoring for the Company's U.S. Qualified Pension Plan and non-U.S. Significant Pension Plans. Although the specific components of the oversight process are tailored to the requirements of each region, country and plan, the following elements are common to the Company's monitoring and risk management process:

- periodic asset/liability management studies and strategic asset allocation reviews;
- periodic monitoring of funding levels and funding ratios;
- periodic monitoring of compliance with asset allocation guidelines;
- periodic monitoring of asset class and/or investment manager performance against benchmarks; and
- periodic risk capital analysis and stress testing.

Estimated Future Benefit Payments
The Company expects to pay the following estimated benefit payments in future years:

	Pension plans		Postretirement benefit plans	
In millions of dollars	U.S. plans	Non-U.S. plans	U.S. plans	Non-U.S. plans
2023	$ 964	$ 536	$ 55	$ 72
2024	964	518	46	76
2025	969	489	43	79
2026	942	499	40	83
2027	921	508	38	87
2028–2032	4,038	2,623	150	494

Post Employment Plans

The Company sponsors U.S. post employment plans that provide income continuation and health and welfare benefits to certain eligible U.S. employees on long-term disability. The following table summarizes the funded status and amounts recognized on the Company's Consolidated Balance Sheet:

In millions of dollars	**2022**	2021
Funded status of the plan at year end	**$ (48)**	$ (41)
Net amount recognized in *AOCI* (pretax)	**$ (16)**	$ (15)

The following table summarizes the net expense recognized in the Consolidated Statement of Income for the Company's U.S. post employment plans:

In millions of dollars	**2022**	2021	2020
Net expense	**$ 11**	$ 10	$ 9

Defined Contribution Plans

The Company sponsors defined contribution plans in the U.S. and in certain non-U.S. locations, all of which are administered in accordance with local laws. The most significant defined contribution plan is the Citi Retirement Savings Plan sponsored by the Company in the U.S.

Under the Citi Retirement Savings Plan, eligible U.S. employees received matching contributions of up to 6% of their eligible compensation for 2022 and 2021, subject to statutory limits. In addition, for eligible employees whose eligible compensation is $100,000 or less, a fixed contribution of up to 2% of eligible compensation is provided. All Company contributions are invested according to participants' individual elections. The following tables summarize the Company contributions for the defined contribution plans:

	U.S. plans		
In millions of dollars	**2022**	2021	2020
Company contributions	**$ 471**	$ 436	$ 414

	Non-U.S. plans		
In millions of dollars	**2022**	2021	2020
Company contributions	**$ 399**	$ 364	$ 304

9. INCOME TAXES

Income Tax Provision

Details of the Company's income tax provision are presented below:

In millions of dollars	**2022**	2021	2020
Current			
Federal	**$ 407**	$ 522	$ 305
Non-U.S.	**4,106**	3,288	4,113
State	**270**	228	440
Total current income taxes	**$ 4,783**	$ 4,038	$ 4,858
Deferred			
Federal	**$ (807)**	$ 1,059	$ (1,430)
Non-U.S.	**353**	8	(690)
State	**(687)**	346	(213)
Total deferred income taxes	**$ (1,141)**	$ 1,413	$ (2,333)
Provision for income tax on continuing operations before noncontrolling interests[1]	**$ 3,642**	$ 5,451	$ 2,525
Provision (benefit) for income taxes on:			
Discontinued operations	**$ (41)**	$ —	$ —
Gains (losses) included in *AOCI*, but excluded from net income	**(1,573)**	(1,684)	1,520
Employee stock plans	**(8)**	(6)	(4)
Opening adjustment to *Retained earnings*[2]	**—**	—	(911)

(1) Includes the tax on realized investment gains and impairment losses resulting in a provision (benefit) of $14 million and $(137) million in 2022, $169 million and $(57) million in 2021 and $454 million and $(14) million in 2020, respectively.

(2) 2020 reflects the tax effect of ASU 2016-13 for current expected credit losses (CECL).

Tax Rate

The reconciliation of the federal statutory income tax rate to the Company's effective income tax rate applicable to income from continuing operations (before noncontrolling interests and the cumulative effect of accounting changes) for each of the periods indicated is as follows:

	2022	2021	2020
Federal statutory rate	**21.0 %**	21.0 %	21.0 %
State income taxes, net of federal benefit	**2.0**	2.1	1.3
Non-U.S. income tax rate differential	**4.3**	1.6	3.5
Tax audit resolutions	**(3.2)**	(0.4)	0.3
Nondeductible FDIC premiums	**1.0**	0.6	1.3
Tax advantaged investments	**(3.0)**	(2.3)	(4.4)
Valuation allowance releases[1]	**(2.3)**	(1.7)	(4.4)
Other, net	**(0.4)**	(1.1)	(0.1)
Effective income tax rate	**19.4 %**	19.8 %	18.5 %

(1) See "Deferred Tax Assets" below for a description of the components.

As presented in the table above, Citi's effective tax rate for 2022 was 19.4%, compared to 19.8% in 2021.

Deferred Income Taxes

Deferred income taxes at December 31 related to the following:

In millions of dollars	**2022**	2021
Deferred tax assets		
Credit loss deduction	**$ 5,162**	$ 5,330
Deferred compensation and employee benefits	**2,059**	2,335
U.S. tax on non-U.S. earnings	**1,191**	1,138
Investment and loan basis differences	**5,149**	2,970
Tax credit and net operating loss carry-forwards	**14,623**	15,620
Fixed assets and leases	**3,551**	3,064
Other deferred tax assets	**4,055**	3,549
Gross deferred tax assets	**$ 35,790**	$ 34,006
Valuation allowance	**$ 2,438**	$ 4,194
Deferred tax assets after valuation allowance	**$ 33,352**	$ 29,812
Deferred tax liabilities		
Intangibles and leases	**$ (2,271)**	$ (2,446)
Non-U.S. withholding taxes	**(1,142)**	(987)
Debt issuances	**(595)**	(126)
Other deferred tax liabilities	**(1,672)**	(1,464)
Gross deferred tax liabilities	**$ (5,680)**	$ (5,023)
Net deferred tax assets	**$ 27,672**	$ 24,789

Unrecognized Tax Benefits

The following is a rollforward of the Company's unrecognized tax benefits:

In millions of dollars	**2022**	2021	2020
Total unrecognized tax benefits at January 1	**$ 1,296**	$ 861	$ 721
Increases for current year's tax positions	**55**	97	51
Increases for prior years' tax positions	**168**	515	217
Decreases for prior years' tax positions	**(119)**	(107)	(74)
Amounts of decreases relating to settlements	**(50)**	(64)	(40)
Reductions due to lapse of statutes of limitation	**(26)**	(2)	(13)
Foreign exchange, acquisitions and dispositions	**(13)**	(4)	(1)
Total unrecognized tax benefits at December 31	**$ 1,311**	$ 1,296	$ 861

The portions of the total unrecognized tax benefits at December 31, 2022, 2021 and 2020 that, if recognized, would affect Citi's tax expense are $1.0 billion, $1.0 billion and $0.7 billion, respectively. The remaining uncertain tax positions have offsetting amounts in other jurisdictions or are temporary differences.

Interest and penalties (not included in unrecognized tax benefits above) are a component of *Provision for income taxes*.

	2022		2021		2020	
In millions of dollars	**Pretax**	**Net of tax**	Pretax	Net of tax	Pretax	Net of tax
Total interest and penalties on the Consolidated Balance Sheet at January 1	**$ 214**	**$ 164**	$ 118	$ 96	$ 100	$ 82
Total interest and penalties in the Consolidated Statement of Income	**27**	**16**	32	24	14	10
Total interest and penalties on the Consolidated Balance Sheet at December 31[(1)]	**234**	**176**	214	164	118	96

(1) Includes $3 million, $3 million and $4 million for non-U.S. penalties in 2022, 2021 and 2020, respectively. Also includes $0 million, $0 million and $1 million for state penalties in 2022, 2021 and 2020, respectively.

As of December 31, 2022, Citi was under audit by the Internal Revenue Service and other major taxing jurisdictions around the world. It is thus reasonably possible that significant changes in the gross balance of unrecognized tax benefits may occur within the next 12 months. The potential range of amounts that could affect Citi's effective tax rate is between $0 and $500 million.

The following are the major tax jurisdictions in which the Company and its affiliates operate and the earliest tax year subject to examination:

Jurisdiction	**Tax year**
United States	2016
Mexico	2017
New York State and City	2009
United Kingdom	2016
India	2021
Singapore	2021
Hong Kong	2016
Ireland	2018

Non-U.S. Earnings

Non-U.S. pretax earnings approximated $16.2 billion in 2022, $12.9 billion in 2021 and $13.8 billion in 2020. As a U.S. corporation, Citigroup and its U.S. subsidiaries are currently subject to U.S. taxation on all non-U.S. pretax earnings of non-U.S. branches. Beginning in 2018, there is a separate foreign tax credit (FTC) basket for branches. Also, dividends from a non-U.S. subsidiary or affiliate are effectively exempt from U.S. taxation. The Company provides income taxes on the book over tax basis differences of non-U.S. subsidiaries except to the extent that such differences are indefinitely reinvested outside the U.S.

At December 31, 2022, $5.9 billion of basis differences of non-U.S. entities was indefinitely invested. At the existing tax rates (including withholding taxes), additional taxes (net of U.S. FTCs and valuation allowances) of $2.4 billion would have to be provided if such assertions were reversed.

Deferred Tax Assets

As of December 31, 2022, Citi had a valuation allowance of $2.4 billion, composed of valuation allowances of $0.9 billion on its branch basket FTC carry-forwards, $1.0 billion on its U.S. residual DTA related to its non-U.S. branches, $0.4 billion on local non-U.S. DTAs and $0.1 billion on state net operating loss carry-forwards. There was a decrease of $1.8 billion from the December 31, 2021 balance of $4.2 billion. The amount of Citi's valuation allowances (VA) may change in future years.

In 2022, Citi's VA for carry-forward FTCs in its branch basket decreased by $0.8 billion, primarily due to carry-forward expirations.

The level of branch pretax income, the local branch tax rate and the allocations of overall domestic losses (ODL) and expenses for U.S. tax purposes to the branch basket are the main factors in determining the branch VA. There was no branch basket VA release in 2022.

In Citi's general basket for FTCs, changes in the forecasted amount of income in U.S. locations derived from sources outside the U.S., in addition to tax examination changes from prior years, could alter the amount of VA that is needed against such FTCs. The remaining VA for the general basket of $0.8 billion was released, primarily due to increases in interest rates and prior-year audit adjustments.

The non-U.S. local VA decreased by $0.2 billion.

The following table summarizes Citi's DTAs:

In billions of dollars

Jurisdiction/component[1]	DTAs balance December 31, 2022	DTAs balance December 31, 2021
U.S. federal[2]		
Net operating losses (NOLs)[3]	**$ 3.3**	$ 3.2
Foreign tax credits (FTCs)	**1.9**	2.8
General business credits (GBCs)	**5.2**	4.5
Future tax deductions and credits	**10.1**	8.4
Total U.S. federal	**$ 20.5**	$ 18.9
State and local		
New York NOLs	**$ 1.9**	$ 1.2
Other state NOLs	**0.2**	0.2
Future tax deductions	**2.2**	1.8
Total state and local	**$ 4.3**	$ 3.2
Non-U.S.		
NOLs	**$ 0.7**	$ 0.5
Future tax deductions	**2.2**	2.2
Total non-U.S.	**$ 2.9**	$ 2.7
Total	**$ 27.7**	$ 24.8

(1) All amounts are net of valuation allowances.
(2) Included in the net U.S. federal DTAs of $20.5 billion as of December 31, 2022 were deferred tax liabilities of $3.3 billion that will reverse in the relevant carry-forward period and may be used to support the DTAs.
(3) Consists of non-consolidated tax return NOL carry-forwards that are eventually expected to be utilized in Citigroup's consolidated tax return.

The following table summarizes the amounts of tax carry-forwards and their expiration dates:

In billions of dollars

Year of expiration	December 31, 2022	December 31, 2021
U.S. tax return general basket foreign tax credit carry-forwards[1]		
2022	**$ —**	$ 0.5
2023	**—**	0.4
2025	**0.8**	1.5
2027	**1.1**	1.1
Total U.S. tax return general basket foreign tax credit carry-forwards	**$ 1.9**	$ 3.5
U.S. tax return branch basket foreign tax credit carry-forwards[1]		
2022	**$ —**	$ 1.0
2028	**0.7**	0.6
2029	**0.2**	0.2
Total U.S. tax return branch basket foreign tax credit carry-forwards	**$ 0.9**	$ 1.8
U.S. tax return general business credit carry-forwards		
2032	**$ 0.4**	$ 0.4
2033	**0.3**	0.3
2034	**0.2**	0.2
2035	**0.2**	0.2
2036	**0.2**	0.2
2037	**0.5**	0.5
2038	**0.5**	0.5
2039	**0.7**	0.7
2040	**0.7**	0.7
2041	**0.8**	0.8
2042	**0.7**	—
Total U.S. tax return general business credit carry-forwards	**$ 5.2**	$ 4.5
U.S. subsidiary separate federal NOL carry-forwards		
2027	**$ 0.1**	$ 0.1
2028	**0.1**	0.1
2030	**0.3**	0.3
2033	**1.6**	1.6
2034	**2.0**	2.0
2035	**3.3**	3.3
2036	**2.1**	2.1
2037	**1.0**	1.0
Unlimited carry-forward period	**5.3**	4.6
Total U.S. subsidiary separate federal NOL carry-forwards[2]	**$ 15.8**	$ 15.1
New York State NOL carry-forwards[2]		
2034	**$ 11.5**	$ 6.6
New York City NOL carry-forwards[2]		
2034	**$ 10.3**	$ 7.2
Non-U.S. NOL carry-forwards[1]		
Various	**$ 1.1**	$ 1.1

(1) Before valuation allowance.
(2) Pretax.

The time remaining for utilization of the FTC component has shortened, given the passage of time. Although realization is not assured, Citi believes that the realization of the recognized net DTAs of $27.7 billion at December 31, 2022 is more-likely-than-not, based upon expectations as to future taxable income in the jurisdictions in which the DTAs arise and consideration of available tax planning strategies (as defined in ASC 740, *Income Taxes*).

The majority of Citi's U.S. federal net operating loss carry-forward and all of its New York State and City net operating loss carry-forwards are subject to a carry-forward period of 20 years. This provides enough time to fully utilize the DTAs pertaining to these existing NOL carry-forwards. This is due to Citi's forecast of sufficient U.S. taxable income and because New York State and City continue to tax Citi's non-U.S. income.

With respect to the FTCs component of the DTAs, the carry-forward period is 10 years. Utilization of FTCs in any year is generally limited to 21% of foreign source taxable income in that year. However, ODL that Citi has incurred of approximately $8 billion as of December 31, 2022 are allowed to be reclassified as foreign source income to the extent of 50%–100% (at taxpayer's election) of domestic source income produced in subsequent years. Such resulting foreign source income would support the realization of the FTC carry-forwards after VA. As noted in the tables above, Citi's FTC carry-forwards were $1.9 billion ($2.8 billion before VA) as of December 31, 2022, compared to $2.8 billion ($5.3 billion before VA) as of December 31, 2021. Citi believes that it will more-likely-than-not generate sufficient U.S. taxable income within the 10-year carry-forward period to be able to utilize the net FTCs after the VA, after considering any FTCs produced in the tax return for such period, which must be used prior to any carry-forward utilization.

10. EARNINGS PER SHARE

The following table reconciles the income and share data used in the basic and diluted earnings per share (EPS) computations:

In millions of dollars, except per share amounts	**2022**	2021	2020
Earnings per common share			
Income from continuing operations before attribution of noncontrolling interests	**$ 15,165**	$ 22,018	$ 11,107
Less: Noncontrolling interests from continuing operations	**89**	73	40
Net income from continuing operations (for EPS purposes)	**$ 15,076**	$ 21,945	$ 11,067
Loss from discontinued operations, net of taxes	**(231)**	7	(20)
Citigroup's net income	**$ 14,845**	$ 21,952	$ 11,047
Less: Preferred dividends[1]	**1,032**	1,040	1,095
Net income available to common shareholders	**$ 13,813**	$ 20,912	$ 9,952
Less: Dividends and undistributed earnings allocated to employee restricted and deferred shares with rights to dividends, applicable to basic EPS	**113**	154	73
Net income allocated to common shareholders for basic EPS	**$ 13,700**	$ 20,758	$ 9,879
Weighted-average common shares outstanding applicable to basic EPS *(in millions)*	**1,946.7**	2,033.0	2,085.8
Basic earnings per share[2]			
Income from continuing operations	**$ 7.16**	$ 10.21	$ 4.75
Discontinued operations	**(0.12)**	—	(0.01)
Net income per share—basic	**$ 7.04**	$ 10.21	$ 4.74
Diluted earnings per share			
Net income allocated to common shareholders for basic EPS	**$ 13,700**	$ 20,758	$ 9,879
Add back: Dividends allocated to employee restricted and deferred shares with rights to dividends that are forfeitable	**41**	31	30
Net income allocated to common shareholders for diluted EPS	**$ 13,741**	$ 20,789	$ 9,909
Weighted-average common shares outstanding applicable to basic EPS *(in millions)*	**$ 1,946.7**	$ 2,033.0	$ 2,085.8
Effect of dilutive securities			
Options[3]	**—**	—	0.1
Other employee plans	**17.6**	16.4	13.1
Adjusted weighted-average common shares outstanding applicable to diluted EPS *(in millions)*[4]	**1,964.3**	2,049.4	2,099.0
Diluted earnings per share[2]			
Income from continuing operations	**$ 7.11**	$ 10.14	$ 4.73
Discontinued operations	**(0.12)**	—	(0.01)
Net income per share—diluted	**$ 7.00**	$ 10.14	$ 4.72

(1) See Note 21 for the potential future impact of preferred stock dividends.
(2) Due to rounding, earnings per share on continuing operations and discontinued operations may not sum to earnings per share on net income.
(3) During 2022 and 2021, there were no weighted-average options outstanding. During 2020, weighted-average options to purchase 0.1 million shares of common stock were outstanding but not included in the computation of earnings per share because the weighted-average exercise price of $56.25 per share was anti-dilutive.
(4) Due to rounding, weighted-average common shares outstanding applicable to basic EPS and the effect of dilutive securities may not sum to weighted-average common shares outstanding applicable to diluted EPS.

11. SECURITIES BORROWED, LOANED AND SUBJECT TO REPURCHASE AGREEMENTS

Securities borrowed and purchased under agreements to resell, at their respective carrying values, consisted of the following:

	December 31,	
In millions of dollars	**2022**	2021
Securities purchased under agreements to resell	**$ 291,272**	$ 236,252
Deposits paid for securities borrowed	**74,165**	91,042
Total, net[(1)]	**$ 365,437**	$ 327,294
Allowance for credit losses on securities purchased and borrowed[(2)]	**(36)**	(6)
Total, net of allowance	**$ 365,401**	$ 327,288

Securities loaned and sold under agreements to repurchase, at their respective carrying values, consisted of the following:

	December 31,	
In millions of dollars	**2022**	2021
Securities sold under agreements to repurchase	**$ 183,827**	$ 174,255
Deposits received for securities loaned	**18,617**	17,030
Total, net[(1)]	**$ 202,444**	$ 191,285

(1) The above tables do not include securities-for-securities lending transactions of $4.4 billion and $3.6 billion at December 31, 2022 and 2021, respectively, where the Company acts as lender and receives securities that can be sold or pledged as collateral. In these transactions, the Company recognizes the securities received at fair value within *Other assets* and the obligation to return those securities as a liability within *Brokerage payables*.

(2) See Note 15 for further information.

The resale and repurchase agreements represent collateralized financing transactions. Citi executes these transactions primarily through its broker-dealer subsidiaries to facilitate customer matched-book activity and to efficiently fund a portion of Citi's trading inventory. Transactions executed by Citi's bank subsidiaries primarily facilitate customer financing activity.

To maintain reliable funding under a wide range of market conditions, including under periods of stress, Citi manages these activities by taking into consideration the quality of the underlying collateral and stipulating financing tenor. Citi manages the risks in its collateralized financing transactions by conducting daily stress tests to account for changes in capacity, tenors, haircut, collateral profile and client actions. In addition, Citi maintains counterparty diversification by establishing concentration triggers and assessing counterparty reliability and stability under stress.

It is the Company's policy to take possession of the underlying collateral, monitor its market value relative to the amounts due under the agreements and, when necessary, require prompt transfer of additional collateral in order to maintain contractual margin protection. For resale and repurchase agreements, when necessary, the Company posts additional collateral in order to maintain contractual margin protection.

Collateral typically consists of government and government-agency securities, corporate and municipal bonds, equities and mortgage- and other asset-backed securities.

The resale and repurchase agreements are generally documented under industry standard agreements that allow the prompt close-out of all transactions (including the liquidation of securities held) and the offsetting of obligations to return cash or securities by the non-defaulting party, following a payment default or other type of default under the relevant master agreement. Events of default generally include (i) failure to deliver cash or securities as required under the transaction, (ii) failure to provide or return cash or securities as used for margining purposes, (iii) breach of representation, (iv) cross-default to another transaction entered into among the parties, or, in some cases, their affiliates and (v) a repudiation of obligations under the agreement. The counterparty that receives the securities in these transactions is generally unrestricted in its use of the securities, with the exception of transactions executed on a tri-party basis, where the collateral is maintained by a custodian and operational limitations may restrict its use of the securities.

A substantial portion of the resale and repurchase agreements is recorded at fair value as the Company elected the fair value option, as described in Notes 25 and 26. The remaining portion is carried at the amount of cash initially advanced or received, plus accrued interest, as specified in the respective agreements.

The securities borrowing and lending agreements also represent collateralized financing transactions similar to the resale and repurchase agreements. Collateral typically consists of government and government-agency securities and corporate debt and equity securities.

Similar to the resale and repurchase agreements, securities borrowing and lending agreements are generally documented under industry standard agreements that allow the prompt close-out of all transactions (including the liquidation of securities held) and the offsetting of obligations to return cash or securities by the non-defaulting party, following a payment default or other default by the other party under the relevant master agreement. Events of default and rights to use securities under the securities borrowing and lending agreements are similar to the resale and repurchase agreements referenced above.

A substantial portion of securities borrowing and lending agreements is recorded at the amount of cash advanced or received. The remaining portion is recorded at fair value as the Company elected the fair value option for certain securities borrowed and loaned portfolios, as described in Note 26. With respect to securities loaned, the Company receives cash collateral in an amount generally in excess of the market value of the securities loaned. The Company monitors the market value of securities borrowed and securities loaned on a daily basis and posts or obtains additional collateral in order to maintain contractual margin protection.

The enforceability of offsetting rights incorporated in the master netting agreements for resale and repurchase agreements, and securities borrowing and lending agreements, is evidenced to the extent that (i) a supportive legal opinion has been obtained from counsel of recognized standing that provides the requisite level of certainty regarding the enforceability of these agreements and (ii) the exercise of rights by the non-defaulting party to terminate and close out transactions on a net basis under these agreements will not be stayed or avoided under applicable law upon an event of default including bankruptcy, insolvency or similar proceeding.

A legal opinion may not have been sought or obtained for certain jurisdictions where local law is silent or sufficiently ambiguous to determine the enforceability of offsetting rights or where adverse case law or conflicting regulation may cast doubt on the enforceability of such rights. In some jurisdictions and for some counterparty types, the insolvency law for a particular counterparty type may be nonexistent or unclear as overlapping regimes may exist. For example, this may be the case for certain sovereigns, municipalities, central banks and U.S. pension plans.

The following tables present the gross and net resale and repurchase agreements and securities borrowing and lending agreements and the related offsetting amounts permitted under ASC 210-20-45. The tables also include amounts related to financial instruments that are not permitted to be offset under ASC 210-20-45, but would be eligible for offsetting to the extent that an event of default has occurred and a legal opinion supporting enforceability of the offsetting rights has been obtained. Remaining exposures continue to be secured by financial collateral, but the Company may not have sought or been able to obtain a legal opinion evidencing enforceability of the offsetting right.

	As of December 31, 2022				
In millions of dollars	**Gross amounts of recognized assets**	**Gross amounts offset on the Consolidated Balance Sheet[1]**	**Net amounts of assets included on the Consolidated Balance Sheet**	**Amounts not offset on the Consolidated Balance Sheet but eligible for offsetting upon counterparty default[2]**	**Net amounts[3]**
Securities purchased under agreements to resell	**$ 403,663**	**$ 112,391**	**$ 291,272**	**$ 204,077**	**$ 87,195**
Deposits paid for securities borrowed	**88,817**	**14,652**	**74,165**	**13,844**	**60,321**
Total	**$ 492,480**	**$ 127,043**	**$ 365,437**	**$ 217,921**	**$ 147,516**

In millions of dollars	**Gross amounts of recognized liabilities**	**Gross amounts offset on the Consolidated Balance Sheet[1]**	**Net amounts of liabilities included on the Consolidated Balance Sheet**	**Amounts not offset on the Consolidated Balance Sheet but eligible for offsetting upon counterparty default[2]**	**Net amounts[3]**
Securities sold under agreements to repurchase	**$ 296,218**	**$ 112,391**	**$ 183,827**	**$ 71,635**	**$ 112,192**
Deposits received for securities loaned	**33,269**	**14,652**	**18,617**	**2,542**	**16,075**
Total	**$ 329,487**	**$ 127,043**	**$ 202,444**	**$ 74,177**	**$ 128,267**

	As of December 31, 2021				
In millions of dollars	Gross amounts of recognized assets	Gross amounts offset on the Consolidated Balance Sheet[1]	Net amounts of assets included on the Consolidated Balance Sheet	Amounts not offset on the Consolidated Balance Sheet but eligible for offsetting upon counterparty default[2]	Net amounts[3]
Securities purchased under agreements to resell	$ 367,594	$ 131,342	$ 236,252	$ 205,349	$ 30,903
Deposits paid for securities borrowed	107,041	15,999	91,042	17,326	73,716
Total	$ 474,635	$ 147,341	$ 327,294	$ 222,675	$ 104,619

In millions of dollars	Gross amounts of recognized liabilities	Gross amounts offset on the Consolidated Balance Sheet[1]	Net amounts of liabilities included on the Consolidated Balance Sheet	Amounts not offset on the Consolidated Balance Sheet but eligible for offsetting upon counterparty default[2]	Net amounts[3]
Securities sold under agreements to repurchase	$ 305,597	$ 131,342	$ 174,255	$ 85,184	$ 89,071
Deposits received for securities loaned	33,029	15,999	17,030	2,868	14,162
Total	$ 338,626	$ 147,341	$ 191,285	$ 88,052	$ 103,233

(1) Includes financial instruments subject to enforceable master netting agreements that are permitted to be offset under ASC 210-20-45.
(2) Includes financial instruments subject to enforceable master netting agreements that are not permitted to be offset under ASC 210-20-45, but would be eligible for offsetting to the extent that an event of default has occurred and a legal opinion supporting enforceability of the offsetting right has been obtained.
(3) Remaining exposures continue to be secured by financial collateral, but the Company may not have sought or been able to obtain a legal opinion evidencing enforceability of the offsetting right.

The following tables present the gross amounts of liabilities associated with repurchase agreements and securities lending agreements by remaining contractual maturity:

	As of December 31, 2022				
In millions of dollars	**Open and overnight**	**Up to 30 days**	**31–90 days**	**Greater than 90 days**	**Total**
Securities sold under agreements to repurchase	**$ 138,710**	**$ 86,819**	**$ 25,119**	**$ 45,570**	**$ 296,218**
Deposits received for securities loaned	**25,388**	**267**	**2,121**	**5,493**	**33,269**
Total	**$ 164,098**	**$ 87,086**	**$ 27,240**	**$ 51,063**	**$ 329,487**

	As of December 31, 2021				
In millions of dollars	Open and overnight	Up to 30 days	31–90 days	Greater than 90 days	Total
Securities sold under agreements to repurchase	$ 127,679	$ 93,257	$ 32,908	$ 51,753	$ 305,597
Deposits received for securities loaned	23,387	6	1,392	8,244	33,029
Total	$ 151,066	$ 93,263	$ 34,300	$ 59,997	$ 338,626

The following tables present the gross amounts of liabilities associated with repurchase agreements and securities lending agreements by class of underlying collateral:

	As of December 31, 2022		
In millions of dollars	**Repurchase agreements**	**Securities lending agreements**	**Total**
U.S. Treasury and federal agency securities	**$ 99,979**	**$ 106**	**$ 100,085**
State and municipal securities	**1,911**	**—**	**1,911**
Foreign government securities	**123,826**	**13**	**123,839**
Corporate bonds	**14,308**	**45**	**14,353**
Equity securities	**9,749**	**33,096**	**42,845**
Mortgage-backed securities	**36,225**	**—**	**36,225**
Asset-backed securities	**1,755**	**—**	**1,755**
Other	**8,465**	**9**	**8,474**
Total	**$ 296,218**	**$ 33,269**	**$ 329,487**

In millions of dollars	As of December 31, 2021		
	Repurchase agreements	Securities lending agreements	Total
U.S. Treasury and federal agency securities	$ 85,861	$ 90	$ 85,951
State and municipal securities	1,053	—	1,053
Foreign government securities	133,352	212	133,564
Corporate bonds	20,398	152	20,550
Equity securities	25,653	32,517	58,170
Mortgage-backed securities	33,573	—	33,573
Asset-backed securities	1,681	—	1,681
Other	4,026	58	4,084
Total	$ 305,597	$ 33,029	$ 338,626

12. BROKERAGE RECEIVABLES AND BROKERAGE PAYABLES

The Company has receivables and payables for financial instruments sold to and purchased from brokers, dealers and customers, which arise in the ordinary course of business. Citi is exposed to risk of loss from the inability of brokers, dealers or customers to pay for purchases or to deliver the financial instruments sold, in which case Citi would have to sell or purchase the financial instruments at prevailing market prices. Credit risk is reduced to the extent that an exchange or clearing organization acts as a counterparty to the transaction and replaces the broker, dealer or customer in question.

Citi seeks to protect itself from the risks associated with customer activities by requiring customers to maintain margin collateral in compliance with regulatory and internal guidelines. Margin levels are monitored daily, and customers deposit additional collateral as required. Where customers cannot meet collateral requirements, Citi may liquidate sufficient underlying financial instruments to bring the customer into compliance with the required margin level.

Exposure to credit risk is impacted by market volatility, which may impair the ability of clients to satisfy their obligations to Citi. Credit limits are established and closely monitored for customers and for brokers and dealers engaged in forwards, futures and other transactions deemed to be credit sensitive.

Brokerage receivables and *Brokerage payables* consisted of the following:

	December 31,	
In millions of dollars	**2022**	2021
Receivables from customers	**$ 15,462**	$ 26,403
Receivables from brokers, dealers and clearing organizations	**38,730**	27,937
Total brokerage receivables[(1)]	**$ 54,192**	$ 54,340
Payables to customers	**$ 55,747**	$ 52,158
Payables to brokers, dealers and clearing organizations	**13,471**	9,272
Total brokerage payables[(1)]	**$ 69,218**	$ 61,430

(1) Includes brokerage receivables and payables recorded by Citi broker-dealer entities that are accounted for in accordance with the AICPA Accounting Guide for Brokers and Dealers in Securities as codified in ASC 940-320.

13. INVESTMENTS

The following table presents Citi's investments by category:

	December 31,	
In millions of dollars	**2022**	2021
Debt securities available-for-sale (AFS)	**$ 249,679**	$ 288,522
Debt securities held-to-maturity (HTM)[1]	**268,863**	216,963
Marketable equity securities carried at fair value[2]	**429**	543
Non-marketable equity securities carried at fair value[2][5]	**466**	489
Non-marketable equity securities measured using the measurement alternative[3]	**1,676**	1,413
Non-marketable equity securities carried at cost[4]	**5,469**	4,892
Total investments[6]	**$ 526,582**	$ 512,822

(1) Carried at adjusted amortized cost basis, net of any ACL.
(2) Unrealized gains and losses are recognized in earnings.
(3) Impairment losses and adjustments to the carrying value as a result of observable price changes are recognized in earnings. See "Non-Marketable Equity Securities Not Carried at Fair Value" below.
(4) Represents shares issued by the Federal Reserve Bank, Federal Home Loan Banks and certain exchanges of which Citigroup is a member.
(5) Includes $27 million and $145 million of investments in funds for which the fair values are estimated using the net asset value of the Company's ownership interest in the funds at December 31, 2022 and 2021, respectively.
(6) Not included in the balances above is approximately $2 billion of accrued interest receivable at December 31, 2022, which is included in *Other assets* on the Consolidated Balance Sheet. The Company does not recognize an allowance for credit losses on accrued interest receivable for AFS and HTM debt securities, consistent with its non-accrual policy, which results in timely write-off of accrued interest. The Company did not reverse through interest income any accrued interest receivables for the years ended December 31, 2022 and 2021.

The following table presents interest and dividend income on investments:

In millions of dollars	**2022**	2021	2020
Taxable interest	**$ 10,643**	$ 6,975	$ 7,554
Interest exempt from U.S. federal income tax	**348**	279	301
Dividend income	**223**	134	134
Total interest and dividend income on investments	**$ 11,214**	$ 7,388	$ 7,989

The following table presents realized gains and losses on the sales of investments, which exclude impairment losses:

In millions of dollars	**2022**	2021	2020
Gross realized investment gains	**$ 323**	$ 860	$ 1,895
Gross realized investment losses	**(256)**	(195)	(139)
Net realized gains on sales of investments	**$ 67**	$ 665	$ 1,756

Debt Securities Available-for-Sale

The amortized cost and fair value of AFS debt securities were as follows:

	December 31, 2022					December 31, 2021				
In millions of dollars	**Amortized cost**	**Gross unrealized gains**	**Gross unrealized losses**	**Allowance for credit losses**	**Fair value**	Amortized cost	Gross unrealized gains	Gross unrealized losses	Allowance for credit losses	Fair value
Debt securities AFS										
Mortgage-backed securities[1]										
U.S. government-sponsored agency guaranteed[2]	**$ 12,009**	**$ 8**	**$ 755**	**$ —**	**$ 11,262**	$ 33,064	$ 453	$ 301	$ —	$ 33,216
Residential	**488**	**—**	**3**	**—**	**485**	380	1	1	—	380
Commercial	**2**	**—**	**—**	**—**	**2**	25	—	—	—	25
Total mortgage-backed securities	**$ 12,499**	**$ 8**	**$ 758**	**$ —**	**$ 11,749**	$ 33,469	$ 454	$ 302	$ —	$ 33,621
U.S. Treasury and federal agency securities										
U.S. Treasury	**$ 94,732**	**$ 50**	**$ 2,492**	**$ —**	**$ 92,290**	$ 122,669	$ 615	$ 844	$ —	$ 122,440
Agency obligations	**—**	**—**	**—**	**—**	**—**	—	—	—	—	—
Total U.S. Treasury and federal agency securities	**$ 94,732**	**$ 50**	**$ 2,492**	**$ —**	**$ 92,290**	$ 122,669	$ 615	$ 844	$ —	$ 122,440
State and municipal[2]	**$ 2,363**	**$ 19**	**$ 159**	**$ —**	**$ 2,223**	$ 2,643	$ 79	$ 101	$ —	$ 2,621
Foreign government	**135,648**	**569**	**2,940**	**—**	**133,277**	119,426	337	1,023	—	118,740
Corporate	**5,146**	**19**	**246**	**3**	**4,916**	5,972	33	77	8	5,920
Asset-backed securities[1]	**1,022**	**12**	**4**	**—**	**1,030**	304	—	1	—	303
Other debt securities	**4,198**	**1**	**5**	**—**	**4,194**	4,880	1	4	—	4,877
Total debt securities AFS	**$ 255,608**	**$ 678**	**$ 6,604**	**$ 3**	**$ 249,679**	$ 289,363	$ 1,519	$ 2,352	$ 8	$ 288,522

(1) The Company invests in mortgage- and asset-backed securities, which are typically issued by VIEs through securitization transactions. The Company's maximum exposure to loss from these VIEs is equal to the carrying amount of the securities, which is reflected in the table above. See Note 22 for mortgage- and asset-backed securitizations in which the Company has other involvement.

(2) In 2022, Citibank transferred $21.5 billion of agency residential mortgage-backed securities and $165 million of municipal bonds from AFS classification to HTM classification in accordance with ASC 320. At the time of transfer, the securities and bonds were in an unrealized loss position of $2.3 billion and $12 million, respectively. The loss amounts will remain in *AOCI* and will be amortized over the remaining life of the securities and bonds.

At December 31, 2022, the amortized cost of AFS fixed income securities for those in a loss position exceeded their fair value by $6,604 million. Of the $6,604 million, $3,997 million represented unrealized losses on fixed income investments that have been in a gross unrealized loss position for less than a year and, of these, 73% were rated investment grade; and $2,607 million represented unrealized losses on fixed income investments that have been in a gross unrealized loss position for a year or more and, of these, 99% were rated investment grade. Of the $2,607 million, $1,491 million represents U.S. Treasury and federal agency securities.

The following table shows the fair value of AFS debt securities that have been in an unrealized loss position:

In millions of dollars	Less than 12 months		12 months or longer		Total	
	Fair value	Gross unrealized losses	Fair value	Gross unrealized losses	Fair value	Gross unrealized losses
December 31, 2022						
Debt securities AFS						
Mortgage-backed securities						
U.S. government-sponsored agency guaranteed	**$ 7,908**	**$ 412**	**$ 3,290**	**$ 343**	**$ 11,198**	**$ 755**
Residential	**158**	**3**	**1**	**—**	**159**	**3**
Commercial	**1**	**—**	**1**	**—**	**2**	**—**
Total mortgage-backed securities	**$ 8,067**	**$ 415**	**$ 3,292**	**$ 343**	**$ 11,359**	**$ 758**
U.S. Treasury and federal agency securities						
U.S. Treasury	**$ 40,701**	**$ 1,001**	**$ 34,692**	**$ 1,491**	**$ 75,393**	**$ 2,492**
Agency obligations	**—**	**—**	**—**	**—**	**—**	**—**
Total U.S. Treasury and federal agency securities	**$ 40,701**	**$ 1,001**	**$ 34,692**	**$ 1,491**	**$ 75,393**	**$ 2,492**
State and municipal	**$ 896**	**$ 31**	**$ 707**	**$ 128**	**$ 1,603**	**$ 159**
Foreign government	**82,900**	**2,332**	**14,220**	**608**	**97,120**	**2,940**
Corporate	**3,082**	**209**	**784**	**37**	**3,866**	**246**
Asset-backed securities	**708**	**4**	**—**	**—**	**708**	**4**
Other debt securities	**2,213**	**5**	**—**	**—**	**2,213**	**5**
Total debt securities AFS	**$ 138,567**	**$ 3,997**	**$ 53,695**	**$ 2,607**	**$ 192,262**	**$ 6,604**
December 31, 2021						
Debt securities AFS						
Mortgage-backed securities						
U.S. government-sponsored agency guaranteed	$ 17,039	$ 270	$ 698	$ 31	$ 17,737	$ 301
Residential	96	1	1	—	97	1
Commercial	—	—	—	—	—	—
Total mortgage-backed securities	$ 17,135	$ 271	$ 699	$ 31	$ 17,834	$ 302
U.S. Treasury and federal agency securities						
U.S. Treasury	$ 56,448	$ 713	$ 6,310	$ 131	$ 62,758	$ 844
Agency obligations	—	—	—	—	—	—
Total U.S. Treasury and federal agency securities	$ 56,448	$ 713	$ 6,310	$ 131	$ 62,758	$ 844
State and municipal	$ 229	$ 3	$ 874	$ 98	$ 1,103	$ 101
Foreign government	64,319	826	9,924	197	74,243	1,023
Corporate	2,655	77	22	—	2,677	77
Asset-backed securities	108	1	—	—	108	1
Other debt securities	3,439	4	—	—	3,439	4
Total debt securities AFS	$ 144,333	$ 1,895	$ 17,829	$ 457	$ 162,162	$ 2,352

The following table presents the amortized cost and fair value of AFS debt securities by contractual maturity dates:

	December 31,					
	2022			2021		
In millions of dollars	**Amortized cost**	**Fair value**	**Weighted average yield[1]**	Amortized cost	Fair value	Weighted average yield[1]
Mortgage-backed securities[2]						
Due within 1 year	**$ 42**	**$ 44**	**2.02 %**	$ 188	$ 189	0.79 %
After 1 but within 5 years	**523**	**513**	**2.31**	211	211	1.07
After 5 but within 10 years	**468**	**440**	**3.46**	523	559	3.41
After 10 years	**11,466**	**10,752**	**3.46**	32,547	32,662	2.73
Total	**$ 12,499**	**$ 11,749**	**3.41 %**	$ 33,469	$ 33,621	2.72 %
U.S. Treasury and federal agency securities						
Due within 1 year	**$ 25,935**	**$ 25,829**	**2.81 %**	$ 34,321	$ 34,448	1.05 %
After 1 but within 5 years	**68,455**	**66,166**	**1.17**	87,987	87,633	0.81
After 5 but within 10 years	**342**	**295**	**2.53**	361	359	1.42
After 10 years	**—**	**—**	**—**	—	—	—
Total	**$ 94,732**	**$ 92,290**	**1.62 %**	$ 122,669	$ 122,440	0.87 %
State and municipal						
Due within 1 year	**$ 19**	**$ 18**	**1.79 %**	$ 40	$ 40	2.09 %
After 1 but within 5 years	**94**	**92**	**3.07**	121	124	3.16
After 5 but within 10 years	**305**	**302**	**3.55**	156	161	3.18
After 10 years	**1,945**	**1,811**	**3.51**	2,326	2,296	3.15
Total	**$ 2,363**	**$ 2,223**	**3.49 %**	$ 2,643	$ 2,621	3.14 %
Foreign government						
Due within 1 year	**$ 64,795**	**$ 64,479**	**4.25 %**	$ 49,263	$ 49,223	2.53 %
After 1 but within 5 years	**67,935**	**66,150**	**4.80**	64,555	63,961	3.14
After 5 but within 10 years	**2,491**	**2,250**	**2.86**	3,736	3,656	1.72
After 10 years	**427**	**398**	**3.80**	1,872	1,900	1.52
Total	**$ 135,648**	**$ 133,277**	**4.50 %**	$ 119,426	$ 118,740	2.82 %
All other[3]						
Due within 1 year	**$ 4,452**	**$ 4,441**	**1.52 %**	$ 5,175	$ 5,180	0.94 %
After 1 but within 5 years	**5,162**	**4,988**	**4.82**	5,177	5,149	1.91
After 5 but within 10 years	**695**	**693**	**11.35**	750	750	2.08
After 10 years	**57**	**18**	**3.81**	54	21	4.28
Total	**$ 10,366**	**$ 10,140**	**3.83 %**	$ 11,156	$ 11,100	1.48 %
Total debt securities AFS	**$ 255,608**	**$ 249,679**	**3.34 %**	$ 289,363	$ 288,522	1.94 %

(1) Weighted average yields are weighted based on the amortized cost of each security. The average yield considers the contractual coupon, amortization of premiums and accretion of discounts and excludes the effects of any related hedging derivatives.

(2) Includes mortgage-backed securities of U.S. government-sponsored agencies. The Company invests in mortgage- and asset-backed securities, which are typically issued by VIEs through securitization transactions.

(3) Includes corporate, asset-backed and other debt securities.

Debt Securities Held-to-Maturity

The carrying value and fair value of debt securities HTM were as follows:

In millions of dollars	Amortized cost, net[1]	Gross unrealized gains	Gross unrealized losses	Fair value
December 31, 2022				
Debt securities HTM				
Mortgage-backed securities[2]				
U.S. government-sponsored agency guaranteed[3]	**$ 90,063**	**$ 58**	**$ 10,033**	**$ 80,088**
Non-U.S. residential	**445**	**—**	**—**	**445**
Commercial	**1,114**	**5**	**1**	**1,118**
Total mortgage-backed securities	**$ 91,622**	**$ 63**	**$ 10,034**	**$ 81,651**
U.S. Treasury securities	**$ 134,961**	**$ —**	**$ 13,722**	**$ 121,239**
State and municipal[4]	**9,237**	**34**	**764**	**8,507**
Foreign government	**2,075**	**—**	**93**	**1,982**
Asset-backed securities[2]	**30,968**	**4**	**703**	**30,269**
Total debt securities HTM, net	**$ 268,863**	**$ 101**	**$ 25,316**	**$ 243,648**
December 31, 2021				
Debt securities HTM				
Mortgage-backed securities[2]				
U.S. government-sponsored agency guaranteed	$ 63,885	$ 1,076	$ 925	$ 64,036
Non-U.S. residential	736	3	—	739
Commercial	1,070	4	2	1,072
Total mortgage-backed securities	$ 65,691	$ 1,083	$ 927	$ 65,847
U.S. Treasury securities	$ 111,819	$ 30	$ 1,632	$ 110,217
State and municipal	8,923	589	12	9,500
Foreign government	1,651	4	36	1,619
Asset-backed securities[2]	28,879	8	32	28,855
Total debt securities HTM, net	$ 216,963	$ 1,714	$ 2,639	$ 216,038

(1) Amortized cost is reported net of ACL of $120 million and $87 million at December 31, 2022 and December 31, 2021, respectively.

(2) The Company invests in mortgage- and asset-backed securities. These securitizations are generally considered VIEs. The Company's maximum exposure to loss from these VIEs is equal to the carrying amount of the securities, which is reflected in the table above. See Note 22 for mortgage- and asset-backed securitizations in which the Company has other involvement.

(3) In 2022, Citibank transferred $21.5 billion of agency residential mortgage-backed securities and $165 million of municipal bonds from AFS classification to HTM classification in accordance with ASC 320. At the time of transfer, the securities and bonds were in an unrealized loss position of $2.3 billion and $12 million, respectively. The loss amounts will remain in *AOCI* and will be amortized over the remaining life of the securities and bonds.

The Company has the positive intent and ability to hold these securities to maturity or, where applicable, until the exercise of any issuer call option, absent any unforeseen significant changes in circumstances, including deterioration in credit or changes in regulatory capital requirements.

The net unrealized losses classified in *AOCI* for HTM debt securities primarily relate to debt securities previously classified as AFS that were transferred to HTM, and include any cumulative fair value hedge adjustments. The net unrealized loss amount also includes any non-credit-related changes in fair value of HTM debt securities that have suffered credit impairment recorded in earnings. The *AOCI* balance related to HTM debt securities is amortized as an adjustment of yield, in a manner consistent with the accretion of any difference between the carrying value at the transfer date and par value of the same debt securities.

The following table presents the carrying value and fair value of HTM debt securities by contractual maturity dates:

	December 31,					
	2022			2021		
In millions of dollars	**Amortized cost[1]**	**Fair value**	**Weighted average yield[2]**	Amortized cost[1]	Fair value	Weighted average yield[2]
Mortgage-backed securities						
Due within 1 year	**$ 27**	**$ 27**	**2.93 %**	$ 152	$ 151	1.70 %
After 1 but within 5 years	**520**	**505**	**3.84**	684	725	3.01
After 5 but within 10 years	**1,496**	**1,374**	**2.74**	1,655	1,739	2.74
After 10 years	**89,579**	**79,745**	**2.89**	63,200	63,232	2.55
Total	**$ 91,622**	**$ 81,651**	**2.90 %**	$ 65,691	$ 65,847	2.56 %
U.S. Treasury securities						
Due within 1 year	**$ 3,148**	**$ 3,017**	**0.18 %**	$ —	$ —	— %
After 1 but within 5 years	**86,617**	**79,104**	**1.04**	65,498	64,516	0.69
After 5 but within 10 years	**45,196**	**39,118**	**1.16**	46,321	45,701	1.15
After 10 years	**—**	**—**	**—**	—	—	—
Total	**$ 134,961**	**$ 121,239**	**1.06 %**	$ 111,819	$ 110,217	0.88 %
State and municipal						
Due within 1 year	**$ 22**	**$ 21**	**2.73 %**	$ 51	$ 50	3.82 %
After 1 but within 5 years	**102**	**100**	**2.99**	166	170	2.82
After 5 but within 10 years	**1,002**	**967**	**3.16**	908	951	3.23
After 10 years	**8,111**	**7,419**	**3.32**	7,798	8,329	2.65
Total	**$ 9,237**	**$ 8,507**	**3.30 %**	$ 8,923	$ 9,500	2.72 %
Foreign government						
Due within 1 year	**$ 143**	**$ 139**	**10.83 %**	$ 292	$ 291	7.86 %
After 1 but within 5 years	**1,932**	**1,843**	**9.94**	1,359	1,328	6.30
After 5 but within 10 years	**—**	**—**	**—**	—	—	—
After 10 years	**—**	**—**	**—**	—	—	—
Total	**$ 2,075**	**$ 1,982**	**10.00 %**	$ 1,651	$ 1,619	6.58 %
All other[3]						
Due within 1 year	**$ —**	**$ —**	**— %**	$ —	$ —	— %
After 1 but within 5 years	**—**	**—**	**—**	—	—	—
After 5 but within 10 years	**11,751**	**11,583**	**2.81**	11,520	11,515	2.78
After 10 years	**19,217**	**18,686**	**1.53**	17,359	17,340	1.34
Total	**$ 30,968**	**$ 30,269**	**2.02 %**	$ 28,879	$ 28,855	1.92 %
Total debt securities HTM	**$ 268,863**	**$ 243,648**	**1.94 %**	$ 216,963	$ 216,038	1.65 %

(1) Amortized cost is reported net of ACL of $120 million and $87 million at December 31, 2022 and 2021, respectively.
(2) Weighted average yields are weighted based on the amortized cost of each security. The average yield considers the contractual coupon, amortization of premiums and accretion of discounts and excludes the effects of any related hedging derivatives.
(3) Includes corporate and asset-backed securities.

HTM Debt Securities Delinquency and Non-Accrual Details

Citi did not have any HTM debt securities that were delinquent or on non-accrual status at December 31, 2022 and 2021.

There were no purchased credit-deteriorated HTM debt securities held by the Company as of December 31, 2022 and 2021.

Evaluating Investments for Impairment

AFS Debt Securities

Overview—AFS Debt Securities

The Company conducts periodic reviews of all AFS debt securities with unrealized losses to evaluate whether the impairment resulted from expected credit losses or from other factors and to evaluate the Company's intent to sell such securities.

An AFS debt security is impaired when the current fair value of an individual AFS debt security is less than its amortized cost basis.

The Company recognizes the entire difference between amortized cost basis and fair value in earnings for impaired AFS debt securities that Citi has an intent to sell or for which Citi believes it will more-likely-than-not be required to sell prior to recovery of the amortized cost basis. However, for those AFS debt securities that the Company does not intend to sell and is not likely to be required to sell, only the credit-related impairment is recognized in earnings by recording an allowance for credit losses. Any remaining fair value decline for such securities is recorded in *AOCI*. The Company does not consider the length of time that the fair value of a security is below its amortized cost when determining if a credit loss exists.

For AFS debt securities, credit losses exist where Citi does not expect to receive contractual principal and interest cash flows sufficient to recover the entire amortized cost basis of a security. The allowance for credit losses is limited to the amount by which the AFS debt security's amortized cost basis exceeds its fair value. The allowance is increased or decreased if credit conditions subsequently worsen or improve. Reversals of credit losses are recognized in earnings.

The Company's review for impairment of AFS debt securities generally entails:

- identification and evaluation of impaired investments;
- consideration of evidential matter, including an evaluation of factors or triggers that could cause individual positions to qualify as credit impaired and those that would not support credit impairment; and
- documentation of the results of these analyses, as required under business policies.

The sections below describe the Company's process for identifying expected credit impairments for debt security types that have the most significant unrealized losses as of December 31, 2022.

Agency Mortgage-Backed Securities

Citi records no allowances for credit losses on U.S. government-agency-guaranteed mortgage-backed securities, because the Company expects to incur no credit losses in the event of default due to a history of incurring no credit losses and due to the nature of the counterparties.

State and Municipal Securities

The process for estimating credit losses in Citigroup's AFS state and municipal bonds is primarily based on a credit analysis that incorporates third-party credit ratings. Citi monitors the bond issuers and any insurers providing default protection in the form of financial guarantee insurance. The average external credit rating, disregarding any insurance, is Aa2/AA. In the event of an external rating downgrade or other indicator of credit impairment (i.e., based on instrument-specific estimates of cash flows or probability of issuer default), the subject bond is specifically reviewed for adverse changes in the amount or timing of expected contractual principal and interest payments.

For AFS state and municipal bonds with unrealized losses that Citi plans to sell or would more-likely-than-not be required to sell prior to recovery of value, the full impairment is recognized in earnings. For AFS state and municipal bonds where Citi has no intent to sell and it is not more-likely-than-not that the Company will be required to sell, Citi records an allowance for expected credit losses for the amount it expects not to collect, capped at the difference between the bond's amortized cost basis and fair value.

Equity Method Investments

Management assesses equity method investments that have fair values that are less than their respective carrying values for other-than-temporary impairment (OTTI). Fair value is measured as price multiplied by quantity if the investee has publicly listed securities. If the investee is not publicly listed, other methods are used (see Note 25).

For impaired equity method investments that Citi plans to sell prior to recovery of value or would more-likely-than-not be required to sell, with no expectation that the fair value will recover prior to the expected sale date, the full impairment is recognized as OTTI in *Other revenue* regardless of severity and duration. The measurement of the OTTI does not include partial projected recoveries subsequent to the balance sheet date.

For impaired equity method investments that management does not plan to sell and is not more-likely-than-not to be required to sell prior to recovery of value, the evaluation of whether an impairment is other-than-temporary is based on (i) whether and when an equity method investment will recover in value and (ii) whether the investor has the intent and ability to hold that investment for a period of time sufficient to recover the value. The determination of whether the impairment is considered other-than-temporary considers the following indicators:

- the cause of the impairment and the financial condition and near-term prospects of the issuer, including any specific events that may influence the operations of the issuer;
- the intent and ability to hold the investment for a period of time sufficient to allow for any anticipated recovery in market value; and
- the length of time and extent to which fair value has been less than the carrying value.

Recognition and Measurement of Impairment

The following table presents total impairment on AFS investments recognized in earnings:

	Year ended		
In millions of dollars	**2022**	2021	2020
Impairment losses related to debt securities that the Company does not intend to sell nor will likely be required to sell:			
Total impairment losses recognized during the period	**$ —**	$ —	$ —
Less: portion of impairment loss recognized in *AOCI* (before taxes)	**—**	—	—
Net impairment losses recognized in earnings for debt securities that the Company does not intend to sell nor will likely be required to sell	**$ —**	**$ —**	**$ —**
Impairment losses recognized in earnings for debt securities that the Company intends to sell, would more-likely-than-not be required to sell or will be subject to an issuer call deemed probable of exercise	**360**	181	109
Total impairment losses recognized in earnings	**$ 360**	$ 181	$ 109

The following presents the credit-related impairments recognized in earnings for AFS securities held that the Company does not intend to sell nor will likely be required to sell at December 31, 2022 and 2021:

Allowance for Credit Losses on AFS Debt Securities

	Year ended December 31, 2022					
In millions of dollars	**Mortgage-backed**	**U.S. Treasury and federal agency**	**State and municipal**	**Foreign government**	**Corporate**	**Total AFS**
Allowance for credit losses at beginning of year	**$ —**	**$ —**	**$ —**	**$ —**	**$ 8**	**$ 8**
Gross write-offs	**—**	**—**	**—**	**—**	**—**	**—**
Gross recoveries	**—**	**—**	**—**	**—**	**5**	**5**
Net credit losses (NCLs)	**$ —**	**$ —**	**$ —**	**$ —**	**$ 5**	**$ 5**
NCLs	**$ —**	**$ —**	**$ —**	**$ —**	**$ (5)**	**$ (5)**
Credit losses on securities without previous credit losses	**—**	**—**	**—**	**—**	**2**	**2**
Net reserve builds (releases) on securities with previous credit losses	**—**	**—**	**—**	**—**	**(2)**	**(2)**
Total provision for credit losses	**$ —**	**$ —**	**$ —**	**$ —**	**$ (5)**	**$ (5)**
Initial allowance on newly purchased credit-deteriorated securities during the year	**—**	**—**	**—**	**—**	**—**	**—**
Allowance for credit losses at end of year	**$ —**	**$ —**	**$ —**	**$ —**	**$ 3**	**$ 3**

	Year ended December 31, 2021					
In millions of dollars	Mortgage-backed	U.S. Treasury and federal agency	State and municipal	Foreign government	Corporate	Total AFS
Allowance for credit losses at beginning of year	$ —	$ —	$ —	$ —	$ 5	$ 5
Gross write-offs	—	—	—	—	—	—
Gross recoveries	—	—	—	—	—	—
Net credit losses (NCLs)	$ —	$ —	$ —	$ —	$ —	$ —
NCLs	$ —	$ —	$ —	$ —	$ —	$ —
Credit losses on securities without previous credit losses	—	—	—	—	3	3
Net reserve builds (releases) on securities with previous credit losses	—	—	—	—	—	—
Total provision for credit losses	$ —	$ —	$ —	$ —	$ 3	$ 3
Initial allowance on newly purchased credit-deteriorated securities during the year	—	—	—	—	—	—
Allowance for credit losses at end of year	$ —	$ —	$ —	$ —	$ 8	$ 8

In millions of dollars	Year ended December 31, 2020					
	Mortgage-backed	U.S. Treasury and federal agency	State and municipal	Foreign government	Corporate	Total AFS
Allowance for credit losses at beginning of year	$ —	$ —	$ —	$ —	$ —	$ —
Gross write-offs	—	—	—	—	—	—
Gross recoveries	—	—	—	—	2	2
Net credit losses (NCLs)	$ —	$ —	$ —	$ —	$ 2	$ 2
NCLs	$ —	$ —	$ —	$ —	$ (2)	$ (2)
Credit losses on securities without previous credit losses	—	—	—	3	5	8
Net reserve builds (releases) on securities with previous credit losses	—	—	—	(3)	—	(3)
Total provision for credit losses	$ —	$ —	$ —	$ —	$ 3	$ 3
Initial allowance on newly purchased credit-deteriorated securities during the year	—	—	—	—	—	—
Allowance for credit losses at end of year	$ —	$ —	$ —	$ —	$ 5	$ 5

Non-Marketable Equity Securities Not Carried at Fair Value

Non-marketable equity securities are required to be measured at fair value with changes in fair value recognized in earnings unless (i) the measurement alternative is elected or (ii) the investment represents Federal Reserve Bank and Federal Home Loan Bank stock or certain exchange seats that continue to be carried at cost.

The election to measure a non-marketable equity security using the measurement alternative is made on an instrument-by-instrument basis. Under the measurement alternative, an equity security is carried at cost plus or minus changes resulting from observable prices in orderly transactions for the identical or a similar investment of the same issuer. The carrying value of the equity security is adjusted to fair value on the date of an observed transaction. Fair value may differ from the observed transaction price due to a number of factors, including marketability adjustments and differences in rights and obligations when the observed transaction is not for the identical investment held by Citi.

Equity securities under the measurement alternative are also assessed for impairment. On a quarterly basis, management qualitatively assesses whether each equity security under the measurement alternative is impaired. Impairment indicators that are considered include, but are not limited to, the following:

- a significant deterioration in the earnings performance, credit rating, asset quality or business prospects of the investee;
- a significant adverse change in the regulatory, economic or technological environment of the investee;
- a significant adverse change in the general market condition of either the geographical area or the industry in which the investee operates;
- a bona fide offer to purchase, an offer by the investee to sell or a completed auction process for the same or similar investment for an amount less than the carrying amount of that investment; and
- factors that raise significant concerns about the investee's ability to continue as a going concern, such as negative cash flows from operations, working capital deficiencies or noncompliance with statutory capital requirements or debt covenants.

When the qualitative assessment indicates that impairment exists, the investment is written down to fair value, with the full difference between the fair value of the investment and its carrying amount recognized in earnings.

Below is the carrying value of non-marketable equity securities measured using the measurement alternative at December 31, 2022 and 2021:

In millions of dollars	**December 31, 2022**	December 31, 2021
Measurement alternative:		
Carrying value	**$ 1,676**	$ 1,413

Below are amounts recognized in earnings and life-to-date amounts for non-marketable equity securities measured using the measurement alternative:

	Years ended December 31,	
In millions of dollars	**2022**	2021
Measurement alternative[(1)]:		
Impairment losses	**$ 139**	$ 25
Downward changes for observable prices	**3**	—
Upward changes for observable prices	**177**	406

(1) See Note 25 for additional information on these nonrecurring fair value measurements.

	Life-to-date amounts on securities still held
In millions of dollars	**December 31, 2022**
Measurement alternative:	
Impairment losses	**$ 219**
Downward changes for observable prices	**6**
Upward changes for observable prices	**867**

A similar impairment analysis is performed for non-marketable equity securities carried at cost. For the years ended December 31, 2022 and 2021, there was no impairment loss recognized in earnings for non-marketable equity securities carried at cost.

14. LOANS

Citigroup loans are reported in two categories: corporate and consumer. These categories are classified primarily according to the operating segment and component that manage the loans in addition to the nature of the obligor, with corporate loans generally made for corporate institutional and public sector clients around the world and consumer loans to retail and small business customers.

Corporate Loans

Corporate loans represent loans and leases managed by *ICG* and the Mexico SBMM component of *Legacy Franchises*. The following table presents information by corporate loan type:

In millions of dollars	**December 31, 2022**	December 31, 2021
In North America offices[1]		
Commercial and industrial	**$ 56,176**	$ 48,364
Financial institutions	**43,399**	49,804
Mortgage and real estate[2]	**17,829**	15,965
Installment and other	**23,767**	20,143
Lease financing	**308**	415
Total	**$ 141,479**	$ 134,691
In offices outside North America[1]		
Commercial and industrial	**$ 93,967**	$ 102,735
Financial institutions	**21,931**	22,158
Mortgage and real estate[2]	**4,179**	4,374
Installment and other	**23,347**	22,812
Lease financing	**46**	40
Governments and official institutions	**4,205**	4,423
Total	**$ 147,675**	$ 156,542
Corporate loans, net of unearned income[3][4][5]	**$ 289,154**	$ 291,233

(1) North America includes the U.S., Canada and Puerto Rico. Mexico is included in offices outside North America. The classification between offices in North America and outside North America is based on the domicile of the booking unit. The difference between the domicile of the booking unit and the domicile of the managing unit is not material.

(2) Loans secured primarily by real estate.

(3) Corporate loans are net of unearned income of $($797) million and ($770) million at December 31, 2022 and 2021, respectively. Unearned income on corporate loans primarily represents interest received in advance, but not yet earned, on loans originated on a discounted basis.

(4) Not included in the balances above is approximately $2 billion of accrued interest receivable at December 31, 2022, which is included in *Other assets* on the Consolidated Balance Sheet.

(5) Accrued interest receivable considered to be uncollectible is reversed through interest income. Amounts reversed were not material for the years ended December 31, 2022 and 2021, respectively.

The Company sold and/or reclassified to held-for-sale $5.0 billion and $5.9 billion of corporate loans during the years ended December 31, 2022 and 2021, respectively. The Company did not have significant purchases of corporate loans classified as held-for-investment for the years ended December 31, 2022 or 2021.

Lease financing

Citi is a lessor in the power, railcars, shipping and aircraft sectors, where the Company has executed operating, direct financing and leveraged leases. Citi's $0.4 billion of lease financing receivables, as of December 31, 2022, is composed of approximately equal balances of direct financing lease receivables and net investments in leveraged leases. Citi uses the interest rate implicit in the lease to determine the present value of its lease financing receivables. Interest income on direct financing and leveraged leases during the year ended December 31, 2022 was not material.

The Company's operating leases, where Citi is a lessor, are not significant to the Consolidated Financial Statements.

Delinquency Status

Citi generally does not manage corporate loans on a delinquency basis. Corporate loans are placed on a cash (non-accrual) basis when it is determined, based on actual experience and a forward-looking assessment of the collectability of the loan in full, that the payment of interest or principal is doubtful or when interest or principal is 90 days past due, except when the loan is well collateralized and in the process of collection. Any interest accrued on impaired corporate loans and leases is reversed at 90 days and charged against current earnings, and interest is thereafter included in earnings only to the extent actually received in cash. When there is doubt regarding the ultimate collectibility of principal, all cash receipts are thereafter applied to reduce the recorded investment in the loan. While corporate loans are generally managed based on their internally assigned risk rating (see further discussion below), the following tables present delinquency information by corporate loan type.

Corporate Loan Delinquencies and Non-Accrual Details at December 31, 2022

In millions of dollars	**30–89 days past due and accruing[1]**	**≥ 90 days past due and accruing[1]**	**Total past due and accruing**	**Total non-accrual[2]**	**Total current[3]**	**Total loans[4]**
Commercial and industrial	**$ 763**	**$ 594**	**$ 1,357**	**$ 860**	**$ 145,586**	**$ 147,803**
Financial institutions	**233**	**102**	**335**	**152**	**64,420**	**64,907**
Mortgage and real estate	**30**	**12**	**42**	**33**	**21,874**	**21,949**
Lease financing	**—**	**1**	**1**	**10**	**343**	**354**
Other	**145**	**18**	**163**	**67**	**48,788**	**49,018**
Loans at fair value						**5,123**
Total	**$ 1,171**	**$ 727**	**$ 1,898**	**$ 1,122**	**$ 281,011**	**$ 289,154**

Corporate Loan Delinquencies and Non-Accrual Details at December 31, 2021

In millions of dollars	30–89 days past due and accruing[1]	≥ 90 days past due and accruing[1]	Total past due and accruing	Total non-accrual[2]	Total current[3]	Total loans[4]
Commercial and industrial	$ 1,072	$ 239	$ 1,311	$ 1,263	$ 144,430	$ 147,004
Financial institutions	320	166	486	2	71,279	71,767
Mortgage and real estate	1	1	2	136	20,153	20,291
Lease financing	—	—	—	14	441	455
Other	77	19	96	138	45,412	45,646
Loans at fair value						6,070
Total	$ 1,470	$ 425	$ 1,895	$ 1,553	$ 281,715	$ 291,233

(1) Corporate loans that are 90 days past due are generally classified as non-accrual. Corporate loans are considered past due when principal or interest is contractually due but unpaid.
(2) Non-accrual loans generally include those loans that are 90 days or more past due or those loans for which Citi believes, based on actual experience and a forward-looking assessment of the collectability of the loan in full, that the payment of interest and/or principal is doubtful.
(3) Loans less than 30 days past due are presented as current.
(4) The Total loans column includes loans at fair value, which are not included in the various delinquency columns, and therefore the tables' total rows will not cross-foot.

Citigroup has a risk management process to monitor, evaluate and manage the principal risks associated with its corporate loan portfolio. As part of its risk management process, Citi assigns numeric risk ratings to its corporate loan facilities based on quantitative and qualitative assessments of the obligor and facility. These risk ratings are reviewed at least annually or more often if material events related to the obligor or facility warrant. Factors considered in assigning the risk ratings include financial condition of the obligor, qualitative assessment of management and strategy, amount and sources of repayment, amount and type of collateral and guarantee arrangements, amount and type of any contingencies associated with the obligor and the obligor's industry and geography.

The obligor risk ratings are defined by ranges of default probabilities. The facility risk ratings are defined by ranges of loss norms, which are the product of the probability of default and the loss given default. The investment-grade rating categories are similar to the category BBB-/Baa3 and above as defined by S&P and Moody's. Loans classified according to the bank regulatory definitions as special mention, substandard, doubtful and loss will have risk ratings within the non-investment-grade categories.

Corporate Loans Credit Quality Indicators

	Recorded investment in loans[1]							
	Term loans by year of origination							
In millions of dollars	2022	2021	2020	2019	2018	Prior	Revolving line of credit arrangements[2]	December 31, 2022
Investment grade[3]								
Commercial and industrial[4]	$ 50,086	$ 5,716	$ 2,454	$ 2,348	$ 1,129	$ 1,776	$ 38,359	$ 101,868
Financial institutions[4]	13,547	3,174	813	593	284	713	37,463	56,587
Mortgage and real estate	7,321	3,876	3,379	1,205	577	775	152	17,285
Other[5]	12,257	1,171	494	148	688	3,496	26,807	45,061
Total investment grade	$ 83,211	$ 13,937	$ 7,140	$ 4,294	$ 2,678	$ 6,760	$ 102,781	$ 220,801
Non-investment grade[3]								
Accrual								
Commercial and industrial[4]	$ 21,877	$ 3,114	$ 1,371	$ 800	$ 661	$ 402	$ 16,850	$ 45,075
Financial institutions[4]	5,110	626	247	65	36	11	2,073	8,168
Mortgage and real estate	1,081	989	470	556	562	501	472	4,631
Other[5]	1,938	360	466	107	7	64	1,292	4,234
Non-accrual								
Commercial and industrial[4]	80	31	90	53	44	83	479	860
Financial institutions	41	35	—	—	—	—	76	152
Mortgage and real estate	2	11	—	—	2	18	—	33
Other[5]	7	26	1	8	10	9	16	77
Total non-investment grade	$ 30,136	$ 5,192	$ 2,645	$ 1,589	$ 1,322	$ 1,088	$ 21,258	$ 63,230
Loans at fair value[6]								$ 5,123
Corporate loans, net of unearned income	$ 113,347	$ 19,129	$ 9,785	$ 5,883	$ 4,000	$ 7,848	$ 124,039	$ 289,154

	Recorded investment in loans[1]							
	Term loans by year of origination							
In millions of dollars	2021	2020	2019	2018	2017	Prior	Revolving line of credit arrangements[2]	December 31, 2021
Investment grade[3]								
Commercial and industrial[4]	$ 42,422	$ 5,529	$ 4,642	$ 3,757	$ 2,911	$ 8,392	$ 30,588	$ 98,241
Financial institutions[4]	12,862	1,678	1,183	1,038	419	1,354	43,630	62,164
Mortgage and real estate	2,423	3,660	3,332	2,015	1,212	1,288	141	14,071
Other[5]	9,037	3,099	1,160	2,789	330	4,601	18,727	39,743
Total investment grade	$ 66,744	$ 13,966	$ 10,317	$ 9,599	$ 4,872	$ 15,635	$ 93,086	$ 214,219
Non-investment grade[3]								
Accrual								
Commercial and industrial[4]	$ 16,783	$ 2,281	$ 2,343	$ 2,024	$ 1,412	$ 3,981	$ 18,676	$ 47,500
Financial institutions[4]	4,325	347	567	101	71	511	3,679	9,601
Mortgage and real estate	1,275	869	1,228	1,018	493	586	615	6,084
Other[5]	1,339	349	554	364	119	245	3,236	6,206
Non-accrual								
Commercial and industrial[4]	53	119	64	104	94	117	712	1,263
Financial institutions	—	—	—	—	—	—	2	2
Mortgage and real estate	11	8	2	49	10	25	31	136
Other[5]	19	5	19	19	—	90	—	152
Total non-investment grade	$ 23,805	$ 3,978	$ 4,777	$ 3,679	$ 2,199	$ 5,555	$ 26,951	$ 70,944
Loans at fair value[6]								6,070
Corporate loans, net of unearned income	$ 90,549	$ 17,944	$ 15,094	$ 13,278	$ 7,071	$ 21,190	$ 120,037	$ 291,233

(1) Recorded investment in a loan includes net deferred loan fees and costs, unamortized premium or discount, less any direct write-downs.
(2) There were no significant revolving line of credit arrangements that converted to term loans during the year.
(3) Held-for-investment loans are accounted for on an amortized cost basis.
(4) Includes certain short-term loans with less than one year in tenor.
(5) Other includes installment and other, lease financing and loans to government and official institutions.
(6) Loans at fair value include loans to commercial and industrial, financial institutions, mortgage and real estate and other.

Collateral-dependent loans and leases, where repayment is expected to be provided solely by the sale of the underlying collateral with no other available and reliable sources of repayment, are written down to the lower of carrying value or collateral value, less cost to sell. Cash-basis loans are returned to an accrual status when all contractual principal and interest amounts are reasonably assured of repayment and there is a sustained period of repayment performance, generally six months, in accordance with the contractual terms of the loan.

Non-Accrual Corporate Loans

The following tables present non-accrual loan information by corporate loan type and interest income recognized on non-accrual corporate loans:

	At and for the year ended December 31, 2022				
In millions of dollars	**Recorded investment[1]**	**Unpaid principal balance**	**Related specific allowance**	**Average carrying value[2]**	**Interest income recognized[3]**
Non-accrual corporate loans					
Commercial and industrial	**$ 860**	**$ 1,440**	**$ 268**	**$ 1,210**	**$ 56**
Financial institutions	**152**	**205**	**51**	**115**	**—**
Mortgage and real estate	**33**	**33**	**4**	**85**	**4**
Lease financing	**10**	**10**	**—**	**12**	**—**
Other	**67**	**89**	**—**	**111**	**6**
Total non-accrual corporate loans	**$ 1,122**	**$ 1,777**	**$ 323**	**$ 1,533**	**$ 66**

	At and for the year ended December 31, 2021				
In millions of dollars	Recorded investment[1]	Unpaid principal balance	Related specific allowance	Average carrying value[2]	Interest income recognized[3]
Non-accrual corporate loans					
Commercial and industrial	$ 1,263	$ 1,858	$ 198	$ 1,839	$ 37
Financial institutions	2	55	—	4	—
Mortgage and real estate	136	285	10	163	—
Lease financing	14	14	—	21	—
Other	138	165	4	134	17
Total non-accrual corporate loans	$ 1,553	$ 2,377	$ 212	$ 2,161	$ 54

	December 31, 2022		December 31, 2021	
In millions of dollars	**Recorded investment[1]**	**Related specific allowance**	Recorded investment[1]	Related specific allowance
Non-accrual corporate loans with specific allowances				
Commercial and industrial	**$ 583**	**$ 268**	$ 637	$ 198
Financial institutions	**149**	**51**	—	—
Mortgage and real estate	**33**	**4**	29	10
Other	**—**	**—**	37	4
Total non-accrual corporate loans with specific allowances	**$ 765**	**$ 323**	$ 703	$ 212
Non-accrual corporate loans without specific allowances				
Commercial and industrial	**$ 277**		$ 626	
Financial institutions	**3**		2	
Mortgage and real estate	**—**		107	
Lease financing	**10**		14	
Other	**67**		101	
Total non-accrual corporate loans without specific allowances	**$ 357**	**N/A**	$ 850	N/A

(1) Recorded investment in a loan includes net deferred loan fees and costs, unamortized premium or discount, less any direct write-downs.
(2) Average carrying value represents the average recorded investment balance and does not include related specific allowances.
(3) Interest income recognized for the year ended December 31, 2020 was $35 million.
N/A Not applicable

Corporate Troubled Debt Restructurings

For the year ended December 31, 2022

In millions of dollars	**Carrying value of TDRs modified during the year**	**TDRs involving changes in the amount and/or timing of principal payments[2]**	**TDRs involving changes in the amount and/or timing of interest payments[3]**	**TDRs involving changes in the amount and/or timing of both principal and interest payments**
Commercial and industrial	**$ 61**	**$ —**	**$ —**	**$ 61**
Mortgage and real estate	**2**	**1**	**—**	**1**
Other	**30**	**—**		**30**
Total	**$ 93**	**$ 1**	**$ —**	**$ 92**

For the year ended December 31, 2021[1]

In millions of dollars	Carrying value of TDRs modified during the year	TDRs involving changes in the amount and/or timing of principal payments[2]	TDRs involving changes in the amount and/or timing of interest payments[3]	TDRs involving changes in the amount and/or timing of both principal and interest payments
Commercial and industrial	$ 82	$ —	$ —	$ 82
Mortgage and real estate	4	—	—	4
Other	6	—		6
Total	$ 92	$ —	$ —	$ 92

(1) The 2021 table does not include loan modifications that meet the TDR relief criteria in the CARES Act or the interagency guidance.
(2) TDRs involving changes in the amount or timing of principal payments may involve principal forgiveness or deferral of periodic and/or final principal payments. Because forgiveness of principal is rare for corporate loans, modifications typically have little to no impact on the loans' projected cash flows and thus little to no impact on the allowance established for the loans. Charge-offs for amounts deemed uncollectible may be recorded at the time of the restructuring or may have already been recorded in prior periods such that no charge-off is required at the time of the modification.
(3) TDRs involving changes in the amount or timing of interest payments may involve a below-market interest rate.

The following table presents total corporate loans modified in a TDR as well as those TDRs that defaulted and for which the payment default occurred within one year of a permanent modification. Default is defined as 60 days past due, except for classifiably managed commercial banking loans, where default is defined as 90 days past due.

In millions of dollars	**TDR balances at December 31, 2022**	**TDR loans that re-defaulted in 2022 within one year of modification**	TDR balances at December 31, 2021	TDR loans that re-defaulted in 2020 within one year of modification
Commercial and industrial	**$ 85**	**$ —**	$ 236	$ —
Mortgage and real estate	**13**	**—**	20	—
Other	**12**	**—**	28	—
Total[1]	**$ 110**	**$ —**	$ 284	$ —

(1) The above table reflects activity for loans outstanding that were considered TDRs as of the end of the reporting period.

Consumer Loans

Consumer loans represent loans and leases managed primarily by *PBWM* and *Legacy Franchises* (except Mexico SBMM).

Citigroup has established a risk management process to monitor, evaluate and manage the principal risks associated with its consumer loan portfolio. Credit quality indicators that are actively monitored include delinquency status, consumer credit scores under Fair Isaac Corporation (FICO) and loan to value (LTV) ratios, each as discussed in more detail below.

Delinquency Status

Delinquency status is monitored and considered a key indicator of credit quality of consumer loans. Principally, the U.S. residential first mortgage loans use the Mortgage Bankers Association (MBA) method of reporting delinquencies, which considers a loan delinquent if a monthly payment has not been received by the end of the day immediately preceding the loan's next due date. All other loans use a method of reporting delinquencies that considers a loan delinquent if a monthly payment has not been received by the close of business on the loan's next due date.

As a general policy, residential first mortgages, home equity loans and installment loans are classified as non-accrual when loan payments are 90 days contractually past due. Credit cards and unsecured revolving loans generally accrue interest until payments are 180 days past due. Home equity loans in regulated bank entities are classified as non-accrual if the related residential first mortgage is 90 days or more past due. Mortgage loans, other than Federal Housing Administration (FHA)-insured loans, are classified as non-accrual within 60 days of notification that the borrower has filed for bankruptcy.

The policy for re-aging modified U.S. consumer loans to current status varies by product. Generally, one of the conditions to qualify for these modifications is that a minimum number of payments (typically ranging from one to three) be made. Upon modification, the loan is re-aged to current status. However, re-aging practices for certain open-ended consumer loans, such as credit cards, are governed by Federal Financial Institutions Examination Council (FFIEC) guidelines. For open-ended consumer loans subject to FFIEC guidelines, one of the conditions for a loan to be re-aged to current status is that at least three consecutive minimum monthly payments, or the equivalent amount, must be received. In addition, under FFIEC guidelines, the number of times that such a loan can be re-aged is subject to limitations (generally once in 12 months and twice in five years).

Furthermore, FHA and Department of Veterans Affairs (VA) loans are modified under those respective agencies' guidelines and payments are not always required in order to re-age a modified loan to current.

The tables below present details about these loans, including the following loan categories:

- Residential first mortgages and Home equity loans in North America offices primarily represent secured mortgage lending to customers of Retail banking and Global Wealth (primarily Private bank and Citigold).
- Credit cards in North America offices primarily represent unsecured credit card lending to customers of Branded cards and Retail services.
- Personal, small business and other loans in North America are primarily composed of classifiably managed loans to customers of Global Wealth (mostly within the Private bank) who are typically high credit quality borrowers that historically experienced minimal delinquencies and credit losses. Loans to these borrowers are generally well collateralized in the form of liquid securities and other forms of collateral.
- Residential mortgage loans in offices outside North America primarily represent secured mortgage lending to customers of Global Wealth (primarily Private bank and Citigold) as well as customers of *Legacy Franchises*.
- Credit cards in offices outside North America primarily represent unsecured credit card lending to customers of *Legacy Franchises*, primarily in Asia and Mexico.
- Personal, small business and other loans in offices outside North America are primarily composed of secured and unsecured loans to customers of *PBWM* and *Legacy Franchises*. A significant portion of *PBWM* loans is classifiably managed and represents loans to high credit quality Private bank customers who historically experienced minimal delinquencies and credit losses. Loans to these borrowers are generally well collateralized in the form of liquid securities and other forms of collateral.

The following tables provide Citi's consumer loans by type:

Consumer Loans, Delinquencies and Non-Accrual Status at December 31, 2022

In millions of dollars	Total current[1][2]	30–89 days past due[3]	≥ 90 days past due[3]	Past due government guaranteed[6]	Total loans	Non-accrual loans for which there is no ACLL	Non-accrual loans for which there is an ACLL	Total non-accrual	90 days past due and accruing
In North America offices[7]									
Residential first mortgages[8]	$ 95,023	$ 421	$ 316	$ 279	$ 96,039	$ 86	$ 434	$ 520	$ 163
Home equity loans[9][10]	4,407	38	135	—	4,580	51	151	202	—
Credit cards	147,717	1,511	1,415	—	150,643	—	—	—	1,415
Personal, small business and other[11]	37,635	88	22	7	37,752	3	23	26	11
Total	$ 284,782	$ 2,058	$ 1,888	$ 286	$ 289,014	$ 140	$ 608	$ 748	$ 1,589
In offices outside North America[7]									
Residential mortgages[8]	$ 27,946	$ 62	$ 106	$ —	$ 28,114	$ —	$ 305	$ 305	$ 13
Credit cards	12,659	147	149	—	12,955	—	127	127	56
Personal, small business and other[11]	37,869	105	10	—	37,984	—	137	137	—
Total	$ 78,474	$ 314	$ 265	$ —	$ 79,053	$ —	$ 569	$ 569	$ 69
Total Citigroup[12][13]	$ 363,256	$ 2,372	$ 2,153	$ 286	$ 368,067	$ 140	$ 1,177	$ 1,317	$ 1,658

Consumer Loans, Delinquencies and Non-Accrual Status at December 31, 2021

In millions of dollars	Total current[1][2]	30–89 days past due[3][4][5]	≥ 90 days past due[3][4][5]	Past due government guaranteed[5][6]	Total loans	Non-accrual loans for which there is no ACLL	Non-accrual loans for which there is an ACLL	Total non-accrual	90 days past due and accruing
In North America offices[7]									
Residential first mortgages[8]	$ 82,087	$ 381	$ 499	$ 394	$ 83,361	$ 134	$ 559	$ 693	$ 282
Home equity loans[9][10]	5,546	43	156	—	5,745	64	221	285	—
Credit cards	132,050	947	871	—	133,868	—	—	—	871
Personal, small business and other[14]	40,533	126	16	38	40,713	2	70	72	30
Total	$ 260,216	$ 1,497	$ 1,542	$ 432	$ 263,687	$ 200	$ 850	$ 1,050	$ 1,183
In offices outside North America[7]									
Residential mortgages[8]	$ 37,566	$ 165	$ 158	$ —	$ 37,889	$ —	$ 409	$ 409	$ 10
Credit cards	17,428	192	188	—	17,808	—	140	140	133
Personal, small business and other[14]	56,930	145	75	—	57,150	—	227	227	—
Total	$ 111,924	$ 502	$ 421	$ —	$ 112,847	$ —	$ 776	$ 776	$ 143
Total Citigroup[13]	$ 372,140	$ 1,999	$ 1,963	$ 432	$ 376,534	$ 200	$ 1,626	$ 1,826	$ 1,326

(1) Loans less than 30 days past due are presented as current.
(2) Includes $237 million and $12 million at December 31, 2022 and 2021, respectively, of residential first mortgages recorded at fair value.
(3) Excludes loans guaranteed by U.S. government-sponsored agencies. Excludes $31.5 billion and $17.8 billion of classifiably managed Private bank loans in North America and outside North America, respectively, at December 31, 2022. Excludes $35.3 billion and $24.5 billion of classifiably managed Private bank loans in North America and outside North America, respectively, at December 31, 2021.
(4) Loans modified under Citi's consumer relief programs continue to be reported in the same delinquency bucket they were in at the time of modification. Most modified loans in North America would not be reported as 30–89 or 90+ days past due for the duration of the programs (which have various durations, and certain of which may be renewed).
(5) Conformed to be consistent with the current period's delineation between delinquency-managed and classifiably managed loans.
(6) Consists of loans that are guaranteed by U.S. government-sponsored agencies that are 30–89 days past due of $0.1 billion and $0.1 billion and 90 days or more past due of $0.2 billion and $0.3 billion at December 31, 2022 and 2021, respectively.
(7) North America includes the U.S., Canada and Puerto Rico. Mexico is included in offices outside North America.
(8) Includes approximately $0.1 billion and $0.0 billion of residential first mortgage loans in process of foreclosure in North America and outside North America, respectively, and $19.8 billion of residential mortgages outside North America related to the Global Wealth business at December 31, 2022. Includes

approximately $0.1 billion and $0.1 billion of residential first mortgage loans in process of foreclosure in North America and outside North America, respectively, and $19.8 billion of residential mortgages outside North America related to the Global Wealth business at December 31, 2021.

(9) Includes approximately $0.1 billion and $0.1 billion at December 31, 2022 and 2021, respectively, of home equity loans in process of foreclosure in North America.

(10) Fixed-rate home equity loans and loans extended under home equity lines of credit, which are typically in junior lien positions.

(11) Includes loans related to the Global Wealth business: $34.0 billion in North America, approximately $31.5 billion of which are classifiably managed, and as of December 31, 2022 approximately 98% were rated investment grade; and $26.6 billion outside North America, approximately $17.8 billion of which are classifiably managed, and as of December 31, 2022 approximately 94% were rated investment grade. The classifiably managed portion of these loans is shown as "current" because the delinquency status is not applicable, since these loans are primarily evaluated for credit risk based on their internal risk classification.

(12) Not included in the balances above is approximately $1 billion of accrued interest receivable at December 31, 2022, which is included in *Other assets* on the Consolidated Balance Sheet, except for credit card loans (which include accrued interest and fees). When a loan becomes non-accrual or, if not subject to a non-accrual policy, is charged-off per the Company's charge-off policy, any accrued interest receivable is also reversed against the interest income. During the years ended December 31, 2022 and 2021, the Company reversed accrued interest of approximately $0.6 billion and $0.8 billion, respectively, primarily related to credit card loans.

(13) Consumer loans were net of unearned income of $712 million and $629 million at December 31, 2022 and 2021, respectively. Unearned income on consumer loans primarily represents unamortized origination fees and costs, premiums and discounts.

(14) Includes loans related to the Global Wealth business: $37.9 billion in North America, approximately $35.3 billion of which are classifiably managed, and as of December 31, 2021 approximately 95% were rated investment grade; and $34.6 billion outside North America, approximately $24.5 billion of which are classifiably managed, and as of December 31, 2021 approximately 94% were rated investment grade. The classifiably managed portion of these loans is shown as "current" because the delinquency status is not applicable, since these loans are primarily evaluated for credit risk based on their internal risk classification.

Interest Income Recognized for Non-Accrual Consumer Loans

	For the years ended December 31,	
In millions of dollars	**2022**	2021
In North America offices[1]		
Residential first mortgages	**$ 12**	$ 13
Home equity loans	**5**	7
Credit cards	**—**	—
Personal, small business and other	**2**	—
Total	**$ 19**	$ 20
In offices outside North America[1]		
Residential mortgages	**$ 4**	$ 1
Credit cards	**—**	—
Personal, small business and other	**4**	—
Total	**$ 8**	$ 1
Total Citigroup	**$ 27**	$ 21

(1) North America includes the U.S., Canada and Puerto Rico. Mexico is included in offices outside North America.

During the years ended December 31, 2022 and 2021, the Company sold and/or reclassified to HFS $582 million and $1,473 million of consumer loans, respectively. Loans held by a business for sale are not included in the above. The Company did not have significant purchases of consumer loans classified as held-for-investment during the years ended December 31, 2022 and 2021. See Note 2 for additional information regarding Citigroup's businesses for sale.

Consumer Credit Scores (FICO)

In the U.S., independent credit agencies rate an individual's risk for assuming debt based on the individual's credit history and assign every consumer a Fair Isaac Corporation (FICO) credit score. These scores are continually updated by the agencies based upon an individual's credit actions (e.g., taking out a loan or missed or late payments).

The following tables provide details on the FICO scores for Citi's U.S. consumer loan portfolio based on end-of-period receivables by year of origination. FICO scores are updated monthly for substantially all of the portfolio or, otherwise, on a quarterly basis for the remaining portfolio.

For Citi's $80.5 billion and $114.3 billion in the consumer loan portfolio outside of the U.S. as of December 31, 2022 and 2021, respectively, various country-specific or regional credit risk metrics and acquisition and behavior scoring models are leveraged as one of the factors to evaluate the credit quality of customers (for additional information on loans outside of the U.S., see "Consumer Loans and Ratios Outside of North America" below). As a result, details of relevant credit quality indicators for those loans are not comparable to the below FICO score distribution for the U.S. portfolio.

FICO score distribution—U.S. portfolio[1][2]	**December 31, 2022**					
In millions of dollars	**Less than 680**	**680 to 760**	**Greater than 760**	**Classifiably managed[3]**	**FICO not available[4]**	**Total loans**
Residential first mortgages						
2022	**$ 691**	**$ 7,530**	**$ 12,928**			
2021	**639**	**5,933**	**12,672**			
2020	**431**	**4,621**	**10,936**			
2019	**321**	**2,505**	**5,445**			
2018	**302**	**1,072**	**1,899**			
Prior	**2,020**	**6,551**	**12,649**			
Total residential first mortgages	**$ 4,404**	**$ 28,212**	**$ 56,529**		**$ 6,894**	**$ 96,039**
Home equity line of credit (pre-reset)	**$ 552**	**$ 1,536**	**$ 1,876**			
Home equity line of credit (post-reset)	**62**	**65**	**40**			
Home equity term loans	**106**	**151**	**117**			
2022	**—**	**—**	**—**			
2021	**—**	**1**	**1**			
2020	**1**	**2**	**2**			
2019	**1**	**2**	**2**			
2018	**1**	**2**	**1**			
Prior	**103**	**144**	**111**			
Total home equity loans	**$ 720**	**$ 1,752**	**$ 2,033**		**$ 75**	**$ 4,580**
Credit cards	**$ 27,901**	**$ 58,213**	**$ 60,896**			
Revolving loans converted to term loans[5]	**766**	**354**	**54**			
Total credit cards[6]	**$ 28,667**	**$ 58,567**	**$ 60,950**		**$ 1,914**	**$ 150,098**
Personal, small business and other						
2022	**$ 247**	**$ 546**	**$ 800**			
2021	**96**	**170**	**210**			
2020	**15**	**20**	**30**			
2019	**21**	**23**	**28**			
2018	**10**	**10**	**9**			
Prior	**126**	**190**	**144**			
Total personal, small business and other[7][8]	**$ 515**	**$ 959**	**$ 1,221**	**$ 31,478**	**2,639**	**$ 36,812**
Total	**$ 34,306**	**$ 89,490**	**$ 120,733**	**$ 31,478**	**$ 11,522**	**$ 287,529**

FICO score distribution—U.S. portfolio[1][2]	December 31, 2021					
In millions of dollars	Less than 680	680 to 760	Greater than 760	Classifiably managed[3]	FICO not available[4]	Total loans
Residential first mortgages						
2021	$ 626	$ 6,729	$ 12,349			
2020	508	5,102	12,153			
2019	373	3,074	6,167			
2018	394	1,180	2,216			
2017	343	1,455	2,568			
Prior	2,053	6,540	12,586			
Total residential first mortgages	$ 4,297	$ 24,080	$ 48,039		$ 6,945	$ 83,361
Home equity line of credit (pre-reset)	$ 659	$ 1,795	$ 2,506			
Home equity line of credit (post-reset)	75	72	37			
Home equity term loans	168	210	156			
2021	—	1	1			
2020	—	3	2			
2019	1	2	2			
2018	1	2	1			
2017	1	2	2			
Prior	165	201	149			
Total home equity loans	$ 902	$ 2,077	$ 2,699		$ 67	$ 5,745
Credit cards	$ 22,342	$ 52,481	$ 55,076			
Revolving loans converted to term loans[5]	773	426	61			
Total credit cards[6]	$ 23,115	$ 52,907	$ 55,137		$ 2,192	$ 133,351
Personal, small business and other						
2021	$ 59	$ 201	$ 319			
2020	22	41	64			
2019	42	53	68			
2018	34	35	37			
2017	7	8	9			
Prior	120	179	143			
Total personal, small business and other[7][8]	$ 284	$ 517	$ 640	$ 35,324	$ 3,041	$ 39,806
Total	$ 28,598	$ 79,581	$ 106,515	$ 35,324	$ 12,245	$ 262,263

(1) The FICO bands in the tables are consistent with general industry peer presentations.
(2) FICO scores are updated on either a monthly or quarterly basis. For updates that are made only quarterly, certain current-period loans by year of origination are greater than those disclosed in the prior periods. Loans that did not have FICO scores as of the prior period have been updated with FICO scores as they become available.
(3) These personal, small business and other loans without a FICO score available include $31.5 billion and $35.3 billion of Private bank loans as of December 31, 2022 and 2021, respectively, which are classifiably managed within Global Wealth and are primarily evaluated for credit risk based on their internal risk ratings. As of December 31, 2022 and 2021, approximately 98% and 95% of these loans, respectively, were rated investment grade.
(4) FICO scores not available related to loans guaranteed by government-sponsored enterprises for which FICO scores are generally not utilized.
(5) Not included in the tables above are $75 million and $313 million of revolving credit card loans outside of the U.S. that were converted to term loans as of December 31, 2022 and 2021, respectively.
(6) Excludes $545 million and $517 million of balances related to Canada for December 31, 2022 and 2021, respectively.
(7) Excludes $940 million and $907 million of balances related to Canada for December 31, 2022 and 2021, respectively.
(8) Includes approximately $67 million and $74 million of personal revolving loans that were converted to term loans for December 31, 2022 and 2021, respectively.

Loan to Value (LTV) Ratios—U.S. Consumer Mortgages

LTV ratios (loan balance divided by appraised value) are calculated at origination and updated by applying market price data.

The following tables provide details on the LTV ratios for Citi's U.S. consumer mortgage portfolios by year of origination. LTV ratios are updated monthly using the most recent Core Logic Home Price Index data available for substantially all of the portfolio applied at the Metropolitan Statistical Area level, if available, or the state level if not. The remainder of the portfolio is updated in a similar manner using the Federal Housing Finance Agency indices.

LTV distribution—U.S. portfolio	**December 31, 2022**				
In millions of dollars	**Less than or equal to 80%**	**> 80% but less than or equal to 100%**	**Greater than 100%**	**LTV not available[1]**	**Total**
Residential first mortgages					
2022	**$ 15,644**	**$ 6,497**	**$ 40**		
2021	**19,104**	**1,227**	**33**		
2020	**16,935**	**267**	**1**		
2019	**8,789**	**140**	**23**		
2018	**3,598**	**74**	**9**		
Prior	**22,367**	**132**	**74**		
Total residential first mortgages	**$ 86,437**	**$ 8,337**	**$ 180**	**$ 1,085**	**$ 96,039**
Home equity loans (pre-reset)	**$ 3,677**	**$ 36**	**$ 56**		
Home equity loans (post-reset)	**627**	**12**	**27**		
Total home equity loans	**$ 4,304**	**$ 48**	**$ 83**	**$ 145**	**$ 4,580**
Total	**$ 90,741**	**$ 8,385**	**$ 263**	**$ 1,230**	**$ 100,619**

LTV distribution—U.S. portfolio	December 31, 2021				
In millions of dollars	Less than or equal to 80%	> 80% but less than or equal to 100%	Greater than 100%	LTV not available[1]	Total
Residential first mortgages					
2021	$ 18,107	$ 2,723	$ 34		
2020	18,715	446	—		
2019	10,047	269	29		
2018	4,117	136	11		
2017	4,804	103	4		
Prior	22,161	128	14		
Total residential first mortgages	$ 77,951	$ 3,805	$ 92	$ 1,513	$ 83,361
Home equity loans (pre-reset)	$ 2,637	$ 46	$ 69		
Home equity loans (post-reset)	2,751	52	32		
Total home equity loans	$ 5,388	$ 98	$ 101	$ 158	$ 5,745
Total	$ 83,339	$ 3,903	$ 193	$ 1,671	$ 89,106

(1) Residential first mortgages with no LTV information available are primarily due to government-guaranteed loans that do not require LTV information for credit risk assessment and fair value loans.

Loan-to-Value (LTV) Ratios—Outside of U.S. Consumer Mortgages

The following tables provide details on the LTV ratios for Citi's consumer mortgage portfolio outside of the U.S. by year of origination:

LTV distribution—outside of U.S. portfolio[1]	**December 31, 2022**				
In millions of dollars	**Less than or equal to 80%**	**> 80% but less than or equal to 100%**	**Greater than 100%**	**LTV not available**	**Total**
Residential mortgages					
2022	**$ 3,106**	**$ 975**	**$ 294**		
2021	**4,144**	**964**	**273**		
2020	**3,293**	**502**	**25**		
2019	**3,048**	**92**	**1**		
2018	**2,074**	**48**	**—**		
Prior	**9,201**	**36**	**7**		
Total	**$ 24,866**	**$ 2,617**	**$ 600**	**$ 31**	**$ 28,114**

LTV distribution—outside of U.S. portfolio[1]	December 31, 2021				
In millions of dollars	Less than or equal to 80%	> 80% but less than or equal to 100%	Greater than 100%	LTV not available	Total
Residential mortgages					
2021	$ 6,334	$ 989	$ —		
2020	5,996	292	—		
2019	5,293	116	1		
2018	3,729	32	—		
2017	2,739	38	—		
Prior	12,190	102	14		
Total	$ 36,281	$ 1,569	$ 15	$ 24	$ 37,889

(1) Mortgage portfolios outside of the U.S. are primarily in Global Wealth. As of December 31, 2022 and 2021, mortgage portfolios outside of the U.S. have an average LTV of approximately 51% and 46%, respectively.

Consumer Loans and Ratios Outside of North America

In millions of dollars at December 31, 2022	Total loans outside of North America[1]	Classifiably managed loans[2]	Delinquency-managed loans and ratios: Delinquency-managed loans	30–89 days past due ratio	≥ 90 days past due ratio	4Q22 NCL ratio
Residential mortgages[3]	**$ 28,114**	**$ —**	**$ 28,114**	**0.22 %**	**0.38 %**	**0.10 %**
Credit cards	**12,955**	**—**	**12,955**	**1.13**	**1.15**	**3.18**
Personal, small business and other[4]	**37,984**	**17,762**	**20,222**	**0.52**	**0.05**	**0.76**
Total	**$ 79,053**	**$ 17,762**	**$ 61,291**	**0.51 %**	**0.43 %**	**0.91 %**

In millions of dollars at December 31, 2021	Total loans outside of North America[1]	Classifiably managed loans[2]	Delinquency-managed loans and ratios: Delinquency-managed loans	30–89 days past due ratio	≥ 90 days past due ratio	4Q21 NCL ratio
Residential mortgages[3]	$ 37,889	$ —	$ 37,889	0.44 %	0.42 %	0.08 %
Credit cards	17,808	—	17,808	1.08	1.06	3.06
Personal, small business and other[4]	57,150	24,482	32,668	0.44	0.23	0.72
Total	$ 112,847	$ 24,482	$ 88,365	0.57 %	0.48 %	0.88 %

(1) Mexico is included in offices outside of North America.
(2) Classifiably managed loans are primarily evaluated for credit risk based on their internal risk classification. As of December 31, 2022 and 2021, approximately 94% and 94% of these loans, respectively, were rated investment grade.
(3) Includes $19.8 billion and $19.8 billion as of December 31, 2022 and 2021, respectively, of residential mortgages related to the Global Wealth business.
(4) Includes $26.6 billion and $34.6 billion as of December 31, 2022 and 2021, respectively, of loans related to the Global Wealth business.

Impaired Consumer Loans

A loan is considered impaired when Citi believes it is probable that all amounts due according to the original contractual terms of the loan will not be collected. Impaired consumer loans include non-accrual loans, as well as smaller-balance homogeneous loans whose terms have been modified due to the borrower's financial difficulties and where Citi has granted a concession to the borrower. These modifications may include interest rate reductions and/or principal forgiveness. Impaired consumer loans exclude smaller-balance homogeneous loans that have not been modified and are carried on a non-accrual basis.

The following tables present information about impaired consumer loans and interest income recognized on impaired consumer loans:

	At and for the year ended December 31, 2022				
In millions of dollars	**Recorded investment[1][2]**	**Unpaid principal balance**	**Related specific allowance[3]**	**Average carrying value[5]**	**Interest income recognized[6]**
Mortgage and real estate					
Residential first mortgages	**$ 1,305**	**$ 1,430**	**$ 58**	**$ 1,283**	**$ 115**
Home equity loans	**254**	**322**	**—**	**261**	**10**
Credit cards	**1,255**	**1,256**	**491**	**1,246**	**62**
Personal, small business and other	**107**	**108**	**47**	**120**	**18**
Total	**$ 2,921**	**$ 3,116**	**$ 596**	**$ 2,910**	**$ 205**

	At and for the year ended December 31, 2021				
In millions of dollars	Recorded investment[1][2]	Unpaid principal balance	Related specific allowance[3][4]	Average carrying value[5]	Interest income recognized[6]
Mortgage and real estate					
Residential first mortgages	$ 1,521	$ 1,595	$ 87	$ 1,564	$ 88
Home equity loans	191	344	(1)	336	9
Credit cards	1,582	1,609	594	1,795	116
Personal, small business and other	454	461	133	505	52
Total	$ 3,748	$ 4,009	$ 813	$ 4,200	$ 265

(1) Recorded investment in a loan includes net deferred loan fees and costs, unamortized premium or discount and direct write-downs and includes accrued interest only on credit card loans.

(2) For December 31, 2022, $152 million of residential first mortgages and $73 million of home equity loans do not have a specific allowance. For December 31, 2021, $190 million of residential first mortgages and $94 million of home equity loans do not have a specific allowance because they are accounted for based on collateral value, and that value is in excess of the outstanding loan balance.

(3) Included in the *Allowance for credit losses on loans*.

(4) The negative allowance on home equity loans resulted from expected recoveries on previously written-off accounts.

(5) Average carrying value represents the average recorded investment ending balance for the last four quarters and does not include the related specific allowance.

(6) Includes amounts recognized on both an accrual and cash basis.

Consumer Troubled Debt Restructurings

In millions of dollars, except number of loans modified	For the year ended December 31, 2022					
	Number of loans modified	**Post-modification recorded investment[2][3]**	**Deferred principal[4]**	**Contingent principal forgiveness[5]**	**Principal forgiveness[6]**	**Average interest rate reduction**
In North America offices[7]						
Residential first mortgages	**1,133**	**$ 263**	**$ —**	**$ —**	**$ —**	**— %**
Home equity loans	**451**	**40**	**—**	**—**	**—**	**—**
Credit cards	**176,252**	**775**	**—**	**—**	**—**	**18**
Personal, small business and other	**575**	**7**	**—**	**—**	**—**	**5**
Total[8]	**178,411**	**$ 1,085**	**$ —**	**$ —**	**$ —**	
In offices outside North America[7]						
Residential mortgages	**683**	**$ 21**	**$ —**	**$ —**	**$ —**	**— %**
Credit cards	**16,006**	**68**	**—**	**—**	**1**	**25**
Personal, small business and other	**2,432**	**29**	**—**	**—**	**1**	**8**
Total[8]	**19,121**	**$ 118**	**$ —**	**$ —**	**2**	

In millions of dollars, except number of loans modified	For the year ended December 31, 2021[1]					
	Number of loans modified	Post-modification recorded investment[2][9]	Deferred principal[4]	Contingent principal forgiveness[5]	Principal forgiveness[6]	Average interest rate reduction
In North America offices[7]						
Residential first mortgages	1,335	$ 230	$ —	$ —	$ —	1 %
Home equity loans	191	19	—	—	—	—
Credit cards	165,098	794	—	—	—	18
Personal, small business and other	1,000	13	—	—	—	3
Total[8]	167,624	$ 1,056	$ —	$ —	$ —	
In offices outside North America[7]						
Residential mortgages	1,975	$ 86	$ —	$ —	$ —	— %
Credit cards	74,202	339	—	—	13	13
Personal, small business and other	28,208	202	—	—	7	10
Total[8]	104,385	$ 627	$ —	$ —	20	

(1) The 2021 table does not include loan modifications that meet the TDR relief criteria in the Coronavirus Aid, Relief, and Economic Security Act (CARES Act) or the interagency guidance.
(2) Post-modification balances include past-due amounts that are capitalized at the modification date.
(3) Post-modification balances in North America include $5 million of residential first mortgages to borrowers who have gone through Chapter 7 bankruptcy in the year ended December 31, 2022. These amounts include $3.8 million of residential first mortgages that were newly classified as TDRs during 2022, based on previously received OCC guidance. The remaining amounts were already classified as TDRs before being discharged in Chapter 7 bankruptcy.
(4) Represents the portion of contractual loan principal that is non-interest bearing, but still due from the borrower. Such deferred principal is charged off at the time of permanent modification to the extent that the related loan balance exceeds the underlying collateral value.
(5) Represents the portion of contractual loan principal that is non-interest bearing and, depending upon borrower performance, eligible for forgiveness.
(6) Represents the portion of contractual loan principal that was forgiven at the time of permanent modification.
(7) North America includes the U.S., Canada and Puerto Rico. Mexico is included in offices outside North America.
(8) The above tables reflect activity for restructured loans that were considered TDRs during the year.
(9) Post-modification balances in North America include $15 million of residential first mortgages to borrowers who have gone through Chapter 7 bankruptcy in the year ended December 31, 2021. These amounts include $5 million of residential first mortgages that were newly classified as TDRs during 2021, based on previously received OCC guidance. The remaining amounts were already classified as TDRs before being discharged in Chapter 7 bankruptcy.

The following table presents consumer TDRs that defaulted for which the payment default occurred within one year of a permanent modification. Default is defined as 60 days past due:

	Years ended December 31,	
In millions of dollars	**2022**	2021
In North America offices[1]		
Residential first mortgages	**$ 35**	$ 57
Home equity loans	**4**	8
Credit cards	**250**	252
Personal, small business and other	**1**	4
Total	**$ 290**	$ 321
In offices outside North America[1]		
Residential mortgages	**$ 10**	$ 38
Credit cards	**12**	152
Personal, small business and other	**3**	96
Total	**$ 25**	$ 286

(1) North America includes the U.S., Canada and Puerto Rico. Mexico is included in offices outside North America.

Purchased Credit-Deteriorated Assets

	Years ended December 31,					
	2022			2021		
In millions of dollars	**Credit cards**	**Mortgages[1]**	**Installment and other**	Credit cards	Mortgages[1]	Installment and other
Purchase price	**$ —**	**$ 23**	**$ —**	$ —	$ 23	$ —
Allowance for credit losses at acquisition date	**—**	**—**	**—**	—	—	—
Discount or premium attributable to non-credit factors	**—**	**—**	**—**	—	—	—
Par value (amortized cost basis)	**$ —**	**$ 23**	**$ —**	$ —	$ 23	$ —

(1) Includes loans sold to agencies that were bought back at par due to repurchase agreements.

15. ALLOWANCE FOR CREDIT LOSSES

In millions of dollars	**2022**	2021	2020
Allowance for credit losses on loans (ACLL) at beginning of year	**$ 16,455**	$ 24,956	$ 12,783
Adjustments to opening balance[1]:			
Financial instruments—credit losses (CECL) adoption	**—**	—	4,201
Variable post-charge-off third-party collection costs	**—**	—	(443)
Adjusted ACLL at beginning of year	**$ 16,455**	$ 24,956	$ 16,541
Gross credit losses on loans	**$ (5,156)**	$ (6,720)	$ (9,263)
Gross recoveries on loans	**1,367**	1,825	1,652
Net credit losses on loans (NCLs)	**$ (3,789)**	$ (4,895)	$ (7,611)
Replenishment of NCLs	**$ 3,789**	$ 4,895	$ 7,611
Net reserve builds (releases) for loans	**937**	(7,283)	7,635
Net specific reserve builds (releases) for loans	**19**	(715)	676
Total provision for credit losses on loans (PCLL)	**$ 4,745**	$ (3,103)	$ 15,922
Initial allowance for credit losses on newly purchased credit-deteriorated assets during the period	**—**	—	4
Other, net (see table below)	**(437)**	(503)	100
ACLL at end of year	**$ 16,974**	$ 16,455	$ 24,956
Allowance for credit losses on unfunded lending commitments (ACLUC) at beginning of year[2]	**$ 1,871**	$ 2,655	$ 1,456
Adjustment to opening balance for CECL adoption[1]	**—**	—	(194)
Provision (release) for credit losses on unfunded lending commitments	**291**	(788)	1,446
Other, net[3]	**(11)**	4	(53)
ACLUC at end of year[2]	**$ 2,151**	$ 1,871	$ 2,655
Total allowance for credit losses on loans, leases and unfunded lending commitments	**$ 19,125**	$ 18,326	$ 27,611

Other, net details

In millions of dollars	**2022**	2021	2020
Sales or transfers of various consumer loan portfolios to HFS[4]			
Reclass of Thailand, India, Malaysia, Taiwan, Indonesia, Bahrain and Vietnam consumer ACLL to HFS	**$ (350)**	$ —	$ —
Reclass of Australia consumer ACLL to HFS	**—**	(280)	—
Reclass of the Philippines consumer ACLL to HFS	**—**	(90)	—
Transfer of real estate loan portfolios	**—**	—	(4)
Reclasses of consumer ACLL to HFS[4]	**$ (350)**	$ (370)	$ (4)
FX translation and other	**(87)**	(133)	104
Other, net	**$ (437)**	$ (503)	$ 100

(1) See "Accounting Changes" in Note 1.
(2) Represents additional credit loss reserves for unfunded lending commitments and letters of credit recorded in *Other liabilities* on the Consolidated Balance Sheet.
(3) See below for ACL on *HTM debt securities* and *Other assets*. 2020 includes a non-provision transfer of $68 million, representing reserves on performance guarantees. The reserves on these contracts have been reclassified out of the allowance for credit losses on unfunded lending commitments and into *Other liabilities* on the Consolidated Balance Sheet beginning in 2020.
(4) See Note 2.

Allowance for Credit Losses on Loans and End-of-Period Loans at December 31, 2022

In millions of dollars	Corporate	Consumer	Total
ACLL at beginning of year	$ 2,415	$ 14,040	$ 16,455
Gross credit losses on loans	(278)	(4,878)	(5,156)
Gross recoveries on loans	100	1,267	1,367
Replenishment of NCLs	178	3,611	3,789
Net reserve builds (releases)	374	563	937
Net specific reserve builds (releases)	65	(46)	19
Initial allowance for credit losses on newly purchased credit-deteriorated assets during the year	—	—	—
Other	1	(438)	(437)
Ending balance	$ 2,855	$ 14,119	$ 16,974
ACLL			
Collectively evaluated	$ 2,532	$ 13,521	$ 16,053
Individually evaluated	323	596	919
Purchased credit deteriorated	—	2	2
Total ACLL	$ 2,855	$ 14,119	$ 16,974
Loans, net of unearned income			
Collectively evaluated	$ 282,909	$ 364,795	$ 647,704
Individually evaluated	1,122	2,921	4,043
Purchased credit deteriorated	—	114	114
Held at fair value	5,123	237	5,360
Total loans, net of unearned income	$ 289,154	$ 368,067	$ 657,221

2022 Changes in the ACL

The total allowance for credit losses on loans, leases and unfunded lending commitments as of December 31, 2022 was $19,125 million, an increase from $18,326 million at December 31, 2021. The increase in the allowance for credit losses on loans, leases and unfunded lending commitments was primarily driven by U.S. Cards loan growth and a deterioration in macroeconomic assumptions.

Consumer ACLL

Citi's total consumer allowance for credit losses on loans (ACLL) as of December 31, 2022 was $14,119 million, an increase from $14,040 million at December 31, 2021. The increase in the ACLL balance was primarily driven by U.S. Cards loan growth and a deterioration in macroeconomic assumptions, partially offset by the reduction in reserves related to COVID-19 uncertainty.

Corporate ACLL

Citi's total corporate ACLL as of December 31, 2022 was $2,855 million, an increase from $2,415 million at December 31, 2021. The increase in the ACLL balance was primarily driven by a deterioration in macroeconomic assumptions, partially offset by the release of a COVID-19–related uncertainty reserve.

ACLUC

As of December 31, 2022, Citi's total allowance for credit losses on unfunded lending commitments (ACLUC), included in *Other liabilities*, was $2,151 million, an increase from $1,871 million at December 31, 2021. The increase in the ACLUC balance was primarily driven by a deterioration in macroeconomic assumptions.

Allowance for Credit Losses on Loans and End-of-Period Loans at December 31, 2021

In millions of dollars	Corporate	Consumer	Total
ACLL at beginning of year	$ 4,776	$ 20,180	$ 24,956
Gross credit losses on loans	(500)	(6,220)	(6,720)
Gross recoveries on loans	114	1,711	1,825
Replenishment of NCLs	386	4,509	4,895
Net reserve builds (releases)	(2,075)	(5,208)	(7,283)
Net specific reserve builds (releases)	(255)	(460)	(715)
Initial allowance for credit losses on newly purchased credit-deteriorated assets during the year	—	—	—
Other	(31)	(472)	(503)
Ending balance	$ 2,415	$ 14,040	$ 16,455
ACLL			
Collectively evaluated	$ 2,203	$ 13,227	$ 15,430
Individually evaluated	212	813	1,025
Purchased credit deteriorated	—	—	—
Total ACLL	$ 2,415	$ 14,040	$ 16,455
Loans, net of unearned income			
Collectively evaluated	$ 283,610	$ 372,655	$ 656,265
Individually evaluated	1,553	3,748	5,301
Purchased credit deteriorated	—	119	119
Held at fair value	6,070	12	6,082
Total loans, net of unearned income	$ 291,233	$ 376,534	$ 667,767

Allowance for Credit Losses on Loans at December 31, 2020

In millions of dollars	Corporate	Consumer	Total
ACLL at beginning of year	$ 2,727	$ 10,056	$ 12,783
Adjustments to opening balance:			
Financial instruments—credit losses (CECL)[1]	(816)	5,017	4,201
Variable post-charge-off third-party collection costs[1]	—	(443)	(443)
Adjusted ACLL at beginning of year	1,911	14,630	16,541
Gross credit losses on loans	(976)	(8,287)	(9,263)
Gross recoveries on loans	76	1,576	1,652
Replenishment of NCLs	900	6,711	7,611
Net reserve builds (releases)	2,551	5,084	7,635
Net specific reserve builds (releases)	249	427	676
Initial allowance for credit losses on newly purchased credit-deteriorated assets during the year	—	4	4
Other	65	35	100
Ending balance	$ 4,776	$ 20,180	$ 24,956

(1) See “Accounting Changes” in Note 1 for additional details.

Allowance for Credit Losses on HTM Debt Securities

In millions of dollars	Year ended December 31, 2022 Mortgage-backed	State and municipal	Foreign government	Asset-backed	All other debt securities	Total HTM
Allowance for credit losses on HTM debt securities at beginning of year	**$ 6**	**$ 75**	**$ 4**	**$ 2**	**$ —**	**$ 87**
Gross credit losses	**—**	**—**	**—**	**—**	**—**	**—**
Gross recoveries	**—**	**—**	**—**	**—**	**—**	**—**
Net credit losses (NCLs)	**$ —**	**$ —**	**$ —**	**$ —**	**$ —**	**$ —**
Replenishment of NCLs	**$ —**	**$ —**	**$ —**	**$ —**	**$ —**	**$ —**
Net reserve builds (releases)	**(5)**	**37**	**—**	**1**	**—**	**33**
Net specific reserve builds (releases)	**—**	**—**	**—**	**—**	**—**	**—**
Total provision for credit losses on HTM debt securities	**$ (5)**	**$ 37**	**$ —**	**$ 1**	**$ —**	**$ 33**
Other, net	**$ —**	**$ 1**	**$ (1)**	**$ —**	**$ —**	**$ —**
Allowance for credit losses on HTM debt securities at end of year	**$ 1**	**$ 113**	**$ 3**	**$ 3**	**$ —**	**$ 120**

In millions of dollars	Year ended December 31, 2021 Mortgage-backed	State and municipal	Foreign government	Asset-backed	All other debt securities	Total HTM
Allowance for credit losses on HTM debt securities at beginning of year	$ 3	$ 74	$ 6	$ 3	$ —	$ 86
Gross credit losses	—	—	—	—	—	—
Gross recoveries	3	—	—	—	—	3
Net credit losses (NCLs)	$ 3	$ —	$ —	$ —	$ —	$ 3
Replenishment of NCLs	$ (3)	$ —	$ —	$ —	$ —	$ (3)
Net reserve builds (releases)	7	1	(2)	(2)	—	4
Net specific reserve builds (releases)	(4)	—	—	—	—	(4)
Total provision for credit losses on HTM debt securities	$ —	$ 1	$ (2)	$ (2)	$ —	$ (3)
Other, net	$ —	$ —	$ —	$ 1	$ —	$ 1
Allowance for credit losses on HTM debt securities at end of year	$ 6	$ 75	$ 4	$ 2	$ —	$ 87

In millions of dollars	Year ended December 31, 2020 Mortgage-backed	State and municipal	Foreign government	Asset-backed	All other debt securities	Total HTM
Allowance for credit losses on HTM debt securities at beginning of year	$ —	$ —	$ —	$ —	$ —	$ —
Adjustment to opening balance for CECL adoption	—	61	4	5	—	70
Gross credit losses	—	—	—	—	—	—
Gross recoveries	—	—	—	—	—	—
Net credit losses (NCLs)	$ —	$ —	$ —	$ —	$ —	$ —
Replenishment of NCLs	$ —	$ —	$ —	$ —	$ —	$ —
Net reserve builds (releases)	(2)	10	(2)	1	—	7
Net specific reserve builds (releases)	—	—	—	—	—	—
Total provision for credit losses on HTM debt securities	$ (2)	$ 10	$ (2)	$ 1	$ —	$ 7
Other, net	$ 5	$ 3	$ 4	$ (3)	$ —	$ 9
Allowance for credit losses on HTM debt securities at end of year	$ 3	$ 74	$ 6	$ 3	$ —	$ 86

Allowance for Credit Losses on Other Assets

In millions of dollars	Year ended December 31, 2022 Deposits with banks	Securities borrowed and purchased under agreements to resell	Brokerage receivables	All other assets[1]	Total
Allowance for credit losses on other assets at beginning of year	**$ 21**	**$ 6**	**$ —**	**$ 26**	**$ 53**
Gross credit losses	**—**	**—**	**—**	**(24)**	**(24)**
Gross recoveries	**—**	**—**	**—**	**3**	**3**
Net credit losses (NCLs)	**$ —**	**$ —**	**$ —**	**$ (21)**	**$ (21)**
Replenishment of NCLs	**$ —**	**$ —**	**$ —**	**$ 21**	**$ 21**
Net reserve builds (releases)	**30**	**14**	**—**	**11**	**55**
Total provision for credit losses	**$ 30**	**$ 14**	**$ —**	**$ 32**	**$ 76**
Other, net[2]	**$ —**	**$ 16**	**$ —**	**$ (1)**	**$ 15**
Allowance for credit losses on other assets at end of year	**$ 51**	**$ 36**	**$ —**	**$ 36**	**$ 123**

(1) Primarily accounts receivable.
(2) Includes $30 million of ACL transferred from *ICG* loans ACL during the second quarter of 2022 for securities borrowed and purchased under agreements to resell.

In millions of dollars	Year ended December 31, 2021 Deposits with banks	Securities borrowed and purchased under agreements to resell	Brokerage receivables	All other assets[1]	Total
Allowance for credit losses on other assets at beginning of year	$ 20	$ 10	$ —	$ 25	$ 55
Gross credit losses	—	—	—	(2)	(2)
Gross recoveries	—	—	—	—	—
Net credit losses (NCLs)	$ —	$ —	$ —	$ (2)	$ (2)
Replenishment of NCLs	$ —	$ —	$ —	$ 2	$ 2
Net reserve builds (releases)	2	(4)	—	—	(2)
Total provision for credit losses	$ 2	$ (4)	$ —	$ 2	$ —
Other, net	$ (1)	$ —	$ —	$ 1	$ —
Allowance for credit losses on other assets at end of year	$ 21	$ 6	$ —	$ 26	$ 53

(1) Primarily accounts receivable.

In millions of dollars	Year ended December 31, 2020 Cash and due from banks	Deposits with banks	Securities borrowed and purchased under agreements to resell	Brokerage receivables	All other assets[1]	Total
Allowance for credit losses on other assets at beginning of year	$ —	$ —	$ —	$ —	$ —	$ —
Adjustment to opening balance for CECL adoption	6	14	2	1	3	26
Gross credit losses	—	—	—	—	—	—
Gross recoveries	—	—	—	—	—	—
Net credit losses (NCLs)	$ —	$ —	$ —	$ —	$ —	$ —
Replenishment of NCLs	$ —	$ —	$ —	$ —	$ —	$ —
Net reserve builds (releases)	(6)	5	8	(1)	1	7
Total provision for credit losses	$ (6)	$ 5	$ 8	$ (1)	$ 1	$ 7
Other, net	$ —	$ 1	$ —	$ —	$ 21	$ 22
Allowance for credit losses on other assets at end of year	$ —	$ 20	$ 10	$ —	$ 25	$ 55

(1) Primarily accounts receivable.

For ACL on AFS debt securities, see Note 13.

16. GOODWILL AND INTANGIBLE ASSETS

Goodwill

The changes in *Goodwill* were as follows:

In millions of dollars	Institutional Clients Group	Personal Banking and Wealth Management	Legacy Franchises	Total
Balance at December 31, 2019	$ 9,482	$ 10,015	$ 2,629	$ 22,126
Foreign exchange translation	(1)	7	30	36
Balance at December 31, 2020	$ 9,481	$ 10,022	$ 2,659	$ 22,162
Foreign exchange translation	(266)	(296)	179	(383)
Divestitures[(1)]	—	(9)	(471)	(480)
Balance at December 31, 2021	$ 9,215	$ 9,717	$ 2,367	$ 21,299
Foreign exchange translation	(229)	24	5	(200)
Divestitures[(1)]	—	—	(873)	(873)
Impairment of goodwill[(2)]	—	—	(535)	(535)
Balance at December 31, 2022	**$ 8,986**	**$ 9,741**	**$ 964**	**$ 19,691**

(1) Represents goodwill allocated to the Asia Consumer banking exit markets upon the signing of the respective sales agreements: in 2021, related to the Australia and Philippines consumer banking businesses, which were reclassified as HFS during 2021; in 2022, related to the India, Taiwan, Thailand, Malaysia, Indonesia, Bahrain and Vietnam consumer banking businesses, which were reclassified as HFS during 2022. See Note 2.

(2) Goodwill impairment of $535 million (approximately $489 million after-tax) was incurred in the Asia Consumer reporting unit of *Legacy Franchises* in the first quarter of 2022, due to the re-segmentation and change of reporting units as well as the sequence of the signing of sale agreements.

As discussed in Note 3, effective January 1, 2022, as part of its strategic refresh, Citi made changes to its management structure, which resulted in changes in its operating segments and reporting units to reflect how the CEO, who is the chief operating decision maker, manages the Company, including allocating resources and measuring performance. Goodwill balances were reallocated across the new reporting units based on their relative fair values using the valuation performed as of the effective date of the reorganization. Further, the goodwill balances associated with certain Asia Consumer businesses within the *Legacy Franchises* operating segment were reclassified to HFS as of March 31, 2022 upon the signing of the respective sale agreements. See Note 2 for a discussion of Citi's divestiture activities.

The reorganization of Citi's reporting structure and the announced sales of businesses within a reporting unit were identified as triggering events for purposes of goodwill impairment testing. Consistent with the requirements of ASC 350, interim goodwill impairment tests were performed that resulted in an impairment of $535 million to the Asia Consumer reporting unit within the *Legacy Franchises* operating segment, due to the implementation of Citi's revised operating segments and reporting units, as well as the timing of mutual execution of sale agreements for Asia consumer banking businesses. This impairment was recorded in the first quarter of 2022 as an operating expense. There were no additional impairment charges incurred as a result of any of the other interim goodwill impairment tests performed during 2022.

For the interim impairment tests performed in the first quarter of 2022, the valuation of reporting units used either the market approach, income approach, or a combination of both. Under the market approach, Citi estimated fair value by comparing the business to similar businesses or guideline companies whose securities are actively traded in public markets. Under the income approach, Citi used a discounted cash flow (DCF) model in which cash flows anticipated over several periods, plus a terminal value at the end of that time horizon, are discounted to their present value using an appropriate rate that is commensurate with the risk inherent within the reporting unit.

The key assumptions used to determine the fair value of Citi's reporting units consisted primarily of significant unobservable inputs (Level 3 fair value inputs), including discount rates, estimated cash flows, growth rates, earnings multiples and/or transaction multiples of similar businesses or guideline public companies, and bids from buyers. The DCF method employs a capital asset pricing model in estimating the discount rate based on several factors, including market interest rates, and includes adjustments for market risk and company-specific risk. Estimated cash flows are based on internally developed estimates and the growth rates are based on industry knowledge and historical performance.

Citi had historically performed its annual goodwill impairment test as of July 1 each year. During the quarter ended September 30, 2022, the Company voluntarily changed its annual impairment assessment date from July 1 to October 1. Based on interim impairment tests performed within the period between the previous annual test on July 1, 2021 and the annual test to be performed on October 1, 2022, no more than 12 months have elapsed between goodwill impairment tests of any of Citi's reporting units. The change in measurement date represents a change in method of applying an accounting principle. This change is preferable because it better aligns the Company's goodwill impairment testing procedures with its annual planning process and with its fiscal year-end. Citi continues to monitor each reporting unit for triggering events for purposes of goodwill impairment testing.

The change in accounting principle did not result in any delay, acceleration or avoidance of an impairment charge.

Citi performed its annual goodwill impairment test as of October 1, 2022, which resulted in no impairment of any of Citi's reporting units. While the inherent risk of uncertainty is embedded in the key assumptions used in the valuations, the economic and business environments continue to evolve as management implements its strategic refresh. If management's future estimate of key economic and market assumptions were to differ from its current assumptions, Citi could potentially experience material goodwill impairment charges in the future.

For additional information regarding Citi's goodwill impairment testing process, see the following Notes to the Consolidated Financial Statements: Note 1 for Citi's accounting policy for goodwill and Note 3 for a description of Citi's operating segments.

Intangible Assets

The components of intangible assets were as follows:

In millions of dollars	December 31, 2022 Gross carrying amount	December 31, 2022 Accumulated amortization	December 31, 2022 Net carrying amount	December 31, 2021 Gross carrying amount	December 31, 2021 Accumulated amortization	December 31, 2021 Net carrying amount
Purchased credit card relationships	**$ 5,513**	**$ 4,426**	**$ 1,087**	$ 5,579	$ 4,348	$ 1,231
Credit card contract-related intangibles[1]	**3,903**	**1,518**	**2,385**	3,912	1,372	2,540
Core deposit intangibles	**37**	**37**	**—**	39	39	—
Other customer relationships	**373**	**283**	**90**	429	305	124
Present value of future profits	**32**	**31**	**1**	31	29	2
Indefinite-lived intangible assets	**192**	**—**	**192**	183	—	183
Other	**28**	**20**	**8**	37	26	11
Intangible assets (excluding MSRs)	**$ 10,078**	**$ 6,315**	**$ 3,763**	$ 10,210	$ 6,119	$ 4,091
Mortgage servicing rights (MSRs)[2]	**665**	**—**	**665**	404	—	404
Total intangible assets	**$ 10,743**	**$ 6,315**	**$ 4,428**	$ 10,614	$ 6,119	$ 4,495

(1) Primarily reflects contract-related intangibles associated with the American Airlines, The Home Depot, Costco and AT&T credit card program agreements, which represented 97% of the aggregate net carrying amount as of December 31, 2022.

(2) See Note 22 for additional information on Citi's MSRs.

Intangible assets amortization expense was $352 million, $360 million and $419 million for 2022, 2021 and 2020, respectively. Intangible assets amortization expense is estimated to be $373 million in 2023, $381 million in 2024, $388 million in 2025, $348 million in 2026 and $341 million in 2027.

The changes in intangible assets were as follows:

In millions of dollars	Net carrying amount at December 31, 2021	**Acquisitions/ renewals/ divestitures**	**Amortization**	**Impairments**	**FX translation and other**	**Net carrying amount at December 31, 2022**
Purchased credit card relationships[1]	$ 1,231	**$ 3**	**$ (140)**	**$ —**	**$ (7)**	**$ 1,087**
Credit card contract-related intangibles[2]	2,540	**—**	**(154)**	**—**	**(1)**	**2,385**
Core deposit intangibles	—	**—**	**—**	**—**	**—**	**—**
Other customer relationships	124	**10**	**(24)**	**—**	**(20)**	**90**
Present value of future profits	2	**—**	**(1)**	**—**	**—**	**1**
Indefinite-lived intangible assets	183	**—**	**—**	**—**	**9**	**192**
Other	11	**33**	**(33)**	**—**	**(3)**	**8**
Intangible assets (excluding MSRs)	$ 4,091	**$ 46**	**$ (352)**	**$ —**	**$ (22)**	**$ 3,763**
Mortgage servicing rights (MSRs)[3]	404					**665**
Total intangible assets	$ 4,495					**$ 4,428**

(1) Reflects intangibles for the value of purchased cardholder relationships, which are discrete from partner contract-related intangibles, and includes credit card accounts primarily in the Costco, Macy's and Sears portfolios.

(2) Primarily reflects contract-related intangibles associated with the extension or renewal of existing credit card program agreements with American Airlines, The Home Depot, Costco and AT&T, which represent 97% and 97% of the aggregate net carrying amount at December 31, 2022 and 2021, respectively.

(3) See Note 22 for additional information on Citi's MSRs, including the rollforward from 2021 to 2022.

17. DEPOSITS

In millions of dollars	December 31, 2022	2021
Non-interest-bearing deposits in U.S. offices	**$ 122,655**	$ 158,552
Interest-bearing deposits in U.S. offices (including $903 and $879 as of December 31, 2022 and 2021, respectively, at fair value)	**607,470**	543,283
Total deposits in U.S. offices	**$ 730,125**	$ 701,835
Non-interest-bearing deposits in offices outside the U.S.	**$ 95,182**	$ 97,270
Interest-bearing deposits in offices outside the U.S. (including $972 and $787 as of December 31, 2022 and 2021, respectively, at fair value)	**540,647**	518,125
Total deposits in offices outside the U.S.	**$ 635,829**	$ 615,395
Total deposits	**$ 1,365,954**	$ 1,317,230

At December 31, 2022 and 2021, time deposits in denominations that met or exceeded the insured limit were as follows:

In millions of dollars	December 31, 2022	2021
U.S. offices[(1)]	**$ 63,420**	$ 9,153
Offices outside the U.S.[(2)]	**150,921**	77,698
Total	**$ 214,341**	$ 86,851

(1) Represents time deposits in U.S. offices in denominations that met or exceeded $250,000.
(2) Represents all time deposits outside U.S. offices as these deposits typically exceed the insured limit.

At December 31, 2022, the maturities of time deposits were as follows:

In millions of dollars	U.S.	Outside U.S.	Total
2023	**$ 84,321**	**$ 149,604**	**$ 233,925**
2024	**5,751**	**1,018**	**6,769**
2025	**300**	**264**	**564**
2026	**386**	**26**	**412**
2027	**122**	**6**	**128**
After 5 years	**439**	**3**	**442**
Total	**$ 91,319**	**$ 150,921**	**$ 242,240**

18. DEBT

Short-Term Borrowings

	December 31,			
	2022		2021	
In millions of dollars	**Balance**	**Weighted average coupon**	Balance	Weighted average coupon
Commercial paper				
Bank[1]	**$ 11,185**		$ 9,026	
Broker-dealer and other[2]	**14,345**		6,992	
Total commercial paper	**$ 25,530**	**4.29 %**	$ 16,018	0.22 %
Other borrowings[3]	**21,566**	**4.23**	11,955	0.91
Total	**$ 47,096**		$ 27,973	

(1) Represents Citibank entities as well as other bank entities.
(2) Represents broker-dealer and other non-bank subsidiaries that are consolidated into Citigroup Inc., the parent holding company.
(3) Includes borrowings from Federal Home Loan Banks and other market participants. At December 31, 2022 and 2021, collateralized short-term advances from Federal Home Loan Banks were $12.0 billion and $0.0 billion, respectively.

Some of Citigroup's non-bank subsidiaries have credit facilities with Citigroup's subsidiary depository institutions, including Citibank. Borrowings under these facilities are secured in accordance with Section 23A of the Federal Reserve Act.

Citigroup Global Markets Holdings Inc. (CGMHI) has borrowing agreements consisting of facilities that CGMHI has been advised are available, but where no contractual lending obligation exists. These arrangements are reviewed on an ongoing basis to ensure flexibility in meeting CGMHI's short-term requirements.

Long-Term Debt

			Balances at December 31,	
In millions of dollars	**Weighted average coupon[1]**	**Maturities**	**2022**	2021
Citigroup Inc.[2]				
Senior debt	3.38 %	2023–2098	**$ 141,893**	$ 137,651
Subordinated debt[3]	4.77	2023–2046	**22,758**	25,560
Trust preferred securities	10.53	2036–2040	**1,606**	1,734
Bank[4]				
Senior debt	3.98	2023–2039	**21,113**	23,567
Broker-dealer[5]				
Senior debt	3.95	2023–2070	**84,236**	65,862
Total	3.72 %		**$ 271,606**	$ 254,374
Senior debt			**$ 247,242**	$ 227,080
Subordinated debt[3]			**22,758**	25,560
Trust preferred securities			**1,606**	1,734
Total			**$ 271,606**	$ 254,374

(1) The weighted average coupon excludes structured notes accounted for at fair value.
(2) Represents the parent holding company.
(3) Includes notes that are subordinated within certain countries, regions or subsidiaries.
(4) Represents Citibank entities as well as other bank entities. At December 31, 2022 and 2021, collateralized long-term advances from Federal Home Loan Banks were $7.3 billion and $5.3 billion, respectively.
(5) Represents broker-dealer and other non-bank subsidiaries that are consolidated into Citigroup Inc., the parent holding company. Certain Citigroup consolidated hedging activities are also included in this line. Balances primarily relates to senior debt.

The Company issues both fixed- and variable-rate debt in a range of currencies. It uses derivative contracts, primarily interest rate swaps, to effectively convert a portion of its fixed-rate debt to variable-rate debt. The maturity structure of the derivatives generally corresponds to the maturity structure of the debt being hedged. In addition, the Company uses other derivative contracts to manage the foreign exchange impact of certain debt issuances. At December 31, 2022, the Company's overall weighted average interest rate for long-term debt, excluding structured notes accounted for at fair value, was 3.72% on a contractual basis and 4.10% including the effects of derivative contracts.

Aggregate annual maturities of long-term debt obligations (based on final maturity dates) including trust preferred securities are as follows:

In millions of dollars	2023	2024	2025	2026	2027	Thereafter	Total
Citigroup Inc.	$ 6,887	$ 12,321	$ 19,124	$ 27,913	$ 12,601	$ 87,411	$ 166,257
Bank	7,029	8,152	1,867	197	788	3,080	21,113
Broker-dealer	18,543	20,043	11,758	4,680	7,383	21,829	84,236
Total	$ 32,459	$ 40,516	$ 32,749	$ 32,790	$ 20,772	$ 112,320	$ 271,606

The following table summarizes Citi's outstanding trust preferred securities at December 31, 2022:

						Junior subordinated debentures owned by trust		
Trust	**Issuance date**	**Securities issued**	**Liquidation value[1]**	**Coupon rate[2]**	**Common shares issued to parent**	**Notional amount**	**Maturity**	**Redeemable by issuer beginning**
In millions of dollars, except securities and share amounts								
Citigroup Capital III	Dec. 1996	194,053	$ 194	7.625 %	6,003	$ 200	Dec. 1, 2036	Not redeemable
Citigroup Capital XIII	Oct. 2010	89,840,000	2,246	3 mo LIBOR + 637 bps	1,000	2,246	Oct. 30, 2040	Oct. 30, 2015
Total obligated			**$ 2,440**			**$ 2,446**		

Note: Distributions on the trust preferred securities and interest on the subordinated debentures are payable semiannually for Citigroup Capital III and quarterly for Citigroup Capital XIII.

(1) Represents the notional value received by outside investors from the trusts at the time of issuance. This differs from Citi's balance sheet carrying value due primarily to unamortized discount and issuance costs.

(2) In each case, the coupon rate on the subordinated debentures is the same as that on the trust preferred securities.

19. REGULATORY CAPITAL

Citigroup is subject to risk-based capital and leverage standards issued by the Federal Reserve Board, which constitute the U.S. Basel III rules. Citi's U.S.-insured depository institution subsidiaries, including Citibank, are subject to similar standards issued by their respective primary bank regulatory agencies. These standards are used to evaluate capital adequacy and include the required minimums shown in the following table. The regulatory agencies are required by law to take specific, prompt corrective actions with respect to institutions that do not meet minimum capital standards.

The following table presents for Citigroup and Citibank the regulatory capital tiers, total risk-weighted assets, quarterly adjusted average total assets, Total Leverage Exposure, risk-based capital ratios and leverage ratios:

		Citigroup			Citibank		
In millions of dollars, except ratios	**Stated minimum**	**Well-capitalized minimum**	**December 31, 2022**	December 31, 2021	**Well-capitalized minimum**	**December 31, 2022**	December 31, 2021
CET1 Capital			**$ 148,930**	$ 149,305		**$ 149,593**	$ 148,548
Tier 1 Capital			**169,145**	169,568		**151,720**	150,679
Total Capital (Tier 1 Capital + Tier 2 Capital)—Standardized Approach			**197,543**	203,838		**172,647**	175,427
Total Capital (Tier 1 Capital + Tier 2 Capital)—Advanced Approaches			**188,839**	194,006		**165,131**	166,921
Total risk-weighted assets—Standardized Approach			**1,142,985**	1,219,175		**982,914**	1,066,015
Total risk-weighted assets—Advanced Approaches			**1,221,538**	1,209,374		**1,003,747**	1,017,774
Quarterly adjusted average total assets[1]			**2,395,863**	2,351,434		**1,738,744**	1,716,596
Total Leverage Exposure[2]			**2,906,773**	2,957,764		**2,189,541**	2,236,839
CET1 Capital ratio[3]	**4.5 %**	**N/A**	**13.03 %**	12.25 %	**6.5 %**	**14.90 %**	13.93 %
Tier 1 Capital ratio[3]	**6.0**	**6.0 %**	**14.80**	13.91	**8.0**	**15.12**	14.13
Total Capital ratio[3]	**8.0**	**10.0**	**15.46**	16.04	**10.0**	**16.45**	16.40
Tier 1 Leverage ratio	**4.0**	**N/A**	**7.06**	7.21	**5.0**	**8.73**	8.78
Supplementary Leverage ratio	**3.0**	**N/A**	**5.82**	5.73	**6.0**	**6.93**	6.74

(1) Tier 1 Leverage ratio denominator.
(2) Supplementary Leverage ratio denominator.
(3) Citi's binding CET1 Capital and Tier 1 Capital ratios were derived under the Basel III Standardized Approach as of December 31, 2022 and 2021, whereas Citi's binding Total Capital ratio was derived under the Basel III Advanced Approaches framework for both periods presented. Citibank's binding CET1 Capital and Tier 1 Capital ratios were derived under the Basel III Advanced Approaches framework as of December 31, 2022, and were derived under the Basel III Standardized Approach as of December 31, 2021. Citibank's binding Total Capital ratio was derived under the Basel III Advanced Approaches framework for both periods presented.

N/A Not applicable

As indicated in the table above, Citigroup and Citibank were "well capitalized" under the current federal bank regulatory agencies definitions as of December 31, 2022 and 2021.

Banking Subsidiaries—Constraints on Dividends

There are various legal limitations on the ability of Citigroup's subsidiary depository institutions to extend credit, pay dividends or otherwise supply funds to Citigroup and its non-bank subsidiaries. The approval of the Office of the Comptroller of the Currency is required if total dividends declared in any calendar year were to exceed amounts specified by the agency's regulations.

In determining the dividends, each subsidiary depository institution must also consider its effect on applicable risk-based capital and leverage ratio requirements, as well as policy statements of the federal bank regulatory agencies that indicate that banking organizations should generally pay dividends out of current operating earnings. Citigroup received $8.5 billion and $6.2 billion in dividends indirectly from Citibank through its holding company during 2022 and 2021, respectively.

20. CHANGES IN ACCUMULATED OTHER COMPREHENSIVE INCOME (LOSS) (AOCI)

Changes in each component of Citigroup's *Accumulated other comprehensive income (loss)* were as follows:

In millions of dollars	Net unrealized gains (losses) on debt securities	Debt valuation adjustment (DVA)[1]	Cash flow hedges[2]	Benefit plans[3]	CTA, net of hedges[4][5]	Excluded component of fair value hedges	Accumulated other comprehensive income (loss)
Balance, December 31, 2019	$ (265)	$ (944)	$ 123	$ (6,809)	$ (28,391)	$ (32)	$ (36,318)
Other comprehensive income before reclassifications	4,837	(490)	2,027	(287)	(250)	(15)	5,822
Increase (decrease) due to amounts reclassified from *AOCI*	(1,252)	15	(557)	232	—	—	(1,562)
Change, net of taxes	$ 3,585	$ (475)	$ 1,470	$ (55)	$ (250)	$ (15)	$ 4,260
Balance, December 31, 2020	$ 3,320	$ (1,419)	$ 1,593	$ (6,864)	$ (28,641)	$ (47)	$ (32,058)
Other comprehensive income before reclassifications	(3,556)	121	(679)	797	(2,537)	(11)	(5,865)
Increase (decrease) due to amounts reclassified from *AOCI*	(378)	111	(813)	215	12	11	(842)
Change, net of taxes	$ (3,934)	$ 232	$ (1,492)	$ 1,012	$ (2,525)	$ —	$ (6,707)
Balance, December 31, 2021	$ (614)	$ (1,187)	$ 101	$ (5,852)	$ (31,166)	$ (47)	$ (38,765)
Other comprehensive income before reclassifications	**(5,599)**	**2,047**	**(2,718)**	**(19)**	**(2,855)**	**49**	**(9,095)**
Increase (decrease) due to amounts reclassified from *AOCI*	**215**	**(18)**	**95**	**116**	**384**	**6**	**798**
Change, net of taxes	**$ (5,384)**	**$ 2,029**	**$ (2,623)**	**$ 97**	**$ (2,471)**	**$ 55**	**$ (8,297)**
Balance, December 31, 2022	**$ (5,998)**	**$ 842**	**$ (2,522)**	**$ (5,755)**	**$ (33,637)**	**$ 8**	**$ (47,062)**

(1) Reflects the after-tax valuation of Citi's fair value option liabilities. See "Market Valuation Adjustments" in Note 25.

(2) Primarily driven by Citi's pay floating/receive fixed interest rate swap programs that hedge certain floating rates on assets.

(3) Primarily reflects adjustments based on the quarterly actuarial valuations of the Company's significant pension and postretirement plans, annual actuarial valuations of all other plans and amortization of amounts previously recognized in other comprehensive income.

(4) Primarily reflects the movements in (by order of impact) the Indian rupee, South Korean won, Euro, Chinese yuan, Russian ruble, Japanese yen and British pound sterling against the U.S. dollar and changes in related tax effects and hedges for the year ended December 31, 2022. Primarily reflects the movements in (by order of impact) the Mexican peso, Euro, South Korean won, Chilean peso and Japanese yen against the U.S. dollar and changes in related tax effects and hedges for the year ended December 31, 2021. Primarily reflects the movements in (by order of impact) the Mexican peso, Brazilian real, South Korean won and Euro against the U.S. dollar and changes in related tax effects and hedges for the year ended December 31, 2020. Amounts recorded in the CTA component of *AOCI* remain in *AOCI* until the sale or substantial liquidation of the foreign entity, at which point such amounts related to the foreign entity are reclassified into earnings.

(5) December 31, 2022 reflects a reduction from an approximate $470 million (after-tax) ($620 million pretax) CTA loss (net of hedges) recorded in June 2022, associated with the closing of Citi's sale of its consumer banking business in Australia (see Note 2). The reduction from *AOCI* had a neutral impact on Citi's CET1 Capital.

The pretax and after-tax changes in each component of *Accumulated other comprehensive income (loss)* were as follows:

In millions of dollars	Pretax	Tax effect[(1)]	After-tax
Balance, December 31, 2019	$ (42,772)	$ 6,454	$ (36,318)
Change in net unrealized gains (losses) on debt securities	4,799	(1,214)	3,585
Debt valuation adjustment (DVA)	(616)	141	(475)
Cash flow hedges	1,925	(455)	1,470
Benefit plans	(78)	23	(55)
CTA	(227)	(23)	(250)
Excluded component of fair value hedges	(23)	8	(15)
Change	$ 5,780	$ (1,520)	$ 4,260
Balance, December 31, 2020	$ (36,992)	$ 4,934	$ (32,058)
Change in net unrealized gains (losses) on debt securities	(5,301)	1,367	(3,934)
Debt valuation adjustment (DVA)	296	(64)	232
Cash flow hedges	(1,969)	477	(1,492)
Benefit plans	1,252	(240)	1,012
CTA	(2,671)	146	(2,525)
Excluded component of fair value hedges	2	(2)	—
Change	$ (8,391)	$ 1,684	$ (6,707)
Balance, December 31, 2021	$ (45,383)	$ 6,618	$ (38,765)
Change in net unrealized gains (losses) on debt securities	**(7,178)**	**1,794**	**(5,384)**
Debt valuation adjustment (DVA)	**2,685**	**(656)**	**2,029**
Cash flow hedges	**(3,477)**	**854**	**(2,623)**
Benefit plans	**31**	**66**	**97**
CTA	**(2,004)**	**(467)**	**(2,471)**
Excluded component of fair value hedges	**73**	**(18)**	**55**
Change	**$ (9,870)**	**$ 1,573**	**$ (8,297)**
Balance, December 31, 2022	**$ (55,253)**	**$ 8,191**	**$ (47,062)**

(1) Income tax effects of these items are released from *AOCI* contemporaneously with the related gross pretax amount.

The Company recognized pretax (gains) losses related to amounts in *AOCI* reclassified to the Consolidated Statement of Income as follows:

	Increase (decrease) in AOCI due to amounts reclassified to Consolidated Statement of Income		
	Year ended December 31,		
In millions of dollars	**2022**	2021	2020
Realized (gains) losses on sales of investments	**$ (67)**	$ (665)	$ (1,756)
Gross impairment losses	**360**	181	109
Subtotal, pretax	**$ 293**	$ (484)	$ (1,647)
Tax effect	**(78)**	106	395
Net realized (gains) losses on investments, after-tax[1]	**$ 215**	$ (378)	$ (1,252)
Realized DVA (gains) losses on fair value option liabilities, pretax	**$ (25)**	$ 144	$ 20
Tax effect	**7**	(33)	(5)
Net realized DVA, after-tax	**$ (18)**	$ 111	$ 15
Interest rate contracts	**$ 125**	$ (1,075)	$ (734)
Foreign exchange contracts	**4**	4	4
Subtotal, pretax	**$ 129**	$ (1,071)	$ (730)
Tax effect	**(34)**	258	173
Amortization of cash flow hedges, after-tax[2]	**$ 95**	$ (813)	$ (557)
Amortization of unrecognized:			
Prior service cost (benefit)	**$ (23)**	$ (23)	$ (5)
Net actuarial loss	**221**	302	322
Curtailment/settlement impact[3]	**(37)**	11	(8)
Subtotal, pretax	**$ 161**	$ 290	$ 309
Tax effect	**(45)**	(75)	(77)
Amortization of benefit plans, after-tax[3]	**$ 116**	$ 215	$ 232
Excluded component of fair value hedges, pretax	**$ 9**	$ 15	$ —
Tax effect	**(3)**	(4)	—
Excluded component of fair value hedges, after-tax	**$ 6**	$ 11	$ —
CTA, pretax	**$ 438**	$ 19	$ —
Tax effect	**(54)**	(7)	—
CTA, after-tax[4]	**$ 384**	$ 12	$ —
Total amounts reclassified out of *AOCI*, pretax	**$ 1,005**	$ (1,087)	$ (2,048)
Total tax effect	**(207)**	245	486
Total amounts reclassified out of *AOCI*, after-tax	**$ 798**	$ (842)	$ (1,562)

(1) The pretax amount is reclassified to *Realized gains (losses) on sales of investments, net* and *Gross impairment losses* in the Consolidated Statement of Income. See Note 13 for additional details.
(2) See Note 23 for additional details.
(3) See Note 8 for additional details.
(4) The pretax amount is reclassified to *Discontinued operations* and *Other revenue* in the Consolidated Statement of Income, and results primarily from the substantial liquidation of a legacy U.K. consumer operation and divestitures of certain legacy foreign operations. See Note 2 for additional details.

21. PREFERRED STOCK

The following table summarizes the Company's preferred stock outstanding:

	Issuance date	Redeemable by issuer beginning	Dividend rate	Redemption price per depositary share/ preference share	Number of depositary shares	Carrying value *(in millions of dollars)* December 31, 2022	Carrying value *(in millions of dollars)* December 31, 2021
Series A[(1)]	October 29, 2012	January 30, 2023	5.950 %	$ 1,000	1,500,000	**$ 1,500**	$ 1,500
Series B[(2)]	December 13, 2012	February 15, 2023	5.900	1,000	750,000	**750**	750
Series D[(3)]	April 30, 2013	May 15, 2023	5.350	1,000	1,250,000	**1,250**	1,250
Series J[(4)]	September 19, 2013	September 30, 2023	7.125	25	38,000,000	**950**	950
Series K[(5)]	October 31, 2013	November 15, 2023	6.875	25	59,800,000	**1,495**	1,495
Series M[(6)]	April 30, 2014	May 15, 2024	6.300	1,000	1,750,000	**1,750**	1,750
Series P[(7)]	April 24, 2015	May 15, 2025	5.950	1,000	2,000,000	**2,000**	2,000
Series T[(8)]	April 25, 2016	August 15, 2026	6.250	1,000	1,500,000	**1,500**	1,500
Series U[(9)]	September 12, 2019	September 12, 2024	5.000	1,000	1,500,000	**1,500**	1,500
Series V[(10)]	January 23, 2020	January 30, 2025	4.700	1,000	1,500,000	**1,500**	1,500
Series W[(11)]	December 10, 2020	December 10, 2025	4.000	1,000	1,500,000	**1,500**	1,500
Series X[(12)]	February 18, 2021	February 18, 2026	3.875	1,000	2,300,000	**2,300**	2,300
Series Y[(13)]	October 20, 2021	October 20, 2026	4.150	1,000	1,000,000	**1,000**	1,000
						$ 18,995	$ 18,995

(1) Issued as depositary shares, each representing a 1/25th interest in a share of the corresponding series of non-cumulative perpetual preferred stock. Dividends are payable semiannually on January 30 and July 30 at a fixed rate until, but excluding, January 30, 2023, thereafter payable quarterly on January 30, April 30, July 30 and October 30 at a floating rate, in each case when, as and if declared by the Citi Board of Directors.

(2) Issued as depositary shares, each representing a 1/25th interest in a share of the corresponding series of non-cumulative perpetual preferred stock. Dividends are payable semiannually on February 15 and August 15 at a fixed rate until, but excluding, February 15, 2023, thereafter payable quarterly on February 15, May 15, August 15 and November 15 at a floating rate, in each case when, as and if declared by the Citi Board of Directors.

(3) Issued as depositary shares, each representing a 1/25th interest in a share of the corresponding series of non-cumulative perpetual preferred stock. Dividends are payable semiannually on May 15 and November 15 at a fixed rate until, but excluding, May 15, 2023, thereafter payable quarterly on February 15, May 15, August 15 and November 15 at a floating rate, in each case when, as and if declared by the Citi Board of Directors.

(4) Issued as depositary shares, each representing a 1/1,000th interest in a share of the corresponding series of non-cumulative perpetual preferred stock. Dividends are payable quarterly on March 30, June 30, September 30 and December 30 at a fixed rate until, but excluding, September 30, 2023, thereafter payable quarterly on the same dates at a floating rate, in each case when, as and if declared by the Citi Board of Directors.

(5) Issued as depositary shares, each representing a 1/1,000th interest in a share of the corresponding series of non-cumulative perpetual preferred stock. Dividends are payable quarterly on February 15, May 15, August 15 and November 15 at a fixed rate until, but excluding, November 15, 2023, thereafter payable quarterly on the same dates at a floating rate, in each case when, as and if declared by the Citi Board of Directors.

(6) Issued as depositary shares, each representing a 1/25th interest in a share of the corresponding series of non-cumulative perpetual preferred stock. Dividends are payable semiannually on May 15 and November 15 at a fixed rate until, but excluding, May 15, 2024, thereafter payable quarterly on February 15, May 15, August 15 and November 15 at a floating rate, in each case when, as and if declared by the Citi Board of Directors.

(7) Issued as depositary shares, each representing a 1/25th interest in a share of the corresponding series of non-cumulative perpetual preferred stock. Dividends are payable semiannually on May 15 and November 15 at a fixed rate until, but excluding, May 15, 2025, and thereafter payable quarterly on February 15, May 15, August 15 and November 15 at a floating rate, in each case when, as and if declared by the Citi Board of Directors.

(8) Issued as depositary shares, each representing a 1/25th interest in a share of the corresponding series of non-cumulative perpetual preferred stock. Dividends are payable semiannually on February 15 and August 15 at a fixed rate until, but excluding, August 15, 2026, thereafter payable quarterly on February 15, May 15, August 15 and November 15 at a floating rate, in each case when, as and if declared by the Citi Board of Directors.

(9) Issued as depositary shares, each representing a 1/25th interest in a share of the corresponding series of non-cumulative perpetual preferred stock. Dividends are payable semiannually on March 12 and September 12 at a fixed rate until, but excluding, September 12, 2024, thereafter payable quarterly on March 12, June 12, September 12 and December 12 at a floating rate, in each case when, as and if declared by the Citi Board of Directors.

(10) Issued as depositary shares, each representing a 1/25th interest in a share of the corresponding series of non-cumulative perpetual preferred stock. Dividends are payable semiannually on January 30 and July 30 at a fixed rate until, but excluding, January 30, 2025, thereafter payable quarterly on January 30, April 30, July 30 and October 30 at a floating rate, in each case when, as and if declared by the Citi Board of Directors.

(11) Issued as depositary shares, each representing a 1/25th interest in a share of the corresponding series of non-cumulative perpetual preferred stock. Dividends are payable quarterly on March 10, June 10, September 10 and December 10 at a fixed rate until, but excluding, December 10, 2025, thereafter payable quarterly on the same dates at a floating rate, in each case when, as and if declared by the Citi Board of Directors.

(12) Issued as depositary shares, each representing a 1/25th interest in a share of the corresponding series of non-cumulative perpetual preferred stock. Dividends are payable quarterly on February 18, May 18, August 18 and November 18 at a fixed rate until, but excluding, February 18, 2026, thereafter payable quarterly on the same dates at a floating rate, in each case when, as and if declared by the Citi Board of Directors.

(13) Issued as depositary shares, each representing a 1/25th interest in a share of the corresponding series of non-cumulative perpetual preferred stock. Dividends are payable quarterly on February 15, May 15, August 15 and November 15 at a fixed rate until, but excluding, November 15, 2026, thereafter payable quarterly on the same dates at a floating rate, in each case when, as and if declared by the Citi Board of Directors.

22. SECURITIZATIONS AND VARIABLE INTEREST ENTITIES

Uses of Special Purpose Entities

A special purpose entity (SPE) is an entity designed to fulfill a specific limited need of the company that organized it. The principal uses of SPEs by Citi are to assist clients in securitizing their financial assets and create investment products for clients and to obtain liquidity and optimize capital efficiency by securitizing certain of Citi's financial assets. SPEs may be organized in various legal forms, including trusts, partnerships or corporations. In a securitization, through the SPE's issuance of debt and equity instruments, certificates, commercial paper or other notes of indebtedness, the company transferring assets to the SPE converts all (or a portion) of those assets into cash before they would have been realized in the normal course of business. These issuances are recorded on the balance sheet of the SPE, which may or may not be consolidated onto the balance sheet of the company that organized the SPE.

Investors usually have recourse only to the assets in the SPE, but may also benefit from other credit enhancements, such as a collateral account, a line of credit or a liquidity facility, such as a liquidity put option or asset purchase agreement. Because of these enhancements, the SPE issuances typically obtain a more favorable credit rating than the transferor could obtain for its own debt issuances. This results in less expensive financing costs than unsecured debt. The SPE may also enter into derivative contracts in order to convert the yield or currency of the underlying assets to match the needs of the SPE investors or to limit or change the credit risk of the SPE. Citigroup may be the provider of certain credit enhancements as well as the counterparty to any related derivative contracts.

Most of Citigroup's SPEs are variable interest entities (VIEs).

Variable Interest Entities

VIEs are described in Note 1. Investors that finance the VIE through debt or equity interests or other counterparties providing other forms of support, such as guarantees, certain fee arrangements or certain types of derivative contracts, are variable interest holders in the entity.

The variable interest holder, if any, that has a controlling financial interest in a VIE is deemed to be the primary beneficiary and must consolidate the VIE.

The Company must evaluate each VIE to understand the purpose and design of the entity, the role the Company had in the entity's design and its involvement in the VIE's ongoing activities. The Company then must evaluate which activities most significantly impact the economic performance of the VIE and who has the power to direct such activities.

For those VIEs where the Company determines that it has the power to direct the activities that most significantly impact the VIE's economic performance, the Company must then evaluate its economic interests, if any, and determine whether it could absorb losses or receive benefits that could potentially be significant to the VIE. When evaluating whether the Company has an obligation to absorb losses that could potentially be significant, it considers the maximum exposure to such loss without consideration of probability. Such obligations could be in various forms, including, but not limited to, debt and equity investments, guarantees, liquidity agreements and certain derivative contracts.

In various other transactions, the Company may (i) act as a derivative counterparty (e.g., interest rate swap, cross-currency swap or purchaser of credit protection under a credit default swap or total return swap where the Company pays the total return on certain assets to the SPE), (ii) act as underwriter or placement agent, (iii) provide administrative, trustee or other services or (iv) make a market in debt securities or other instruments issued by VIEs. The Company generally considers such involvement, by itself, not to be variable interests and thus not an indicator of power or potentially significant benefits or losses.

Citigroup's involvement with consolidated and unconsolidated VIEs with which the Company holds significant variable interests or has continuing involvement through servicing a majority of the assets in a VIE is presented below:

	As of December 31, 2022							
				Maximum exposure to loss in significant unconsolidated VIEs[1]				
				Funded exposures[2]		Unfunded exposures		
In millions of dollars	Total involvement with SPE assets	Consolidated VIE/SPE assets	Significant unconsolidated VIE assets[3]	Debt investments	Equity investments	Funding commitments	Guarantees and derivatives	Total
Credit card securitizations	$ 32,021	$ 32,021	$ —	$ —	$ —	$ —	$ —	$ —
Mortgage securitizations[4]								
U.S. agency-sponsored	117,358	—	117,358	2,052	—	—	48	2,100
Non-agency-sponsored	67,704	—	67,704	3,294	—	—	—	3,294
Citi-administered asset-backed commercial paper conduits	19,621	19,621	—	—	—	—	—	—
Collateralized loan obligations (CLOs)	7,600	—	7,600	2,601	—	—	—	2,601
Asset-based financing[5]	242,348	9,672	232,676	40,121	1,022	10,726	—	51,869
Municipal securities tender option bond trusts (TOBs)	2,155	672	1,483	2	—	1,108	—	1,110
Municipal investments	22,167	3	22,164	2,731	3,143	3,420	—	9,294
Client intermediation	482	121	361	58	—	—	13	71
Investment funds	534	91	443	2	5	68	—	75
Other	—	—	—	—	—	—	—	—
Total	$ 511,990	$ 62,201	$ 449,789	$ 50,861	$ 4,170	$ 15,322	$ 61	$ 70,414

	As of December 31, 2021							
				Maximum exposure to loss in significant unconsolidated VIEs[1]				
				Funded exposures[2]		Unfunded exposures		
In millions of dollars	Total involvement with SPE assets	Consolidated VIE/SPE assets	Significant unconsolidated VIE assets[3]	Debt investments	Equity investments	Funding commitments	Guarantees and derivatives	Total
Credit card securitizations	$ 31,518	$ 31,518	$ —	$ —	$ —	$ —	$ —	$ —
Mortgage securitizations[4]								
U.S. agency-sponsored	113,641	—	113,641	1,582	—	—	43	1,625
Non-agency-sponsored	60,851	632	60,219	2,479	—	5	—	2,484
Citi-administered asset-backed commercial paper conduits	14,018	14,018	—	—	—	—	—	—
Collateralized loan obligations (CLOs)	8,302	—	8,302	2,636	—	—	—	2,636
Asset-based financing[5]	246,632	11,085	235,547	32,242	1,139	12,189	—	45,570
Municipal securities tender option bond trusts (TOBs)	3,251	905	2,346	2	—	1,498	—	1,500
Municipal investments	20,597	3	20,594	2,512	3,617	3,562	—	9,691
Client intermediation	904	297	607	75	—	—	224	299
Investment funds	498	179	319	—	—	12	1	13
Other	—	—	—	—	—	—	—	—
Total	$ 500,212	$ 58,637	$ 441,575	$ 41,528	$ 4,756	$ 17,266	$ 268	$ 63,818

(1) The definition of maximum exposure to loss is included in the text that follows this table.
(2) Included on Citigroup's December 31, 2022 and 2021 Consolidated Balance Sheet.
(3) A significant unconsolidated VIE is an entity in which the Company has any variable interest or continuing involvement considered to be significant, regardless of the likelihood of loss.
(4) Citigroup mortgage securitizations also include agency and non-agency (private label) re-securitization activities. These SPEs are not consolidated. See "Re-securitizations" below for further discussion.
(5) Included within this line are loans to third-party-sponsored private equity funds, which represent $69 billion and $100 billion in unconsolidated VIE assets and $498 million and $497 million in maximum exposure to loss as of December 31, 2022 and 2021, respectively.

The previous tables do not include:

- certain investment funds for which the Company provides investment management services and personal estate trusts for which the Company provides administrative, trustee and/or investment management services;
- certain third-party-sponsored private equity funds to which the Company provides secured credit facilities. The Company has no decision-making power and does not consolidate these funds, some of which may meet the definition of a VIE. The Company's maximum exposure to loss is generally limited to a loan or lending-related commitment. As of December 31, 2022 and 2021, the Company's maximum exposure to loss related to these transactions was $33.6 billion and $55.6 billion, respectively (see Notes 14 and 26 for more information on these positions);
- certain VIEs structured by third parties in which the Company holds securities in inventory, as these investments are made on arm's-length terms;
- certain positions in mortgage- and asset-backed securities held by the Company, which are classified as *Trading account assets* or *Investments*, in which the Company has no other involvement with the related securitization entity deemed to be significant (see Notes 13 and 25 for more information on these positions);
- certain representations and warranties exposures in Citigroup residential mortgage securitizations, in which the original mortgage loan balances are no longer outstanding; and
- VIEs such as preferred securities trusts used in connection with the Company's funding activities. The Company does not have a variable interest in these trusts.

The asset balances for consolidated VIEs represent the carrying amounts of the assets consolidated by the Company. The carrying amount may represent the amortized cost or the current fair value of the assets depending on the classification of the asset (e.g., loan or security) and the associated accounting model ascribed to that classification.

The asset balances for unconsolidated VIEs in which the Company has significant involvement represent the most current information available to the Company. In most cases, the asset balances represent an amortized cost basis without regard to impairments, unless fair value information is readily available to the Company.

The maximum funded exposure represents the balance sheet carrying amount of the Company's investment in the VIE. It reflects the initial amount of cash invested in the VIE, adjusted for any accrued interest and cash principal payments received. The carrying amount may also be adjusted for increases or declines in fair value or any impairment in value recognized in earnings. The maximum exposure of unfunded positions represents the remaining undrawn committed amount, including liquidity and credit facilities provided by the Company or the notional amount of a derivative instrument considered to be a variable interest. In certain transactions, the Company has entered into derivative instruments or other arrangements that are not considered variable interests in the VIE (e.g., interest rate swaps, cross-currency swaps or where the Company is the purchaser of credit protection under a credit default swap or total return swap where the Company pays the total return on certain assets to the SPE). Receivables under such arrangements are not included in the maximum exposure amounts.

The following tables present certain assets and liabilities of consolidated variable interest entities (VIEs), which are included on Citi's Consolidated Balance Sheet. The assets in the table below include those assets that can only be used to settle obligations of consolidated VIEs, presented on the following page, and are in excess of those obligations. In addition, the assets in the table below include third-party assets of consolidated VIEs only and exclude intercompany balances that eliminate in consolidation. The liabilities in the table below include third-party liabilities of consolidated VIEs only and exclude intercompany balances that eliminate in consolidation. The liabilities also exclude amounts where creditors or beneficial interest holders have recourse to the general credit of Citigroup.

	December 31,	
In millions of dollars	**2022**	2021
Assets of consolidated VIEs to be used to settle obligations of consolidated VIEs		
Cash and due from banks	**$ 61**	$ 260
Trading account assets	**9,153**	10,038
Investments	**594**	844
Loans, net of unearned income		
Consumer	**35,026**	34,677
Corporate	**19,782**	14,312
Loans, net of unearned income	**$ 54,808**	$ 48,989
Allowance for credit losses on loans (ACLL)	**(2,520)**	(2,668)
Total loans, net	**$ 52,288**	$ 46,321
Other assets	**105**	1,174
Total assets of consolidated VIEs to be used to settle obligations of consolidated VIEs	**$ 62,201**	$ 58,637

	December 31,	
In millions of dollars	**2022**	2021
Liabilities of consolidated VIEs for which creditors or beneficial interest holders do not have recourse to the general credit of Citigroup		
Short-term borrowings	**$ 9,807**	$ 8,376
Long-term debt	**10,324**	12,579
Other liabilities	**622**	694
Total liabilities of consolidated VIEs for which creditors or beneficial interest holders do not have recourse to the general credit of Citigroup	**$ 20,753**	$ 21,649

Funding Commitments for Significant Unconsolidated VIEs—Liquidity Facilities and Loan Commitments

The following table presents the notional amount of liquidity facilities and loan commitments that are classified as funding commitments in the VIE tables above:

	December 31, 2022		December 31, 2021	
In millions of dollars	**Liquidity facilities**	**Loan/equity commitments**	Liquidity facilities	Loan/equity commitments
Non-agency-sponsored mortgage securitizations	**$ —**	**$ —**	$ —	$ 5
Asset-based financing	**—**	**10,726**	—	12,189
Municipal securities tender option bond trusts (TOBs)	**1,108**	**—**	1,498	—
Municipal investments	**—**	**3,420**	—	3,562
Investment funds	**—**	**68**	—	12
Other	**—**	**—**	—	—
Total funding commitments	**$ 1,108**	**$ 14,214**	$ 1,498	$ 15,768

Consolidated VIEs

The Company engages in on-balance sheet securitizations, which are securitizations that do not qualify for sales treatment; thus, the assets remain on Citi's Consolidated Balance Sheet, and any proceeds received are recognized as secured liabilities. In general, the third-party investors in the obligations of consolidated VIEs have legal recourse only to the assets of the respective VIEs and do not have such recourse to the Company, except where Citi has provided a guarantee to the investors or is the counterparty to certain derivative transactions involving the VIE. Thus, Citigroup's maximum legal exposure to loss related to consolidated VIEs is significantly less than the carrying value of the consolidated VIE assets due to outstanding third-party financing. Intercompany assets and liabilities are excluded from Citi's Consolidated Balance Sheet. All VIE assets are restricted from being sold or pledged as collateral. The cash flows from these assets are the only source used to pay down the associated liabilities, which are non-recourse to Citi's general assets. See the Consolidated Balance Sheet for more information about these Consolidated VIE assets and liabilities.

Significant Interests in Unconsolidated VIEs—Balance Sheet Classification

The following table presents the carrying amounts and classification of significant variable interests in unconsolidated VIEs:

In billions of dollars	**December 31, 2022**	December 31, 2021
Cash	**$ —**	$ —
Trading account assets	**1.6**	1.4
Investments	**8.6**	8.8
Total loans, net of allowance	**44.2**	35.4
Other	**0.6**	0.8
Total assets	**$ 55.0**	$ 46.4

Credit Card Securitizations

The Company securitizes credit card receivables through trusts established to purchase the receivables. Citigroup transfers receivables into the trusts on a non-recourse basis. Credit card securitizations are revolving securitizations: as customers pay their credit card balances, the cash proceeds are used to purchase new receivables and replenish the receivables in the trust.

Substantially all of the Company's credit card securitization activity is through two trusts—Citibank Credit Card Master Trust (Master Trust) and Citibank Omni Trust (Omni Trust), with the substantial majority through the Master Trust. These trusts are consolidated entities because, as servicer, Citigroup has the power to direct the activities that most significantly impact the economic performance of the trusts. Citigroup holds a seller's interest and certain securities issued by the trusts, which could result in exposure to potentially significant losses or benefits from the trusts. Accordingly, the transferred credit card receivables remain on Citi's Consolidated Balance Sheet with no gain or loss recognized. The debt issued by the trusts to third parties is included on Citi's Consolidated Balance Sheet.

Citi utilizes securitizations as one of the sources of funding for its business in North America. The following table reflects amounts related to the Company's securitized credit card receivables:

In billions of dollars	**December 31, 2022**	December 31, 2021
Ownership interests in principal amount of trust credit card receivables		
Sold to investors via trust-issued securities	**$ 7.9**	$ 9.7
Retained by Citigroup as trust-issued securities	**6.4**	7.2
Retained by Citigroup via non-certificated interests	**19.5**	16.1
Total	**$ 33.8**	$ 33.0

The following table summarizes selected cash flow information related to Citigroup's credit card securitizations:

In billions of dollars	**2022**	2021	2020
Proceeds from new securitizations	**$ 0.3**	$ —	$ 0.3
Pay down of maturing notes	**(2.1)**	(6.0)	(4.3)

Managed Loans

After securitization of credit card receivables, the Company continues to maintain credit card customer account relationships and provides servicing for receivables transferred to the trusts. As a result, the Company considers the securitized credit card receivables to be part of the business it manages. As Citigroup consolidates the credit card trusts, all managed securitized card receivables are on-balance sheet.

Funding, Liquidity Facilities and Subordinated Interests

As noted above, Citigroup securitizes credit card receivables through two securitization trusts—Master Trust and Omni Trust. The liabilities of the trusts are included on the Consolidated Balance Sheet, excluding those retained by Citigroup.

Master Trust Liabilities (at Par Value)

The Master Trust issues fixed- and floating-rate term notes. Some of the term notes may be issued to multi-seller commercial paper conduits. The weighted average maturity of the third-party term notes issued by the Master Trust was 3.5 years as of December 31, 2022 and 3.6 years as of December 31, 2021.

In billions of dollars	**Dec. 31, 2022**	Dec. 31, 2021
Term notes issued to third parties	**$ 6.3**	$ 8.4
Term notes retained by Citigroup affiliates	**1.6**	2.2
Total Master Trust liabilities	**$ 7.9**	$ 10.6

Omni Trust Liabilities (at Par Value)

The Omni Trust issues fixed- and floating-rate term notes, some of which are purchased by multi-seller commercial paper conduits. The weighted average maturity of the third-party term notes issued by the Omni Trust was 2.2 years as of December 31, 2022 and 1.6 years as of December 31, 2021.

In billions of dollars	**Dec. 31, 2022**	Dec. 31, 2021
Term notes issued to third parties	**$ 1.6**	$ 1.3
Term notes retained by Citigroup affiliates	**4.8**	5.0
Total Omni Trust liabilities	**$ 6.4**	$ 6.3

Mortgage Securitizations

Citigroup provides a wide range of mortgage loan products to a diverse customer base. Once originated, the Company often securitizes these loans through the use of VIEs. These VIEs are funded through the issuance of trust certificates backed solely by the transferred assets. These certificates have the same life as the transferred assets. In addition to providing a source of liquidity and less expensive funding, securitizing these assets also reduces Citi's credit exposure to the borrowers. These mortgage loan securitizations are primarily non-recourse, thereby effectively transferring the risk of future credit losses to the purchasers of the securities issued by the trust.

Citi's U.S. consumer mortgage business generally retains the servicing rights and in certain instances retains investment securities, interest-only strips and residual interests in future cash flows from the trusts and also provides servicing for a limited number of *ICG* securitizations. Citi's *ICG* business may hold investment securities pursuant to credit risk retention rules or in connection with secondary market-making activities.

The Company securitizes mortgage loans generally through either a U.S. government-sponsored agency, such as Ginnie Mae, Fannie Mae or Freddie Mac (U.S. agency-sponsored mortgages), or private label (non-agency-sponsored mortgages) securitization. Citi is not the primary beneficiary of its U.S. agency-sponsored mortgage securitization entities because Citigroup does not have the power to direct the activities of the VIEs that most significantly impact the entities' economic performance. Therefore, Citi does not consolidate these U.S. agency-sponsored mortgage securitization entities. Substantially all of the consumer loans sold or securitized through non-consolidated trusts by Citigroup are U.S. prime residential mortgage loans. Retained interests in non-consolidated agency-sponsored mortgage securitization trusts are classified as *Trading account assets*, except for MSRs, which are included in *Other assets* on Citigroup's Consolidated Balance Sheet.

Citigroup does not consolidate certain non-agency-sponsored mortgage securitization entities because Citi is either not the servicer with the power to direct the significant activities of the entity or Citi is the servicer, but the servicing relationship is deemed to be a fiduciary relationship; therefore, Citi is not deemed to be the primary beneficiary of the entity.

In certain instances, the Company has (i) the power to direct the activities that most significantly impact the entities' economic performance and (ii) the obligation to either absorb losses or the right to receive benefits that could be potentially significant to its non-agency-sponsored mortgage securitization entities and, therefore, is the primary beneficiary and, thus, consolidates the VIE.

The following tables summarize selected cash flow information and retained interests related to Citigroup mortgage securitizations:

	2022		2021		2020	
In billions of dollars	**U.S. agency-sponsored mortgages**	**Non-agency-sponsored mortgages**	U.S. agency-sponsored mortgages	Non-agency-sponsored mortgages	U.S. agency-sponsored mortgages	Non-agency-sponsored mortgages
Principal securitized	**$ 6.9**	**$ 13.9**	$ 6.1	$ 25.2	$ 9.4	$ 11.3
Proceeds from new securitizations	**6.7**	**13.4**	6.4	25.4	10.0	11.4
Contractual servicing fees received	**0.1**	**—**	0.1	—	0.1	—
Cash flows received on retained interests and other net cash flows	**—**	**0.2**	—	0.1	—	—
Purchases of previously transferred financial assets	**0.1**	**—**	0.2	—	0.4	—

Note: Excludes re-securitization transactions.

For non-consolidated mortgage securitization entities where the transfer of loans to the VIE meets the conditions for sale accounting, Citi recognizes a gain or loss based on the difference between the carrying value of the transferred assets and the proceeds received (generally cash but may be beneficial interests or servicing rights).

Agency and non-agency securitization gains for the year ended December 31, 2022 were $1.3 million and $154.8 million, respectively.

Agency and non-agency securitization gains for the year ended December 31, 2021 were $3.9 million and $493.4 million, respectively, and $88.4 million and $139.4 million, respectively, for the year ended December 31, 2020.

	2022			2021		
		Non-agency-sponsored mortgages[1]			Non-agency-sponsored mortgages[1]	
In millions of dollars	**U.S. agency-sponsored mortgages**	**Senior interests[2]**	**Subordinated interests**	U.S. agency-sponsored mortgages	Senior interests	Subordinated interests
Carrying value of retained interests[3]	**$ 659**	**$ 1,119**	**$ 943**	$ 374	$ 1,452	$ 955

(1) Disclosure of non-agency-sponsored mortgages as senior and subordinated interests is indicative of the interests' position in the capital structure of the securitization.
(2) Senior interests in non-agency-sponsored mortgages include $28 million related to personal loan securitizations at December 31, 2022.
(3) Retained interests consist of Level 2 and Level 3 assets depending on the observability of significant inputs. See Note 25 for more information about fair value measurements.

Key assumptions used in measuring the fair value of retained interests at the date of sale or securitization of mortgage receivables were as follows:

	December 31, 2022		
		Non-agency-sponsored mortgages[1]	
	U.S. agency-sponsored mortgages	**Senior interests**	**Subordinated interests**
Weighted average discount rate	**8.8%**	**3.2 %**	**4.1 %**
Weighted average constant prepayment rate	**2.7%**	**6.0 %**	**11.4 %**
Weighted average anticipated net credit losses[2]	**NM**	**2.0 %**	**0.4 %**
Weighted average life	**9.0 years**	**5.5 years**	**5.6 years**

	December 31, 2021		
		Non-agency-sponsored mortgages[1]	
	U.S. agency-sponsored mortgages	Senior interests	Subordinated interests
Weighted average discount rate	8.7%	2.2 %	2.8 %
Weighted average constant prepayment rate	5.5%	6.3 %	11.0 %
Weighted average anticipated net credit losses[2]	NM	1.8 %	1.0 %
Weighted average life	7.4 years	3.9 years	5.4 years

(1) Disclosure of non-agency-sponsored mortgages as senior and subordinated interests is indicative of the interests' position in the capital structure of the securitization.
(2) Anticipated net credit losses represent estimated loss severity associated with defaulted mortgage loans underlying the mortgage securitizations disclosed above. Anticipated net credit losses, in this instance, do not represent total credit losses incurred to date, nor do they represent credit losses expected on retained interests in mortgage securitizations.
NM Anticipated net credit losses are not meaningful due to U.S. agency guarantees.

The interests retained by the Company range from highly rated and/or senior in the capital structure to unrated and/or residual interests. Key assumptions used in measuring the fair value of retained interests in securitizations of mortgage receivables at period end were as follows:

	December 31, 2022		
		Non-agency-sponsored mortgages[1]	
	U.S. agency-sponsored mortgages	**Senior interests**	**Subordinated interests**
Weighted average discount rate	**5.3%**	**13.8%**	**NM**
Weighted average constant prepayment rate	**5.8%**	**4.0%**	**NM**
Weighted average anticipated net credit losses[2]	**NM**	**1.0%**	**NM**
Weighted average life	**7.7 years**	**10.3 years**	**NM**

	December 31, 2021		
		Non-agency-sponsored mortgages[1]	
	U.S. agency-sponsored mortgages	Senior interests	Subordinated interests
Weighted average discount rate	3.7%	16.2%	4.0%
Weighted average constant prepayment rate	14.5%	6.8%	9.0%
Weighted average anticipated net credit losses[2]	NM	1.0%	2.0%
Weighted average life	5.1 years	8.8 years	18.0 years

(1) Disclosure of non-agency-sponsored mortgages as senior and subordinated interests is indicative of the interests' position in the capital structure of the securitization.

(2) Anticipated net credit losses represent estimated loss severity associated with defaulted mortgage loans underlying the mortgage securitizations disclosed above. Anticipated net credit losses, in this instance, do not represent total credit losses incurred to date, nor do they represent credit losses expected on retained interests in mortgage securitizations.

NM Anticipated net credit losses are not meaningful due to U.S. agency guarantees.

The sensitivity of the fair value to adverse changes of 10% and 20% in each of the key assumptions is presented in the tables below. The negative effect of each change is calculated independently, holding all other assumptions constant. Because the key assumptions may not be independent, the net effect of simultaneous adverse changes in the key assumptions may be less than the sum of the individual effects shown below.

	December 31, 2022		
		Non-agency-sponsored mortgages	
In millions of dollars	**U.S. agency-sponsored mortgages**	**Senior interests**	**Subordinated interests**
Discount rate			
Adverse change of 10%	**$ (19)**	**$ —**	**$ —**
Adverse change of 20%	**(37)**	**—**	**—**
Constant prepayment rate			
Adverse change of 10%	**(15)**	**—**	**—**
Adverse change of 20%	**(30)**	**—**	**—**
Anticipated net credit losses			
Adverse change of 10%	**NM**	**—**	**—**
Adverse change of 20%	**NM**	**—**	**—**

	December 31, 2021		
		Non-agency-sponsored mortgages	
In millions of dollars	U.S. agency-sponsored mortgages	Senior interests	Subordinated interests
Discount rate			
Adverse change of 10%	$ (6)	$ (1)	$ —
Adverse change of 20%	(11)	(1)	—
Constant prepayment rate			
Adverse change of 10%	(19)	—	—
Adverse change of 20%	(37)	—	—
Anticipated net credit losses			
Adverse change of 10%	NM	—	—
Adverse change of 20%	NM	—	—

NM Anticipated net credit losses are not meaningful due to U.S. agency guarantees.

The following table includes information about loan delinquencies and liquidation losses for assets held in non-consolidated, non-agency-sponsored securitization entities at December 31:

	Securitized assets		**90 days past due**		**Liquidation losses**	
In billions of dollars, except liquidation losses in millions	**2022**	2021	**2022**	2021	**2022**	2021
Securitized assets						
Residential mortgages[(1)]	**$ 30.8**	$ 29.2	**$ 0.5**	$ 0.4	**$ 2.9**	$ 10.6
Commercial and other	**28.8**	26.2	**—**	—	**—**	—
Total	**$ 59.6**	$ 55.4	**$ 0.5**	$ 0.4	**$ 2.9**	$ 10.6

(1) Securitized assets include $0.1 billion of personal loan securitizations as of December 31, 2022.

Mortgage Servicing Rights (MSRs)

In connection with the securitization of mortgage loans, Citi's U.S. consumer mortgage business generally retains the servicing rights, which entitle the Company to a future stream of cash flows based on the outstanding principal balances of the loans and the contractual servicing fee. Failure to service the loans in accordance with contractual requirements may lead to a termination of the servicing rights and the loss of future servicing fees.

These transactions create intangible assets referred to as MSRs, which are recorded at fair value on Citi's Consolidated Balance Sheet. The fair value of Citi's capitalized MSRs was $665 million and $404 million at December 31, 2022 and 2021, respectively. The MSRs correspond to principal loan balances of $51 billion and $47 billion as of December 31, 2022 and 2021, respectively.

The following table summarizes the changes in capitalized MSRs:

In millions of dollars	**2022**	2021
Balance, beginning of year	**$ 404**	$ 336
Originations	**120**	92
Changes in fair value of MSRs due to changes in inputs and assumptions	**201**	43
Other changes[(1)]	**(60)**	(67)
Sales of MSRs	**—**	—
Balance, as of December 31	**$ 665**	$ 404

(1) Represents changes due to customer payments and passage of time.

The fair value of the MSRs is primarily affected by changes in prepayments of mortgages that result from shifts in mortgage interest rates. Specifically, higher interest rates tend to lead to declining prepayments, which causes the fair value of the MSRs to increase. In managing this risk, Citigroup economically hedges a significant portion of the value of its MSRs through the use of interest rate derivative contracts, forward purchase and sale commitments of mortgage-backed securities and purchased securities, all classified as *Trading account assets*.

The Company receives fees during the course of servicing previously securitized mortgages. The amounts of these fees were as follows:

In millions of dollars	**2022**	2021	2020
Servicing fees	**$ 122**	$ 131	$ 142
Late fees	**4**	3	5
Total MSR fees	**$ 126**	$ 134	$ 147

In the Consolidated Statement of Income these fees are primarily classified as *Commissions and fees*, and changes in MSR fair values are classified as *Other revenue*.

Re-securitizations

The Company engages in re-securitization transactions in which debt securities are transferred to a VIE in exchange for new beneficial interests. Citi did not transfer non-agency (private label) securities to re-securitization entities during the years ended December 31, 2022 and 2021. These securities are backed by either residential or commercial mortgages and are often structured on behalf of clients.

As of December 31, 2022 and 2021, Citi held no retained interests in private label re-securitization transactions structured by Citi.

The Company also re-securitizes U.S. government-agency-guaranteed mortgage-backed (agency) securities. During the years ended December 31, 2022 and 2021, Citi transferred agency securities with a fair value of approximately $24.1 billion and $46.6 billion, respectively, to re-securitization entities.

As of December 31, 2022, the fair value of Citi-retained interests in agency re-securitization transactions structured by Citi totaled approximately $1.4 billion (including $802 million related to re-securitization transactions executed in 2022) compared to $1.2 billion as of December 31, 2021 (including $641 million related to re-securitization transactions executed in 2021), which is recorded in *Trading account assets*. The original fair values of agency re-securitization transactions in which Citi holds a retained interest as of December 31, 2022 and 2021 were approximately $79.4 billion and $78.4 billion, respectively.

As of December 31, 2022 and 2021, the Company did not consolidate any private label or agency re-securitization entities.

Citi-Administered Asset-Backed Commercial Paper Conduits

The Company is active in the asset-backed commercial paper conduit business as administrator of several multi-seller commercial paper conduits and also as a service provider to single-seller and other commercial paper conduits sponsored by third parties.

Citi's multi-seller commercial paper conduits are designed to provide the Company's clients access to low-cost funding in the commercial paper markets. The conduits purchase assets from or provide financing facilities to clients and are funded by issuing commercial paper to third-party investors. The conduits generally do not purchase assets originated by Citi. The funding of the conduits is facilitated by the liquidity support and credit enhancements provided by the Company.

As administrator to Citi's conduits, the Company is generally responsible for selecting and structuring assets purchased or financed by the conduits, making decisions regarding the funding of the conduits, including determining the tenor and other features of the commercial paper issued, monitoring the quality and performance of the conduits' assets and facilitating the operations and cash flows of the conduits. In return, the Company earns structuring fees from customers for individual transactions and earns an administration fee from the conduit, which is equal to the income from the client program and liquidity fees of the conduit after payment of conduit expenses. This administration fee is fairly stable, since most risks and rewards of the underlying assets are passed back to the clients. Once the asset pricing is negotiated, most ongoing income, costs and fees are relatively stable as a percentage of the conduit's size.

The conduits administered by Citi do not generally invest in liquid securities that are formally rated by third parties. The

assets are privately negotiated and structured transactions that are generally designed to be held by the conduit, rather than actively traded and sold. The yield earned by the conduit on each asset is generally tied to the rate on the commercial paper issued by the conduit, thus passing interest rate risk to the client. Each asset purchased by the conduit is structured with transaction-specific credit enhancement features provided by the third-party client seller, including over-collateralization, cash and excess spread collateral accounts, direct recourse or third-party guarantees. These credit enhancements are sized with the objective of approximating a credit rating of A or above, based on Citi's internal risk ratings. At December 31, 2022 and 2021, the commercial paper conduits administered by Citi had approximately $19.6 billion and $14 billion of purchased assets outstanding, respectively, and had incremental funding commitments with clients of approximately $13.9 billion and $18.3 billion, respectively.

Substantially all of the funding of the conduits is in the form of short-term commercial paper. At December 31, 2022 and 2021, the weighted average remaining lives of the commercial paper issued by the conduits were approximately 64 and 70 days, respectively.

The primary credit enhancement provided to the conduit investors is in the form of transaction-specific credit enhancements described above. Each asset purchased by the conduit is structured with transaction-specific credit enhancement features provided by the third-party client seller, including over-collateralization, cash and excess spread collateral accounts, direct recourse or third-party guarantees. These credit enhancements are sized with the objective of approximating a credit rating of A or above, based on Citi's internal risk ratings. In addition to the transaction-specific credit enhancements, the conduits, other than the government-guaranteed loan conduit, have obtained letters of credit from the Company, which equal at least 8% to 10% of the conduit's assets with a minimum of $200 million. The letters of credit provided by the Company to the conduits total approximately $1.9 billion as of December 31, 2022 and $1.3 billion as of December 31, 2021. The net result across multiseller conduits administered by the Company is that, in the event that defaulted assets exceed the transaction-specific credit enhancements described above, any losses in each conduit are allocated first to the Company and then to the commercial paper investors.

Citigroup also provides the conduits with two forms of liquidity agreements that are used to provide funding to the conduits in the event of a market disruption, among other events. Each asset of the conduits is supported by a transaction-specific liquidity facility in the form of an asset purchase agreement (APA). Under the APA, the Company has generally agreed to purchase non-defaulted eligible receivables from the conduit at par. The APA is not designed to provide credit support to the conduit, as it generally does not permit the purchase of defaulted or impaired assets. Any funding under the APA will likely subject the underlying conduit clients to increased interest costs. In addition, the Company provides the conduits with program-wide liquidity in the form of short-term lending commitments. Under these commitments, the Company has agreed to lend to the conduits in the event of a short-term disruption in the commercial paper market, subject to specified conditions. The Company receives fees for providing both types of liquidity agreements and considers these fees to be on fair market terms.

Finally, Citi is one of several named dealers in the commercial paper issued by the conduits and earns a market-based fee for providing such services. Along with third-party dealers, the Company makes a market in the commercial paper and may from time to time fund commercial paper pending sale to a third party. On specific dates with less liquidity in the market, the Company may hold in inventory commercial paper issued by conduits administered by the Company, as well as conduits administered by third parties. Separately, in the normal course of business, Citi purchases commercial paper, including commercial paper issued by Citigroup's conduits. At December 31, 2022 and 2021, the Company owned $8.6 billion and $4.9 billion, respectively, of the commercial paper issued by its administered conduits. The Company's investments were not driven by market illiquidity and the Company is not obligated under any agreement to purchase the commercial paper issued by the conduits.

The asset-backed commercial paper conduits are consolidated by Citi. The Company has determined that, through its roles as administrator and liquidity provider, it has the power to direct the activities that most significantly impact the entities' economic performance. These powers include its ability to structure and approve the assets purchased by the conduits, its ongoing surveillance and credit mitigation activities, its ability to sell or repurchase assets out of the conduits and its liability management. In addition, as a result of all the Company's involvement described above, it was concluded that Citi has an economic interest that could potentially be significant. However, the assets and liabilities of the conduits are separate and apart from those of Citigroup. No assets of any conduit are available to satisfy the creditors of Citigroup or any of its other subsidiaries.

Collateralized Loan Obligations (CLOs)

A collateralized loan obligation (CLO) is a VIE that purchases a portfolio of assets consisting primarily of non-investment grade corporate loans. CLOs issue multiple tranches of debt and equity to investors to fund the asset purchases and pay upfront expenses associated with forming the CLO. A third-party asset manager is contracted by the CLO to purchase the underlying assets from the open market and monitor the credit risk associated with those assets. Over the term of a CLO, the asset manager directs purchases and sales of assets in a manner consistent with the CLO's asset management agreement and indenture. In general, the CLO asset manager will have the power to direct the activities of the entity that most significantly impact the economic performance of the CLO. Investors in a CLO, through their ownership of debt and/or equity in it, can also direct certain activities of the CLO, including removing its asset manager under limited circumstances, optionally redeeming the notes, voting on amendments to the CLO's operating documents and other activities. A CLO has a finite life, typically 12 years.

Citi serves as a structuring and placement agent with respect to the CLOs. Typically, the debt and equity of the CLOs are sold to third-party investors. On occasion, certain Citi entities may purchase some portion of a CLO's liabilities

for investment purposes. In addition, Citi may purchase, typically in the secondary market, certain securities issued by the CLOs to support its market-making activities.

The Company generally does not have the power to direct the activities that most significantly impact the economic performance of the CLOs, as this power is generally held by a third-party asset manager of the CLO. As such, those CLOs are not consolidated.

The following tables summarize selected cash flow information and retained interests related to Citigroup CLOs:

In billions of dollars	**2022**	2021	2020
Principal securitized	**$ —**	$ —	$ 0.1
Proceeds from new securitizations	**—**	—	0.1
Cash flows received on retained interests and other net cash flows	**0.3**	1.1	—
Purchases of previously transferred financial assets	**—**	0.2	—

In millions of dollars	**Dec. 31, 2022**	Dec. 31, 2021	Dec. 31, 2020
Carrying value of retained interests	**$ 681**	$ 921	$ 1,611

All of Citi's retained interests were held-to-maturity securities as of December 31, 2022 and 2021.

Asset-Based Financing

The Company provides loans and other forms of financing to VIEs that hold assets. Those loans are subject to the same credit approvals as all other loans originated or purchased by the Company. Financings in the form of debt securities or derivatives are, in most circumstances, reported in *Trading account assets* and accounted for at fair value through earnings. The Company generally does not have the power to direct the activities that most significantly impact these VIEs' economic performance; thus, it does not consolidate them.

The primary types of Citi's asset-based financings, total assets of the unconsolidated VIEs with significant involvement and Citi's maximum exposure to loss are shown below. For Citi to realize the maximum loss, the VIE (borrower) would have to default with no recovery from the assets held by the VIE.

	December 31, 2022	
In millions of dollars	**Total unconsolidated VIE assets**	**Maximum exposure to unconsolidated VIEs**
Type		
Commercial and other real estate	**$ 43,236**	**$ 8,806**
Corporate loans	**23,120**	**15,077**
Other (including investment funds, airlines and shipping)	**166,320**	**27,986**
Total	**$ 232,676**	**$ 51,869**

	December 31, 2021	
In millions of dollars	Total unconsolidated VIE assets	Maximum exposure to unconsolidated VIEs
Type		
Commercial and other real estate	$ 32,932	$ 7,461
Corporate loans	18,257	12,581
Other (including investment funds, airlines and shipping)	184,358	25,528
Total	$ 235,547	$ 45,570

Municipal Securities Tender Option Bond (TOB) Trusts

Municipal TOB trusts may hold fixed- or floating-rate, taxable or tax-exempt securities issued by state and local governments and municipalities. TOB trusts are typically structured as single-issuer entities whose assets are purchased from either the Company or from other investors in the municipal securities market. TOB trusts finance the purchase of their municipal assets by issuing two classes of certificates: long-dated, floating rate certificates ("Floaters") that are putable pursuant to a liquidity facility and residual interest certificates ("Residuals"). The Floaters are purchased by third-party investors, typically tax-exempt money market funds. The Residuals are purchased by the original owner of the municipal securities that are being financed.

From Citigroup's perspective, there are two types of TOB trusts: customer and non-customer. Customer TOB trusts are those trusts utilized by customers of the Company to finance their securities, generally municipal securities. The Residuals issued by these trusts are purchased by the customer being financed. Non-customer TOB trusts are generally used by the Company to finance its own municipal securities investments; the Residuals issued by non-customer TOB trusts are purchased by the Company.

With respect to both customer and non-customer TOB trusts, Citi may provide remarketing agent services. If Floaters are optionally tendered and the Company, in its role as remarketing agent, is unable to find a new investor to purchase the optionally tendered Floaters within a specified period of time, Citigroup may, but is not obligated to, purchase the tendered Floaters into its own inventory. The level of the Company's inventory of such Floaters fluctuates.

For certain customer TOB trusts, Citi may also serve as a voluntary advance provider. In this capacity, the Company may, but is not obligated to, make loan advances to customer TOB trusts to purchase optionally tendered Floaters that have not otherwise been successfully remarketed to new investors. Such loans are secured by pledged Floaters. As of December 31, 2022, Citi had no outstanding voluntary advances to customer TOB trusts.

For certain non-customer trusts, the Company also provides credit enhancement. At December 31, 2022 and 2021, none of the municipal bonds owned by non-customer TOB trusts were subject to a credit guarantee provided by the Company.

Citigroup also provides liquidity services to many customer and non-customer trusts. If a trust is unwound early due to an event other than a credit event on the underlying municipal bonds, the underlying municipal bonds are sold out of the trust and bond sale proceeds are used to redeem the outstanding trust certificates. If this results in a shortfall between the bond sale proceeds and the redemption price of the tendered Floaters, the Company, pursuant to the liquidity agreement, would be obligated to make a payment to the trust to satisfy that shortfall. For certain customer TOB trusts, Citigroup has also executed a reimbursement agreement with the holder of the Residual, pursuant to which the Residual holder is obligated to reimburse the Company for any payment the Company makes under the liquidity arrangement. These reimbursement agreements may be subject to daily margining based on changes in the market value of the underlying municipal bonds. In cases where a third party provides liquidity to a non-customer TOB trust, a similar reimbursement arrangement may be executed, whereby the Company (or a consolidated subsidiary of the Company), as Residual holder, would absorb any losses incurred by the liquidity provider.

For certain other non-customer TOB trusts, Citi serves as tender option provider. The tender option provider arrangement allows Floater holders to put their interests directly to the Company at any time, subject to the requisite notice period requirements, at a price of par.

At December 31, 2022 and 2021, liquidity agreements provided with respect to customer TOB trusts totaled $1.1 billion and $1.5 billion, respectively, of which $0.7 billion and $0.6 billion, respectively, were offset by reimbursement agreements. For the remaining exposure related to TOB transactions, where the residual owned by the customer was at least 25% of the bond value at the inception of the transaction, no reimbursement agreement was executed.

Citi considers both customer and non-customer TOB trusts to be VIEs. Customer TOB trusts are not consolidated by the Company, as the power to direct the activities that most significantly impact the trust's economic performance rests with the customer Residual holder, which may unilaterally cause the sale of the trust's bonds.

Non-customer TOB trusts generally are consolidated because the Company holds the Residual interest and thus has the unilateral power to cause the sale of the trust's bonds.

The Company also provides other liquidity agreements or letters of credit to customer-sponsored municipal investment funds, which are not variable interest entities, and municipality-related issuers that totaled $1.4 billion as of December 31, 2022 and $2 billion as of December 31, 2021. These liquidity agreements and letters of credit are offset by reimbursement agreements with various term-out provisions.

Municipal Investments

Municipal investment transactions include debt and equity interests in partnerships that finance the construction and rehabilitation of low-income housing, facilitate lending in new or underserved markets or finance the construction or operation of renewable municipal energy facilities. Citi generally invests in these partnerships as a limited partner and earns a return primarily through the receipt of tax credits and grants earned from the investments made by the partnership. The Company may also provide construction loans or permanent loans for the development or operation of real estate properties held by partnerships. These entities are generally considered VIEs. The power to direct the activities of these entities is typically held by the general partner. Accordingly, these entities are not consolidated by Citigroup.

Client Intermediation

Client intermediation transactions represent a range of transactions designed to provide investors with specified returns based on the returns of an underlying security, referenced asset or index. These transactions include credit-linked notes and equity-linked notes. In these transactions, the VIE typically obtains exposure to the underlying security, referenced asset or index through a derivative instrument, such as a total-return swap or a credit-default swap. In turn, the VIE issues notes to investors that pay a return based on the specified underlying security, referenced asset or index. The VIE invests the proceeds in a financial asset or a guaranteed insurance contract that serves as collateral for the derivative contract over the term of the transaction. The Company's involvement in these transactions includes being the counterparty to the VIE's derivative instruments and investing in a portion of the notes issued by the VIE. In certain transactions, the investor's maximum risk of loss is limited and the Company absorbs risk of loss above a specified level. Citi does not have the power to direct the activities of the VIEs that most significantly impact their economic performance and thus it does not consolidate them.

Citi's maximum risk of loss in these transactions is defined as the amount invested in notes issued by the VIE and the notional amount of any risk of loss absorbed by Citi through a separate instrument issued by the VIE. The derivative instrument held by the Company may generate a receivable from the VIE (e.g., where the Company purchases credit protection from the VIE in connection with the VIE's issuance of a credit-linked note), which is collateralized by the assets owned by the VIE. These derivative instruments are not considered variable interests and any associated receivables are not included in the calculation of maximum exposure to the VIE.

Investment Funds

The Company is the investment manager for certain investment funds and retirement funds that invest in various asset classes including private equity, hedge funds, real estate, fixed income and infrastructure. Citigroup earns a management fee, which is a percentage of capital under management, and may earn performance fees. In addition, for some of these funds the Company has an ownership interest in the investment funds. Citi has also established a number of investment funds as opportunities for qualified employees to invest in private equity investments. The Company acts as investment manager for these funds and may provide employees with financing on both recourse and non-recourse bases for a portion of the employees' investment commitments.

23. DERIVATIVES

In the ordinary course of business, Citigroup enters into various types of derivative transactions, which include:

- *Futures and forward contracts*, which are commitments to buy or sell at a future date a financial instrument, commodity or currency at a contracted price that may be settled in cash or through delivery of an item readily convertible to cash.
- *Swap contracts*, which are commitments to settle in cash at a future date or dates that may range from a few days to a number of years, based on differentials between specified indices or financial instruments, as applied to a notional principal amount.
- *Option contracts*, which give the purchaser, for a premium, the right, but not the obligation, to buy or sell within a specified time a financial instrument, commodity or currency at a contracted price that may also be settled in cash, based on differentials between specified indices or prices.

Swaps, forwards and some option contracts are over-the-counter (OTC) derivatives that are bilaterally negotiated with counterparties and settled with those counterparties, except for swap contracts that are novated and "cleared" through central counterparties (CCPs). Futures contracts and other option contracts are standardized contracts that are traded on an exchange with a CCP as the counterparty from the inception of the transaction. Citigroup enters into derivative contracts relating to interest rate, foreign currency, commodity and other market/credit risks for the following reasons:

- *Trading Purposes*: Citigroup trades derivatives as an active market maker. Citigroup offers its customers derivatives in connection with their risk management actions to transfer, modify or reduce their interest rate, foreign exchange and other market/credit risks or for their own trading purposes. Citigroup also manages its derivative risk positions through offsetting trade activities, controls focused on price verification and daily reporting of positions to senior managers.
- *Hedging*: Citigroup uses derivatives in connection with its own risk management activities to hedge certain risks or reposition the risk profile of the Company. Hedging may be accomplished by applying hedge accounting in accordance with ASC 815, *Derivatives and Hedging*. For example, Citigroup issues fixed-rate long-term debt and then enters into a receive-fixed, pay-variable-rate interest rate swap with the same tenor and notional amount to synthetically convert the interest payments to a net variable-rate basis. This strategy is the most common form of an interest rate hedge, as it minimizes net interest cost in certain yield curve environments. Derivatives are also used to manage market risks inherent in specific groups of on-balance sheet assets and liabilities, including AFS securities, commodities and borrowings, as well as other interest-sensitive assets and liabilities. In addition, foreign exchange contracts are used to hedge non-U.S.-dollar-denominated debt, foreign currency-denominated AFS securities and net investment exposures.

Derivatives may expose Citigroup to market, credit or liquidity risks in excess of the amounts recorded on the Consolidated Balance Sheet. Market risk on a derivative product is the exposure created by potential fluctuations in interest rates, market prices, foreign exchange rates and other factors and is a function of the type of product, the volume of transactions, the tenor and terms of the agreement and the underlying volatility. Credit risk is the exposure to loss in the event of nonperformance by the other party to satisfy a derivative liability where the value of any collateral held by Citi is not adequate to cover such losses. The recognition in earnings of unrealized gains on derivative transactions is subject to management's assessment of the probability of counterparty default. Liquidity risk is the potential exposure that arises when the size of a derivative position may affect the ability to monetize the position in a reasonable period of time and at a reasonable cost in periods of high volatility and financial stress.

Derivative transactions are customarily documented under industry standard master netting agreements, which provide that following an event of default, the non-defaulting party may promptly terminate all transactions between the parties and determine the net amount due to be paid to, or by, the defaulting party. Events of default include (i) failure to make a payment on a derivative transaction that remains uncured following applicable notice and grace periods, (ii) breach of agreement that remains uncured after applicable notice and grace periods, (iii) breach of a representation, (iv) cross default, either to third-party debt or to other derivative transactions entered into between the parties, or, in some cases, their affiliates, (v) the occurrence of a merger or consolidation that results in the creditworthiness of a party becoming materially weaker and (vi) the cessation or repudiation of any applicable guarantee or other credit support document. Obligations under master netting agreements are often secured by collateral posted under an industry standard credit support annex to the master netting agreement. An event of default may also occur under a credit support annex if a party fails to make a collateral delivery that remains uncured following applicable notice and grace periods.

The netting and collateral rights incorporated in the master netting agreements are considered to be legally enforceable if a supportive legal opinion has been obtained from counsel of recognized standing that provides (i) the requisite level of certainty regarding enforceability and (ii) that the exercise of rights by the non-defaulting party to terminate and close-out transactions on a net basis under these agreements will not be stayed or avoided under applicable law upon an event of default, including bankruptcy, insolvency or similar proceeding.

A legal opinion may not be sought for certain jurisdictions where local law is silent or unclear as to the enforceability of such rights or where adverse case law or conflicting regulation may cast doubt on the enforceability of such rights. In some jurisdictions and for some counterparty types, the insolvency law may not provide the requisite level of certainty. For example, this may be the case for certain sovereigns, municipalities, central banks and U.S. pension plans.

Exposure to credit risk on derivatives is affected by market volatility, which may impair the ability of counterparties to satisfy their obligations to the Company. Credit limits are established and closely monitored for customers engaged in derivatives transactions. Citi considers the level of legal certainty regarding enforceability of its offsetting rights under master netting agreements and credit support annexes to be an important factor in its risk management process. Specifically, Citi generally transacts much lower volumes of derivatives under master netting agreements where Citi does not have the requisite level of legal certainty regarding enforceability, because such derivatives consume greater amounts of single counterparty credit limits than those executed under enforceable master netting agreements.

Cash collateral and security collateral in the form of G10 government debt securities are often posted by a party to a master netting agreement to secure the net open exposure of the other party; the receiving party is free to commingle/rehypothecate such collateral in the ordinary course of its business. Nonstandard collateral such as corporate bonds, municipal bonds, U.S. agency securities and/or MBS may also be pledged as collateral for derivative transactions. Security collateral posted to open and maintain a master netting agreement with a counterparty, in the form of cash and/or securities, may from time to time be segregated in an account at a third-party custodian pursuant to a tri-party account control agreement.

Information pertaining to Citigroup's derivatives activities, based on notional amounts, is presented in the table below. Derivative notional amounts are reference amounts from which contractual payments are derived and do not represent a complete measure of Citi's exposure to derivative transactions. Citi's derivative exposure arises primarily from market fluctuations (i.e., market risk), counterparty failure (i.e., credit risk) and/or periods of high volatility or financial stress (i.e., liquidity risk), as well as any market valuation adjustments that may be required on the transactions. Moreover, notional amounts do not reflect the netting of offsetting trades. For example, if Citi enters into a receive-fixed interest rate swap with $100 million notional, and offsets this risk with an identical but opposite pay-fixed position with a different counterparty, $200 million in derivative notionals is reported, although these offsetting positions may result in de minimis overall market risk.

In addition, aggregate derivative notional amounts can fluctuate from period to period in the normal course of business based on Citi's market share, levels of client activity and other factors. All derivatives are recorded in *Trading account assets/Trading account liabilities* on the Consolidated Balance Sheet.

Derivative Notionals

In millions of dollars	Hedging instruments under ASC 815		Trading derivative instruments	
	December 31, 2022	December 31, 2021	**December 31, 2022**	December 31, 2021
Interest rate contracts				
Swaps	**$ 255,280**	$ 267,035	**$ 23,780,711**	$ 21,873,538
Futures and forwards	**—**	—	**2,966,025**	2,383,702
Written options	**—**	—	**1,937,025**	1,584,451
Purchased options	**—**	—	**1,881,291**	1,428,376
Total interest rate contracts	**$ 255,280**	$ 267,035	**$ 30,565,052**	$ 27,270,067
Foreign exchange contracts				
Swaps	**$ 48,678**	$ 47,298	**$ 6,746,070**	$ 6,288,193
Futures, forwards and spot	**43,666**	50,926	**3,350,341**	4,316,242
Written options	**—**	—	**789,077**	664,942
Purchased options	**—**	—	**783,591**	651,958
Total foreign exchange contracts	**$ 92,344**	$ 98,224	**$ 11,669,079**	$ 11,921,335
Equity contracts				
Swaps	**$ —**	$ —	**$ 266,115**	$ 269,062
Futures and forwards	**—**	—	**76,935**	71,363
Written options	**—**	—	**482,266**	492,433
Purchased options	**—**	—	**387,766**	398,129
Total equity contracts	**$ —**	$ —	**$ 1,213,082**	$ 1,230,987
Commodity and other contracts				
Swaps	**$ —**	$ —	**$ 90,884**	$ 91,962
Futures and forwards	**1,571**	2,096	**165,314**	157,195
Written options	**—**	—	**45,862**	51,224
Purchased options	**—**	—	**48,197**	47,868
Total commodity and other contracts	**$ 1,571**	$ 2,096	**$ 350,257**	$ 348,249
Credit derivatives[(1)]				
Protection sold	**$ —**	$ —	**$ 593,136**	$ 572,486
Protection purchased	**—**	—	**641,639**	645,996
Total credit derivatives	**$ —**	$ —	**$ 1,234,775**	$ 1,218,482
Total derivative notionals	**$ 349,195**	$ 367,355	**$ 45,032,245**	$ 41,989,120

(1) Credit derivatives are arrangements designed to allow one party (protection purchaser) to transfer the credit risk of a "reference asset" to another party (protection seller). These arrangements allow a protection seller to assume the credit risk associated with the reference asset without directly purchasing that asset. The Company enters into credit derivative positions for purposes such as risk management, yield enhancement, reduction of credit concentrations and diversification of overall risk.

The following tables present the gross and net fair values of the Company's derivative transactions and the related offsetting amounts as of December 31, 2022 and 2021. Gross positive fair values are offset against gross negative fair values by counterparty, pursuant to enforceable master netting agreements. Under ASC 815-10-45, payables and receivables in respect of cash collateral received from or paid to a given counterparty pursuant to a credit support annex are included in the offsetting amount if a legal opinion supporting the enforceability of netting and collateral rights has been obtained. GAAP does not permit similar offsetting for security collateral.

In addition, the following tables reflect rule changes adopted by clearing organizations that require or allow entities to treat certain derivative assets, liabilities and the related variation margin as settlement of the related derivative fair values for legal and accounting purposes, as opposed to presenting gross derivative assets and liabilities that are subject to collateral, whereby the counterparties would also record a related collateral payable or receivable. The tables also present amounts that are not permitted to be offset, such as security collateral or cash collateral posted at third-party custodians, but which would be eligible for offsetting to the extent that an event of default has occurred and a legal opinion supporting enforceability of the netting and collateral rights has been obtained.

Derivative Mark-to-Market (MTM) Receivables/Payables

In millions of dollars at December 31, 2022	Derivatives classified in Trading account assets/liabilities[1][2]	
Derivatives instruments designated as ASC 815 hedges	**Assets**	**Liabilities**
Over-the-counter	**$ 468**	**$ 1**
Cleared	**129**	**101**
Interest rate contracts	**$ 597**	**$ 102**
Over-the-counter	**$ 2,288**	**$ 1,766**
Cleared	**3**	**3**
Foreign exchange contracts	**$ 2,291**	**$ 1,769**
Total derivatives instruments designated as ASC 815 hedges	**$ 2,888**	**$ 1,871**
Derivatives instruments not designated as ASC 815 hedges		
Over-the-counter	**$ 126,844**	**$ 119,854**
Cleared	**50,515**	**52,566**
Exchange traded	**248**	**98**
Interest rate contracts	**$ 177,607**	**$ 172,518**
Over-the-counter	**$ 184,869**	**$ 183,578**
Cleared	**502**	**643**
Exchange traded	**1**	**5**
Foreign exchange contracts	**$ 185,372**	**$ 184,226**
Over-the-counter	**$ 19,674**	**$ 21,871**
Cleared	**1**	**4**
Exchange traded	**22,732**	**21,908**
Equity contracts	**$ 42,407**	**$ 43,783**
Over-the-counter	**$ 27,285**	**$ 24,912**
Exchange traded	**1,039**	**1,406**
Commodity and other contracts	**$ 28,324**	**$ 26,318**
Over-the-counter	**$ 6,836**	**$ 5,807**
Cleared	**1,553**	**1,970**
Credit derivatives	**$ 8,389**	**$ 7,777**
Total derivatives instruments not designated as ASC 815 hedges	**$ 442,099**	**$ 434,622**
Total derivatives	**$ 444,987**	**$ 436,493**
Less: Netting agreements[3]	**$ (346,545)**	**$ (346,545)**
Less: Netting cash collateral received/paid[4]	**(23,136)**	**(30,032)**
Net receivables/payables included on the Consolidated Balance Sheet[5]	**$ 75,306**	**$ 59,916**
Additional amounts subject to an enforceable master netting agreement, but not offset on the Consolidated Balance Sheet		
Less: Cash collateral received/paid	**$ (1,455)**	**$ (2,272)**
Less: Non-cash collateral received/paid	**(5,923)**	**(13,475)**
Total net receivables/payables[5]	**$ 67,928**	**$ 44,169**

(1) The derivatives fair values are also presented in Note 25.

(2) Over-the-counter (OTC) derivatives are derivatives executed and settled bilaterally with counterparties without the use of an organized exchange or central clearing house. Cleared derivatives include derivatives executed bilaterally with a counterparty in the OTC market, but then novated to a central clearing house, whereby the central clearing house becomes the counterparty to both of the original counterparties. Exchange-traded derivatives include derivatives executed directly on an organized exchange that provides pre-trade price transparency.

(3) Represents the netting of balances with the same counterparty under enforceable netting agreements. Approximately $276 billion, $49 billion and $22 billion of the netting against trading account asset/liability balances is attributable to each of the OTC, cleared and exchange-traded derivatives, respectively.

(4) Represents the netting of cash collateral paid and received by counterparties under enforceable credit support agreements. Substantially all netting of cash collateral received and paid is against OTC derivative assets and liabilities, respectively.

(5) The net receivables/payables include approximately $14 billion of derivative asset and $11 billion of derivative liability fair values not subject to enforceable master netting agreements, respectively.

In millions of dollars at December 31, 2021	Derivatives classified in Trading account assets/liabilities[1][2]	
Derivatives instruments designated as ASC 815 hedges	Assets	Liabilities
Over-the-counter	$ 1,167	$ 6
Cleared	122	89
Interest rate contracts	$ 1,289	$ 95
Over-the-counter	$ 1,338	$ 1,472
Cleared	6	—
Foreign exchange contracts	$ 1,344	$ 1,472
Total derivatives instruments designated as ASC 815 hedges	$ 2,633	$ 1,567
Derivatives instruments not designated as ASC 815 hedges		
Over-the-counter	$ 152,524	$ 138,114
Cleared	11,579	11,821
Exchange traded	96	44
Interest rate contracts	$ 164,199	$ 149,979
Over-the-counter	$ 133,357	$ 133,548
Cleared	848	278
Foreign exchange contracts	$ 134,205	$ 133,826
Over-the-counter	$ 23,452	$ 28,352
Cleared	19	—
Exchange traded	21,781	21,332
Equity contracts	$ 45,252	$ 49,684
Over-the-counter	$ 29,279	$ 29,833
Exchange traded	1,065	1,546
Commodity and other contracts	$ 30,344	$ 31,379
Over-the-counter	$ 6,896	$ 6,959
Cleared	3,322	4,056
Credit derivatives	$ 10,218	$ 11,015
Total derivatives instruments not designated as ASC 815 hedges	$ 384,218	$ 375,883
Total derivatives	$ 386,851	$ 377,450
Less: Netting agreements[3]	$ (292,628)	$ (292,628)
Less: Netting cash collateral received/paid[4]	(24,447)	(29,306)
Net receivables/payables included on the Consolidated Balance Sheet[5]	$ 69,776	$ 55,516
Additional amounts subject to an enforceable master netting agreement, but not offset on the Consolidated Balance Sheet		
Less: Cash collateral received/paid	$ (907)	$ (538)
Less: Non-cash collateral received/paid	(5,777)	(13,607)
Total net receivables/payables[5]	$ 63,092	$ 41,371

(1) The derivative fair values are also presented in Note 25.

(2) Over-the-counter (OTC) derivatives are derivatives executed and settled bilaterally with counterparties without the use of an organized exchange or central clearing house. Cleared derivatives include derivatives executed bilaterally with a counterparty in the OTC market, but then novated to a central clearing house, whereby the central clearing house becomes the counterparty to both of the original counterparties. Exchange-traded derivatives include derivatives executed directly on an organized exchange that provides pre-trade price transparency.

(3) Represents the netting of balances with the same counterparty under enforceable netting agreements. Approximately $259 billion, $14 billion and $20 billion of the netting against trading account asset/liability balances is attributable to each of the OTC, cleared and exchange-traded derivatives, respectively.

(4) Represents the netting of cash collateral paid and received by counterparties under enforceable credit support agreements. Substantially all netting of cash collateral received and paid is against OTC derivative assets and liabilities, respectively.

(5) The net receivables/payables include approximately $10 billion of derivative asset and $11 billion of derivative liability fair values not subject to enforceable master netting agreements, respectively.

For the years ended December 31, 2022, 2021 and 2020, amounts recognized in *Principal transactions* in the Consolidated Statement of Income include certain derivatives not designated in a qualifying hedging relationship. Citigroup presents this disclosure by business classification, showing derivative gains and losses related to its trading activities together with gains and losses related to non-derivative instruments within the same trading portfolios, as this represents how these portfolios are risk managed. See Note 6 for further information.

The amounts recognized in *Other revenue* in the Consolidated Statement of Income related to derivatives not designated in a qualifying hedging relationship are shown below. The table below does not include any offsetting gains (losses) on the economically hedged items to the extent that such amounts are also recorded in *Other revenue*:

	Gains (losses) included in Other revenue		
	Year ended December 31,		
In millions of dollars	**2022**	2021	2020
Interest rate contracts	**$ 141**	$ (70)	$ 63
Foreign exchange	**(56)**	(102)	(57)
Total	**$ 85**	$ (172)	$ 6

Accounting for Derivative Hedging

Citigroup accounts for its hedging activities in accordance with ASC 815, *Derivatives and Hedging*. As a general rule, hedge accounting is permitted where the Company is exposed to a particular risk, such as interest rate or foreign exchange risk, that causes changes in the fair value of an asset or liability or variability in the expected future cash flows of an existing asset, liability or a forecasted transaction that may affect earnings.

Derivative contracts hedging the risks associated with changes in fair value are referred to as fair value hedges, while contracts hedging the variability of expected future cash flows are cash flow hedges. Hedges that utilize derivatives or debt instruments to manage the foreign exchange risk associated with equity investments in non-U.S.-dollar-functional-currency foreign subsidiaries (i.e., net investment in a foreign operation) are net investment hedges.

To qualify as an accounting hedge under the hedge accounting rules (versus an economic hedge where hedge accounting is not applied), a hedging relationship must be highly effective in offsetting the risk designated as being hedged. The hedging relationship must be formally documented at inception, detailing the particular risk management objective and strategy for the hedge. This includes the item and risk(s) being hedged, the hedging instrument being used and how effectiveness will be assessed. The effectiveness of these hedging relationships is evaluated at hedge inception and on an ongoing basis both on a retrospective and prospective basis, typically using quantitative measures of correlation, with hedge ineffectiveness measured and recorded in current earnings. Hedge effectiveness assessment methodologies are performed in a similar manner for similar hedges, and are used consistently throughout the hedging relationships. The assessment of effectiveness may exclude changes in the value of the hedged item that are unrelated to the risks being hedged and the changes in fair value of the derivative associated with time value. Citi excludes changes in the cross-currency basis associated with cross-currency swaps from the assessment of hedge effectiveness and records it in *Other comprehensive income*.

Discontinued Hedge Accounting

A hedging instrument must be highly effective in accomplishing the hedge objective of offsetting either changes in the fair value or cash flows of the hedged item for the risk being hedged. Management may voluntarily de-designate an accounting hedge at any time, but if a hedging relationship is not highly effective, it no longer qualifies for hedge accounting and must be de-designated. Subsequent changes in the fair value of the derivative are recognized in *Other revenue* or *Principal transactions*, similar to trading derivatives, with no offset recorded related to the hedged item.

For fair value hedges, any changes in the carrying value of the hedged item remain as part of the basis of the asset or liability and are ultimately realized as an element of the yield on the item. For cash flow hedges, changes in fair value of the end-user derivative remain in *Accumulated other comprehensive income (loss) (AOCI)* and are included in the earnings of future periods when the forecasted hedged cash flows impact earnings. However, if it becomes probable that some or all of the hedged forecasted transactions will not occur, any amounts that remain in *AOCI* related to these transactions must be immediately reflected in *Other revenue*.

The foregoing criteria are applied on a decentralized basis, consistent with the level at which market risk is managed, but are subject to various limits and controls. The underlying asset, liability or forecasted transaction may be an individual item or a portfolio of similar items.

Fair Value Hedges

Hedging of Benchmark Interest Rate Risk

Citigroup's fair value hedges, which include hedges of closed pools of assets, are primarily hedges of fixed-rate long-term debt or assets, such as available-for-sale debt securities or loans.

For qualifying fair value hedges of interest rate risk, the changes in the fair value of the derivative and the change in the fair value of the hedged item attributable to the hedged risk are presented within *Interest revenue* or *Interest expense* based on whether the hedged item is an asset or a liability.

Hedging of Foreign Exchange Risk

Citigroup hedges the change in fair value attributable to foreign exchange rate movements in available-for-sale debt securities and long-term debt that are denominated in currencies other than the functional currency of the entity holding the securities or issuing the debt. The hedging instrument is generally a forward foreign exchange contract or a cross-currency swap contract. Changes in the fair value of the forward points (i.e., the spot-forward difference) of forward contracts are excluded from the assessment of hedge effectiveness and are generally reflected directly in earnings over the life of the hedge. Citi also excludes changes in the fair value of cross-currency basis associated with cross-currency swaps from the assessment of hedge effectiveness and records them in *Other comprehensive income.*

Hedging of Commodity Price Risk

Citigroup hedges the change in fair value attributable to spot price movements in physical commodities inventories. The hedging instrument is a futures contract to sell the underlying commodity. In this hedge, the change in the carrying value of the hedged inventory is reflected in earnings, which offsets the change in the fair value of the futures contract that is also reflected in earnings. Although the entire change in the fair value of the hedging instrument is recorded in earnings, under certain hedge programs, Citigroup excludes changes in the fair value of the forward points (i.e., spot-forward difference) of the futures contract from the assessment of hedge effectiveness, and they are generally reflected directly in earnings over the life of the hedge. Under other hedge programs, Citi excludes changes in the fair value of forward points from the assessment of hedge effectiveness and records them in *Other comprehensive income*.

The following table summarizes the gains (losses) on the Company's fair value hedges:

	Gains (losses) on fair value hedges[1]					
	Year ended December 31,					
	2022		2021		2020	
In millions of dollars	**Other revenue**	**Net interest income**	Other revenue	Net interest income	Other revenue	Net interest income
Gain (loss) on the hedging derivatives included in assessment of the effectiveness of fair value hedges						
Interest rate hedges	**$ —**	**$ (8,322)**	$ —	$ (5,425)	$ —	$ 4,189
Foreign exchange hedges	**(1,375)**	**—**	(627)	—	1,442	—
Commodity hedges	**(1,870)**	**—**	(3,983)	—	(164)	—
Total gain (loss) on the hedging derivatives included in assessment of the effectiveness of fair value hedges	**$ (3,245)**	**$ (8,322)**	$ (4,610)	$ (5,425)	$ 1,278	$ 4,189
Gain (loss) on the hedged item in designated and qualifying fair value hedges						
Interest rate hedges	**$ —**	**$ 8,087**	$ —	$ 5,043	$ —	$ (4,537)
Foreign exchange hedges	**1,372**	**—**	628	—	(1,442)	—
Commodity hedges	**1,870**	**—**	3,973	—	164	—
Total gain (loss) on the hedged item in designated and qualifying fair value hedges	**$ 3,242**	**$ 8,087**	$ 4,601	$ 5,043	$ (1,278)	$ (4,537)
Net gain (loss) on the hedging derivatives excluded from assessment of the effectiveness of fair value hedges						
Interest rate hedges	**$ —**	**$ —**	$ —	$ (9)	$ —	$ (23)
Foreign exchange hedges[2]	**171**	**—**	79	—	(73)	—
Commodity hedges[3]	**94**	**—**	5	—	131	—
Total net gain (loss) on the hedging derivatives excluded from assessment of the effectiveness of fair value hedges	**$ 265**	**$ —**	$ 84	$ (9)	$ 58	$ (23)

(1) Gain (loss) amounts for interest rate risk hedges are included in *Interest revenue/Interest expense.* The accrued interest income on fair value hedges is recorded in *Net interest income* and is excluded from this table.

(2) Amounts related to the forward points (i.e., the spot-forward difference) that are excluded from the assessment of hedge effectiveness and are generally reflected directly in earnings under the mark-to-market approach. Amounts related to cross-currency basis, which are recognized in *AOCI*, are not reflected in the table above. The amount of cross-currency basis included in *AOCI* was $73 million and $2 million for the years ended December 31, 2022 and 2021, respectively.

(3) Amounts related to the forward points (i.e., the spot-forward difference) that are excluded from the assessment of hedge effectiveness reflected directly in earnings under the mark-to-market approach or recorded in *AOCI* under the amortization approach. The year ended December 31, 2022 includes gain (loss) of approximately $86 million and $8 million under the mark-to-market approach and amortization approach, respectively.

Cumulative Basis Adjustment

Upon electing to apply ASC 815 fair value hedge accounting, the carrying value of the hedged item is adjusted to reflect the cumulative changes in the hedged risk. This cumulative basis adjustment becomes part of the carrying amount of the hedged item until the hedged item is derecognized from the balance sheet. The table below presents the carrying amount of Citi's hedged assets and liabilities under qualifying fair value hedges at December 31, 2022 and 2021, along with the cumulative basis adjustments included in the carrying value of those hedged assets and liabilities that would reverse through earnings in future periods.

In millions of dollars

Balance sheet line item in which hedged item is recorded	Carrying amount of hedged asset/ liability	Cumulative basis adjustment increasing (decreasing) the carrying amount	
		Active	De-designated
As of December 31, 2022			
Debt securities AFS[(1)(3)]	**$ 98,837**	**$ (2,976)**	**$ (333)**
Long-term debt	**144,549**	**(5,040)**	**(3,399)**
As of December 31, 2021			
Debt securities AFS[(2)(3)]	$ 62,733	$ 149	$ 212
Long-term debt	149,305	623	3,936

(1) These amounts include a cumulative basis adjustment of $(91) million for active hedges and $(309) million for de-designated hedges as of December 31, 2022, related to certain prepayable financial assets previously designated as the hedged item in a fair value hedge using the last-of-layer approach. The Company designated approximately $3 billion as the hedged amount (from a closed portfolio of prepayable financial assets with a carrying value of $11 billion as of December 31, 2022) in a last-of-layer hedging relationship.

(2) These amounts include a cumulative basis adjustment of $24 million for active hedges and $(92) million for de-designated hedges as of December 31, 2021, related to certain prepayable financial assets previously designated as the hedged item in a fair value hedge using the last-of-layer approach. The Company designated approximately $6 billion as the hedged amount (from a closed portfolio of prepayable financial assets with a carrying value of $25 billion as of December 31, 2021) in a last-of-layer hedging relationship.

(3) Carrying amount represents the amortized cost.

Cash Flow Hedges

Citigroup hedges the variability of forecasted cash flows due to changes in contractually specified interest rates associated with floating-rate assets/liabilities and other forecasted transactions. Variable cash flows from those liabilities are synthetically converted to fixed-rate cash flows by entering into receive-variable, pay-fixed interest rate swaps and receive-variable, pay-fixed forward-starting interest rate swaps. Variable cash flows associated with certain assets are synthetically converted to fixed-rate cash flows by entering into receive-fixed, pay-variable interest rate swaps. These cash flow hedging relationships use either regression analysis or dollar-offset ratio analysis to assess whether the hedging relationships are highly effective at inception and on an ongoing basis.

For cash flow hedges, the entire change in the fair value of the hedging derivative is recognized in *AOCI* and then reclassified to earnings in the same period that the forecasted hedged cash flows impact earnings. The pretax change in *AOCI* from cash flow hedges is presented below:

In millions of dollars	**2022**		2021		2020	
Amount of gain (loss) recognized in *AOCI* on derivatives						
Interest rate contracts		**$ (3,640)**		$ (847)		$ 2,670
Foreign exchange contracts		**34**		(51)		(15)
Total gain (loss) recognized in *AOCI*		**$ (3,606)**		$ (898)		$ 2,655
	Other revenue	**Net interest income**	Other revenue	Net interest income	Other revenue	Net interest income
Amount of gain (loss) reclassified from *AOCI* to earnings[1]						
Interest rate contracts	**$ —**	**$ (125)**	$ —	$ 1,075	$ —	$ 734
Foreign exchange contracts	**(4)**	**—**	(4)	—	(4)	—
Total gain (loss) reclassified from *AOCI* into earnings	**$ (4)**	**$ (125)**	$ (4)	$ 1,075	$ (4)	$ 734
Net pretax change in cash flow hedges included within *AOCI*		**$ (3,477)**		$ (1,969)		$ 1,925

(1) All amounts reclassified into earnings for interest rate contracts are included in *Interest income/Interest expense (Net interest income)*. For all other hedges, the amounts reclassified to earnings are included primarily in *Other revenue* and *Net interest income* in the Consolidated Statement of Income.

The net gain (loss) associated with cash flow hedges expected to be reclassified from *AOCI* within 12 months of December 31, 2022 is approximately $(1.7) billion. The maximum length of time over which forecasted cash flows are hedged is 10 years.

The after-tax impact of cash flow hedges on *AOCI* is shown in Note 20.

Net Investment Hedges

Consistent with ASC 830-20, *Foreign Currency Matters—Foreign Currency Transactions*, ASC 815 allows the hedging of the foreign currency risk of a net investment in a foreign operation. Citigroup uses foreign currency forwards, cross-currency swaps, options and foreign currency-denominated debt instruments to manage the foreign exchange risk associated with Citigroup's equity investments in several non-U.S.-dollar-functional-currency foreign subsidiaries. Citi records the change in the fair value of these hedging instruments and the translation adjustment for the investments in these foreign subsidiaries in *Foreign currency translation adjustment* within *AOCI*.

For derivatives designated as net investment hedges, Citigroup follows the forward-rate method outlined in ASC 815-35-35. According to that method, all changes in fair value, including changes related to the forward-rate component of the foreign currency forward contracts and the time value of foreign currency options, are recorded in *Foreign currency translation adjustment* within *AOCI*.

For foreign currency-denominated debt instruments that are designated as hedges of net investments, the translation gain or loss that is recorded in *Foreign currency translation adjustment* is based on the spot exchange rate between the functional currency of the respective subsidiary and the U.S. dollar, which is the functional currency of Citigroup.

The pretax gain (loss) recorded in Foreign currency translation adjustment within *AOCI*, related to net investment hedges, was $370 million, $855 million and $(600) million for the years ended December 31, 2022, 2021 and 2020, respectively. The year ended December 31, 2022 includes a $36 million pretax loss related to net investment hedges, respectively, which were reclassified from *AOCI* into earnings (recorded in *Other revenue*).

Economic Hedges

Citigroup often uses economic hedges when hedge accounting would be too complex or operationally burdensome. End-user derivatives that are economic hedges are carried at fair value, with changes in value included in either *Principal transactions* or *Other revenue*.

For asset/liability management hedging, fixed-rate long-term debt is recorded at amortized cost under GAAP.

For other hedges that either do not meet the ASC 815 hedging criteria or for which management decides not to apply ASC 815 hedge accounting, the derivative is recorded at fair value on the balance sheet with the associated changes in fair value recorded in earnings, while the debt continues to be carried at amortized cost. Therefore, current earnings are affected by the interest rate shifts and other factors that cause a change in the swap's value, but for which no offsetting change in value is recorded on the debt.

Citigroup may alternatively elect to account for the debt at fair value under the fair value option. Once the irrevocable election is made upon issuance of the debt, the full change in fair value of the debt is reported in earnings. The changes in fair value of the related interest rate swap are also reflected in earnings, which provides a natural offset to the debt's fair value change. To the extent that the two amounts differ because the full change in the fair value of the debt includes risks not offset by the interest rate swap, the difference is automatically captured in current earnings.

Additional economic hedges include hedges of the credit risk component of commercial loans and loan commitments. Citigroup periodically evaluates its hedging strategies in other areas and may designate either an accounting hedge or an economic hedge after considering the relative costs and benefits. Economic hedges are also employed when the hedged item itself is marked-to-market through current earnings, such as hedges of commitments to originate one- to four-family mortgage loans to be HFS and MSRs.

Credit Derivatives

Citi is a market maker and trades a range of credit derivatives. Through these contracts, Citi either purchases or writes protection on either a single name or a portfolio of reference credits. Citi also uses credit derivatives to help mitigate credit risk in its corporate and consumer loan portfolios and other cash positions and to facilitate client transactions.

Citi monitors its counterparty credit risk in credit derivative contracts. As of December 31, 2022 and 2021, approximately 98% and 99%, respectively, of the gross receivables are from counterparties with which Citi maintains master netting agreements, collateral agreements or settles daily. A majority of Citi's top 15 counterparties (by receivable balance owed to Citi) are central clearing houses, banks, financial institutions or other dealers. Contracts with these counterparties do not include ratings-based termination events. However, counterparty ratings downgrades may have an incremental effect by lowering the threshold at which Citi may call for additional collateral.

The range of credit derivatives entered into includes credit default swaps, total return swaps, credit options and credit-linked notes.

A credit default swap is a contract in which, for a fee, a protection seller agrees to reimburse a protection buyer for any losses that occur due to a predefined credit event on a reference entity. These credit events are defined by the terms of the derivative contract and the reference entity and are generally limited to the market standard of failure to pay on indebtedness and bankruptcy of the reference entity and, in a more limited range of transactions, debt restructuring. Credit derivative transactions that reference emerging market entities also typically include additional credit events to cover the acceleration of indebtedness and the risk of repudiation or a payment moratorium. In certain transactions, protection may be provided on a portfolio of reference entities or asset-backed securities. If there is no credit event, as defined by the specific derivative contract, then the protection seller makes no payments to the protection buyer and receives only the contractually specified fee. However, if a credit event occurs as defined in the specific derivative contract sold, the protection seller will be required to make a payment to the protection buyer. Under certain contracts, the seller of protection may not be required to make a payment until a specified amount of losses has occurred with respect to the portfolio and/or may only be required to pay for losses up to a specified amount.

A total return swap typically transfers the total economic performance of a reference asset, which includes all associated

cash flows, as well as capital appreciation or depreciation. The protection buyer receives a floating rate of interest and any depreciation on the reference asset from the protection seller and, in return, the protection seller receives the cash flows associated with the reference asset plus any appreciation. Thus, according to the total return swap agreement, the protection seller will be obligated to make a payment any time the floating interest rate payment plus any depreciation of the reference asset exceeds the cash flows associated with the underlying asset. A total return swap may terminate upon a default of the reference asset or a credit event with respect to the reference entity, subject to the provisions of the related total return swap agreement between the protection seller and the protection buyer.

A credit option is a credit derivative that allows investors to trade or hedge changes in the credit quality of a reference entity. For example, in a credit spread option, the option writer assumes the obligation to purchase or sell credit protection on the reference entity at a specified "strike" spread level. The option purchaser buys the right to sell credit default protection on the reference entity to, or purchase it from, the option writer at the strike spread level. The payments on credit spread options depend either on a particular credit spread or the price of the underlying credit-sensitive asset or other reference entity. The options usually terminate if a credit event occurs with respect to the underlying reference entity.

A credit-linked note is a form of credit derivative structured as a debt security with an embedded credit default swap. The purchaser of the note effectively provides credit protection to the issuer by agreeing to receive a return that could be negatively affected by credit events on the underlying reference entity. If the reference entity defaults, the note may be cash settled or physically settled by delivery of a debt security of the reference entity. Thus, the maximum amount of the note purchaser's exposure is the amount paid for the credit-linked note.

The following tables summarize the key characteristics of Citi's credit derivatives portfolio by counterparty and derivative form:

	Fair values		Notionals	
In millions of dollars at December 31, 2022	**Receivable[1]**	**Payable[2]**	**Protection purchased**	**Protection sold**
By industry of counterparty				
Banks	**$ 1,835**	**$ 2,479**	**$ 100,628**	**$ 96,143**
Broker-dealers	**1,893**	**1,478**	**48,760**	**44,148**
Non-financial	**47**	**15**	**1,562**	**1,585**
Insurance and other financial institutions	**4,614**	**3,805**	**490,689**	**451,260**
Total by industry of counterparty	**$ 8,389**	**$ 7,777**	**$ 641,639**	**$ 593,136**
By instrument				
Credit default swaps and options	**$ 6,867**	**$ 7,360**	**$ 623,981**	**$ 586,504**
Total return swaps and other	**1,522**	**417**	**17,658**	**6,632**
Total by instrument	**$ 8,389**	**$ 7,777**	**$ 641,639**	**$ 593,136**
By rating of reference entity				
Investment grade	**$ 3,796**	**$ 2,970**	**$ 499,339**	**$ 462,873**
Non-investment grade	**4,593**	**4,807**	**142,300**	**130,263**
Total by rating of reference entity	**$ 8,389**	**$ 7,777**	**$ 641,639**	**$ 593,136**
By maturity				
Within 1 year	**$ 1,753**	**$ 1,801**	**$ 147,031**	**$ 148,721**
From 1 to 5 years	**4,577**	**4,134**	**443,113**	**407,293**
After 5 years	**2,059**	**1,842**	**51,495**	**37,122**
Total by maturity	**$ 8,389**	**$ 7,777**	**$ 641,639**	**$ 593,136**

(1) The fair value amount receivable is composed of $5,094 million under protection purchased and $3,295 million under protection sold.
(2) The fair value amount payable is composed of $3,573 million under protection purchased and $4,204 million under protection sold.

	Fair values		Notionals	
In millions of dollars at December 31, 2021	Receivable[1]	Payable[2]	Protection purchased	Protection sold
By industry of counterparty				
Banks	$ 2,375	$ 3,031	$ 108,415	$ 103,756
Broker-dealers	1,962	1,139	44,364	40,068
Non-financial	113	306	2,785	2,728
Insurance and other financial institutions	5,768	6,539	490,432	425,934
Total by industry of counterparty	$ 10,218	$ 11,015	$ 645,996	$ 572,486
By instrument				
Credit default swaps and options	$ 9,923	$ 10,234	$ 628,136	$ 565,131
Total return swaps and other	295	781	17,860	7,355
Total by instrument	$ 10,218	$ 11,015	$ 645,996	$ 572,486
By rating of reference entity				
Investment grade	$ 4,149	$ 4,258	$ 511,652	$ 448,944
Non-investment grade	6,069	6,757	134,344	123,542
Total by rating of reference entity	$ 10,218	$ 11,015	$ 645,996	$ 572,486
By maturity				
Within 1 year	$ 878	$ 1,462	$ 133,866	$ 115,603
From 1 to 5 years	6,674	6,638	454,617	413,174
After 5 years	2,666	2,915	57,513	43,709
Total by maturity	$ 10,218	$ 11,015	$ 645,996	$ 572,486

(1) The fair value amount receivable is composed of $3,705 million under protection purchased and $6,513 million under protection sold.
(2) The fair value amount payable is composed of $7,354 million under protection purchased and $3,661 million under protection sold.

Fair values included in the above tables are prior to application of any netting agreements and cash collateral. For notional amounts, Citi generally has a mismatch between the total notional amounts of protection purchased and sold, and it may hold the reference assets directly rather than entering into offsetting credit derivative contracts as and when desired. The open risk exposures from credit derivative contracts are largely matched after certain cash positions in reference assets are considered and after notional amounts are adjusted, either to a duration-based equivalent basis or to reflect the level of subordination in tranched structures. The ratings of the credit derivatives portfolio presented in the tables and used to evaluate payment/performance risk are based on the assigned internal or external ratings of the reference asset or entity. Where external ratings are used, investment-grade ratings are considered to be "Baa/BBB" and above, while anything below is considered non-investment grade. Citi's internal ratings are in line with the related external rating system.

Citigroup evaluates the payment/performance risk of the credit derivatives for which it stands as a protection seller based on the credit rating assigned to the underlying reference credit. Credit derivatives written on an underlying non-investment-grade reference entity represent greater payment risk to the Company. The non-investment-grade category in the table above also includes credit derivatives where the underlying reference entity has been downgraded subsequent to the inception of the derivative.

The maximum potential amount of future payments under credit derivative contracts presented in the table above is based on the notional value of the derivatives. The Company believes that the notional amount for credit protection sold is not representative of the actual loss exposure based on historical experience. This amount has not been reduced by the value of the reference assets and the related cash flows. In accordance with most credit derivative contracts, should a credit event occur, the Company usually is liable for the difference between the protection sold and the value of the reference assets. Furthermore, the notional amount for credit protection sold has not been reduced for any cash collateral paid to a given counterparty, as such payments would be calculated after netting all derivative exposures, including any credit derivatives with that counterparty in accordance with a related master netting agreement. Due to such netting processes, determining the amount of collateral that corresponds to credit derivative exposures alone is not possible. The Company actively monitors open credit-risk exposures and manages this exposure by using a variety of strategies, including purchased credit derivatives, cash collateral or direct holdings of the referenced assets. This risk mitigation activity is not captured in the table above.

Credit Risk-Related Contingent Features in Derivatives

Certain derivative instruments contain provisions that require the Company to either post additional collateral or immediately settle any outstanding liability balances upon the occurrence of a specified event related to the credit risk of the Company. These events, which are defined by the existing derivative contracts, are primarily downgrades in the credit ratings of the Company and its affiliates.

The fair value (excluding CVA) of all derivative instruments with credit risk-related contingent features that were in a net liability position at December 31, 2022 and 2021 was $18 billion and $19 billion, respectively. The Company posted $15 billion and $16 billion as collateral for this exposure in the normal course of business as of December 31, 2022 and 2021, respectively.

A downgrade could trigger additional collateral or cash settlement requirements for the Company and certain affiliates. In the event that Citigroup and Citibank were downgraded a single notch by all three major rating agencies as of December 31, 2022, the Company could be required to post an additional $0.9 billion as either collateral or settlement of the derivative transactions. In addition, the Company could be required to segregate with third-party custodians collateral previously received from existing derivative counterparties in the amount of $15.0 million upon the single notch downgrade, resulting in aggregate cash obligations and collateral requirements of approximately $0.9 billion.

Derivatives Accompanied by Financial Asset Transfers

The Company executes total return swaps that provide it with synthetic exposure to substantially all of the economic return of the securities or other financial assets referenced in the contract. In certain cases, the derivative transaction is accompanied by the Company's transfer of the referenced financial asset to the derivative counterparty, most typically in response to the derivative counterparty's desire to hedge, in whole or in part, its synthetic exposure under the derivative contract by holding the referenced asset in funded form. In certain jurisdictions these transactions qualify as sales, resulting in derecognition of the securities transferred (see Note 1 for further discussion of the related sale conditions for transfers of financial assets). For a significant portion of the transactions, the Company has also executed another total return swap where the Company passes on substantially all of the economic return of the referenced securities to a different third party seeking the exposure. In those cases, the Company is not exposed, on a net basis, to changes in the economic return of the referenced securities.

These transactions generally involve the transfer of the Company's liquid government bonds, convertible bonds or publicly traded corporate equity securities from the trading portfolio and are executed with third-party financial institutions. The accompanying derivatives are typically total return swaps. The derivatives are cash settled and subject to ongoing margin requirements.

When the conditions for sale accounting are met, the Company reports the transfer of the referenced financial asset as a sale and separately reports the accompanying derivative transaction. These transactions generally do not result in a gain or loss on the sale of the security, because the transferred

security was held at fair value in the Company's trading portfolio. For transfers of financial assets accounted for as a sale by the Company, and for which the Company has retained substantially all of the economic exposure to the transferred asset through a total return swap executed with the same counterparty in contemplation of the initial sale (and still outstanding), the asset amounts derecognized and the gross cash proceeds received as of the date of derecognition were $1.4 billion and $2.9 billion as of December 31, 2022 and 2021, respectively.

At December 31, 2022, the fair value of these previously derecognized assets was $1.4 billion. The fair value of the total return swaps as of December 31, 2022 was $27 million recorded as gross derivative assets and $32 million recorded as gross derivative liabilities. At December 31, 2021 the fair value of these previously derecognized assets was $2.9 billion, and the fair value of the total return swaps was $13 million recorded as gross derivative assets and $58 million recorded as gross derivative liabilities.

The balances for the total return swaps are on a gross basis, before the application of counterparty and cash collateral netting, and are included primarily as equity derivatives in the tabular disclosures in this Note.

24. CONCENTRATIONS OF CREDIT RISK

Concentrations of credit risk exist when changes in economic, industry or geographic factors similarly affect groups of counterparties whose aggregate credit exposure is material in relation to Citigroup's total credit exposure. Although Citigroup's portfolio of financial instruments is broadly diversified along industry, product and geographic lines, material transactions are completed with other financial institutions, particularly in the securities trading, derivatives and foreign exchange businesses.

In connection with the Company's efforts to maintain a diversified portfolio, the Company limits its exposure to any one geographic region, country or individual creditor and monitors this exposure on a continuous basis. At December 31, 2022, Citigroup's most significant concentration of credit risk was with the U.S. government and its agencies. The Company's exposure, which primarily results from trading assets and investments issued by the U.S. government and its agencies, amounted to $431.6 billion and $414.5 billion at December 31, 2022 and 2021, respectively. The German, Japanese and United Kingdom governments and their agencies, which are rated investment grade by both Moody's and S&P, were the next largest exposures. The Company's exposure to Germany amounted to $48.3 billion and $48.9 billion at December 31, 2022 and 2021, respectively. The Company's exposure to Japan amounted to $40.0 billion and $30.1 billion at December 31, 2022 and 2021, respectively. The Company's exposure to the United Kingdom amounted to $31.7 billion and $31.1 billion at December 31, 2022 and 2021, respectively. The foreign government exposures are composed of investment securities, loans and trading assets.

The Company's exposure to states and municipalities amounted to $20.1 billion and $22.0 billion at December 31, 2022 and 2021, respectively, and was composed of trading assets, investment securities, derivatives and lending activities.

25. FAIR VALUE MEASUREMENT

ASC 820-10, *Fair Value Measurement*, defines fair value, establishes a consistent framework for measuring fair value and requires disclosures about fair value measurements. Fair value is defined as the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date, and therefore represents an exit price. Among other things, the standard requires the Company to maximize the use of observable inputs and minimize the use of unobservable inputs when measuring fair value.

Under ASC 820-10, the probability of counterparty default is factored into the valuation of derivative and other positions, and the impact of Citigroup's own credit risk is also factored into the valuation of derivatives and other liabilities that are measured at fair value.

Fair Value Hierarchy

ASC 820-10 specifies a hierarchy of inputs based on whether the inputs are observable or unobservable. Observable inputs are developed using market data and reflect market participant assumptions, while unobservable inputs reflect the Company's market assumptions. These two types of inputs have created the following fair value hierarchy:

- Level 1: Quoted prices for *identical* instruments in active markets.
- Level 2: Quoted prices for *similar* instruments in active markets, quoted prices for identical or similar instruments in markets that are not active and model-derived valuations in which all significant inputs and significant value drivers are *observable* in the market.
- Level 3: Valuations derived from valuation techniques in which one or more significant inputs or significant value drivers are *unobservable*.

As required under the fair value hierarchy, the Company considers relevant and observable market inputs in its valuations where possible.

The fair value hierarchy classification approach typically utilizes rules-based and data-driven selection criteria to determine whether an instrument is classified as Level 1, Level 2 or Level 3:

- The determination of whether an instrument is quoted in an active market and therefore considered a Level 1 instrument is based upon the frequency of observed transactions and the quality of independent market data available on the measurement date.
- A Level 2 classification is assigned where there is observability of prices/market inputs to models, or where any unobservable inputs are not significant to the valuation. The determination of whether an input is considered observable is based on the availability of independent market data and its corroboration, for example through observed transactions in the market.
- Otherwise, an instrument is classified as Level 3.

Determination of Fair Value

For assets and liabilities carried at fair value, the Company measures fair value using the procedures set out below, irrespective of whether the assets and liabilities are measured at fair value as a result of an election, a non-recurring lower-of-cost-or-market (LOCOM) adjustment, or because they are required to be measured at fair value.

When available, the Company uses quoted market prices from active markets to determine fair value and classifies such items as Level 1. In some specific cases where a market price is available, the Company will apply practical expedients (such as matrix pricing) to calculate fair value, in which case the items may be classified as Level 2.

The Company may also apply a price-based methodology that utilizes, where available, quoted prices or other market information obtained from recent trading activity in positions with the same or similar characteristics to the position being valued. If relevant and observable prices are available, those valuations may be classified as Level 2. However, when there are one or more significant unobservable "price" inputs, those valuations will be classified as Level 3. Furthermore, when a quoted price is considered stale, a significant adjustment to the price of a similar security may be necessary to reflect differences in the terms of the actual security or loan being valued, or alternatively, when prices from independent sources may be insufficient to corroborate a valuation, the "price" inputs are considered unobservable and the fair value measurements are classified as Level 3.

If quoted market prices are not available, fair value is based upon internally developed valuation techniques that use, where possible, current market-based parameters, such as interest rates, currency rates and option volatilities. Items valued using such internally generated valuation techniques are classified according to the lowest level input or value driver that is significant to the valuation. Thus, an item may be classified as Level 3 even though there may be some significant inputs that are readily observable.

Fair value estimates from internal valuation techniques are verified, where possible, to prices obtained from independent vendors or brokers. Vendors' and brokers' valuations may be based on a variety of inputs ranging from observed prices to proprietary valuation models, and the Company assesses the quality and relevance of this information in determining the estimate of fair value. The following section describes the valuation methodologies used by the Company to measure various financial instruments at fair value. Where appropriate, the description includes details of the valuation models, the key inputs to those models and any significant assumptions.

Market Valuation Adjustments

Generally, the unit of account for a financial instrument is the individual financial instrument. The Company applies market valuation adjustments that are consistent with the unit of account, which does not include adjustment due to the size of the Company's position, except as follows. ASC 820-10 permits an exception, through an accounting policy election, to measure the fair value of a portfolio of financial assets and financial liabilities on the basis of the net open risk position when certain criteria are met. Citi has elected to measure

certain portfolios of financial instruments that meet those criteria, such as derivatives, on the basis of the net open risk position. The Company applies market valuation adjustments, including adjustments to account for the size of the net open risk position, consistent with market participant assumptions.

Valuation adjustments are applied to items classified as Level 2 or Level 3 in the fair value hierarchy to ensure that the fair value reflects the price at which the net open risk position could be exited. These valuation adjustments are based on the bid/offer spread for an instrument in the market. When Citi has elected to measure certain portfolios of financial investments, such as derivatives, on the basis of the net open risk position, the valuation adjustment may take into account the size of the position.

Credit valuation adjustments (CVA) and funding valuation adjustments (FVA) are applied to the relevant population of over-the-counter (OTC) derivative instruments where adjustments to reflect counterparty credit risk, own credit risk and term funding risk are required to estimate fair value. This principally includes derivatives with a base valuation (e.g., discounted using overnight indexed swap (OIS)) requiring adjustment for these effects, such as uncollateralized interest rate swaps. The CVA represents a portfolio-level adjustment to reflect the risk premium associated with the counterparty's (assets) or Citi's (liabilities) non-performance risk.

The FVA represents a market funding risk premium inherent in the uncollateralized portion of a derivative portfolio and in certain collateralized derivative portfolios that do not include standard credit support annexes (CSAs), such as where the CSA does not permit the reuse of collateral received. Citi's FVA methodology leverages the existing CVA methodology to estimate a funding exposure profile. The calculation of this exposure profile considers collateral agreements in which the terms do not permit the Company to reuse the collateral received, including where counterparties post collateral to third-party custodians. Citi's CVA and FVA methodologies consist of two steps:

- First, the exposure profile for each counterparty is determined using the terms of all individual derivative positions and a Monte Carlo simulation or other quantitative analysis to generate a series of expected cash flows at future points in time. The calculation of this exposure profile considers the effect of credit risk mitigants and sources of funding, including pledged cash or other collateral and any legal right of offset that exists with a counterparty through arrangements such as netting agreements. Individual derivative contracts that are subject to an enforceable master netting agreement with a counterparty are aggregated as a netting set for this purpose, since it is those aggregate net cash flows that are subject to nonperformance risk. This process identifies specific, point-in-time future cash flows that are subject to nonperformance and term funding risk, rather than using the current recognized net asset or liability as a basis to measure the CVA and FVA.
- Second, for CVA, market-based views of default probabilities derived from observed credit spreads in the credit default swap (CDS) market are applied to the expected future cash flows determined in step one. Citi's own credit CVA is determined using Citi-specific CDS spreads for the relevant tenor. Generally, counterparty CVA is determined using CDS spread indices for each credit rating and tenor. For certain identified netting sets where individual analysis is practicable (e.g., exposures to counterparties with liquid CDSs), counterparty-specific CDS spreads are used. For FVA, a term structure of spreads is applied to the expected funding exposures (e.g., the market liquidity spread used to represent the term funding premium associated with certain OTC derivatives).

The CVA and FVA are designed to incorporate a market view of the credit and funding risk, respectively, inherent in the derivative portfolio. However, most unsecured derivative instruments are negotiated bilateral contracts and are not commonly transferred to third parties. Derivative instruments are normally settled contractually or, if terminated early, are terminated at a value negotiated bilaterally between the counterparties. Thus, the CVA and FVA may not be realized upon a settlement or termination in the normal course of business. In addition, all or a portion of these adjustments may be reversed or otherwise adjusted in future periods in the event of changes in the credit or funding risk associated with the derivative instruments.

The table below summarizes the CVA and FVA applied to the fair value of derivative instruments at December 31, 2022 and 2021:

	Credit and funding valuation adjustments contra-liability (contra-asset)	
In millions of dollars	**December 31, 2022**	December 31, 2021
Counterparty CVA	**$ (816)**	$ (705)
Asset FVA	**(622)**	(433)
Citigroup (own credit) CVA	**607**	379
Liability FVA	**263**	110
Total CVA and FVA—derivative instruments	**$ (568)**	$ (649)

The table below summarizes pretax gains (losses) related to changes in CVA on derivative instruments, net of hedges, FVA on derivatives and debt valuation adjustments (DVA) on Citi's own fair value option (FVO) liabilities for the years indicated:

	Credit/funding/debt valuation adjustments gain (loss)		
In millions of dollars	**2022**	2021	2020
Counterparty CVA	**$ (227)**	$ 79	$ (101)
Asset FVA	**(102)**	96	(95)
Own credit CVA	**157**	(33)	133
Liability FVA	**155**	(22)	(6)
Total CVA and FVA—derivative instruments	**$ (17)**	$ 120	$ (69)
DVA related to own FVO liabilities[1]	**$ 2,685**	$ 296	$ (616)
Total CVA, DVA and FVA	**$ 2,668**	$ 416	$ (685)

(1) See Note 20.

Securities Purchased Under Agreements to Resell and Securities Sold Under Agreements to Repurchase

No quoted prices exist for these instruments, since fair value is determined using a discounted cash flow technique. Cash flows are estimated based on the terms of the contract, taking into account any embedded derivatives or other features. These cash flows are discounted using interest rates appropriate to the maturity of the instrument as well as the nature of the underlying collateral. Generally, when such instruments are recorded at fair value, they are classified within Level 2 of the fair value hierarchy, as the inputs used in the valuation are readily observable. However, certain long-dated positions are classified within Level 3 of the fair value hierarchy.

Trading Account Assets and Liabilities—Trading Securities and Trading Loans

When available, the Company uses quoted market prices in active markets to determine the fair value of trading securities; such items are classified as Level 1 of the fair value hierarchy. Examples include government securities and exchange-traded equity securities.

For bonds and secondary market loans traded over the counter, the Company generally determines fair value utilizing various valuation techniques, including discounted cash flows, price-based and internal models. Fair value estimates from these internal valuation techniques are verified, where possible, to prices obtained from independent sources, including third-party vendors. A price-based methodology utilizes, where available, quoted prices or other market information obtained from recent trading activity of assets with similar characteristics to the bond or loan being valued. The yields used in discounted cash flow models are derived from the same price information. Trading securities and loans priced using such methods are generally classified as Level 2. However, when the primary inputs to the valuation are unobservable, or prices from independent sources are insufficient to corroborate valuation, a loan or security is generally classified as Level 3. Fair value estimates from these internal valuation techniques are verified, where possible, to prices obtained from independent sources, including third-party vendors.

When the Company's principal exit market for a portfolio of loans is through securitization, the Company uses the securitization price as a key input into the fair value of the loan portfolio. The securitization price is determined from the assumed proceeds of a hypothetical securitization within the current market environment. Where such a price verification is possible, loan portfolios are typically classified as Level 2 in the fair value hierarchy.

For most of the subprime mortgage backed security (MBS) exposures, fair value is determined utilizing observable transactions where available, or other valuation techniques such as discounted cash flow analysis utilizing valuation assumptions derived from similar, more observable securities as market proxies. The valuation of certain asset-backed security (ABS) CDO positions is inferred through the net asset value of the underlying assets of the ABS CDO.

Trading Account Assets and Liabilities—Derivatives

Exchange-traded derivatives, measured at fair value using quoted (i.e., exchange) prices in active markets, where available, are classified as Level 1 of the fair value hierarchy.

Derivatives without a quoted price in an active market and derivatives executed over the counter are valued using internal valuation techniques. These derivative instruments are classified as either Level 2 or Level 3 depending on the observability of the significant inputs to the model.

The valuation techniques depend on the type of derivative and the nature of the underlying instrument. The principal techniques used to value these instruments are discounted cash flows and internal models, such as derivative pricing models (e.g., Black-Scholes and Monte Carlo simulations).

The key inputs depend upon the type of derivative and the nature of the underlying instrument and include interest rate yield curves, foreign exchange rates, volatilities and correlation.

Investments

The investments category includes available-for-sale debt and marketable equity securities whose fair values are generally determined by utilizing similar procedures described for trading securities above or, in some cases, using vendor pricing as the primary source.

Also included in investments are nonpublic investments in private equity and real estate entities. Determining the fair value of nonpublic securities involves a significant degree of management judgment, as no quoted prices exist and such securities are not generally traded. In addition, there may be transfer restrictions on private equity securities. The Company's process for determining the fair value of such securities utilizes commonly accepted valuation techniques, including guideline public company analysis and comparable transactions. In determining the fair value of nonpublic securities, the Company also considers events such as a proposed sale of the investee company, initial public offerings, equity issuances or other observable transactions. Private

equity securities are generally classified as Level 3 of the fair value hierarchy.

In addition, the Company holds investments in certain alternative investment funds that calculate NAV per share, including hedge funds, private equity funds and real estate funds. Investments in funds are generally classified as non-marketable equity securities carried at fair value. The fair values of these investments are estimated using the NAV per share of the Company's ownership interest in the funds where it is not probable that the investment will be realized at a price other than the NAV. Consistent with the provisions of ASU 2015-07, these investments are categorized within the fair value hierarchy and are not included in the tables below. See Note 13 for additional information.

Short-Term Borrowings and Long-Term Debt

Where fair value accounting has been elected, the fair value of non-structured liabilities is determined by utilizing internal models using the appropriate discount rate for the applicable maturity. Such instruments are classified as Level 2 of the fair value hierarchy when all significant inputs are readily observable.

The Company determines the fair value of hybrid financial instruments, including structured liabilities, using the appropriate derivative valuation methodology (described above in "Trading Account Assets and Liabilities—Derivatives") given the nature of the embedded risk profile. Such instruments are classified as Level 2 or Level 3 depending on the observability of significant inputs to the model.

Items Measured at Fair Value on a Recurring Basis

The following tables present for each of the fair value hierarchy levels the Company's assets and liabilities that are measured at fair value on a recurring basis at December 31, 2022 and 2021. The Company may hedge positions that have been classified in the Level 3 category with other financial instruments (hedging instruments) that may be classified as Level 3, but also with financial instruments classified as Level 1 or Level 2. The effects of these hedges are presented gross in the following tables:

Fair Value Levels

In millions of dollars at December 31, 2022	Level 1	Level 2	Level 3	Gross inventory	Netting[1]	Net balance
Assets						
Securities borrowed and purchased under agreements to resell	$ —	$ 350,145	$ 149	$ 350,294	$ (110,767)	$ 239,527
Trading non-derivative assets						
Trading mortgage-backed securities						
U.S. government-sponsored agency guaranteed	—	34,878	600	35,478	—	35,478
Residential	1	1,821	166	1,988	—	1,988
Commercial	—	798	145	943	—	943
Total trading mortgage-backed securities	$ 1	$ 37,497	$ 911	$ 38,409	$ —	$ 38,409
U.S. Treasury and federal agency securities	$ 63,067	$ 4,513	$ 1	$ 67,581	$ —	$ 67,581
State and municipal	—	2,256	7	2,263	—	2,263
Foreign government	38,383	25,850	119	64,352	—	64,352
Corporate	1,593	11,955	394	13,942	—	13,942
Equity securities	43,990	10,179	192	54,361	—	54,361
Asset-backed securities	—	1,597	668	2,265	—	2,265
Other trading assets[2]	24	14,963	648	15,635	—	15,635
Total trading non-derivative assets	$ 147,058	$ 108,810	$ 2,940	$ 258,808	$ —	$ 258,808
Trading derivatives						
Interest rate contracts	$ 297	$ 174,156	$ 3,751	$ 178,204		
Foreign exchange contracts	—	186,897	766	187,663		
Equity contracts	20	40,683	1,704	42,407		
Commodity contracts	—	26,823	1,501	28,324		
Credit derivatives	—	7,484	905	8,389		
Total trading derivatives—before netting and collateral	$ 317	$ 436,043	$ 8,627	$ 444,987		
Netting agreements					$ (346,545)	
Netting of cash collateral received					(23,136)	
Total trading derivatives—after netting and collateral	$ 317	$ 436,043	$ 8,627	$ 444,987	$ (369,681)	$ 75,306
Investments						
Mortgage-backed securities						
U.S. government-sponsored agency guaranteed	$ —	$ 11,232	$ 30	$ 11,262	$ —	$ 11,262
Residential	—	444	41	485	—	485
Commercial	—	2	—	2	—	2
Total investment mortgage-backed securities	$ —	$ 11,678	$ 71	$ 11,749	$ —	$ 11,749
U.S. Treasury and federal agency securities	$ 91,851	$ 439	$ —	$ 92,290	$ —	$ 92,290
State and municipal	—	1,637	586	2,223	—	2,223
Foreign government	58,419	74,250	608	133,277	—	133,277
Corporate	2,230	2,343	343	4,916	—	4,916
Marketable equity securities	254	165	10	429	—	429
Asset-backed securities	—	1,029	1	1,030	—	1,030
Other debt securities	—	4,194	—	4,194	—	4,194
Non-marketable equity securities[3]	—	9	430	439	—	439
Total investments	$ 152,754	$ 95,744	$ 2,049	$ 250,547	$ —	$ 250,547

Table continues on the next page.

In millions of dollars at December 31, 2022	Level 1	Level 2	Level 3	Gross inventory	Netting[1]	Net balance
Loans	$ —	$ 3,999	$ 1,361	$ 5,360	$ —	$ 5,360
Mortgage servicing rights	—	—	665	665	—	665
Non-trading derivatives and other financial assets measured on a recurring basis	$ 4,310	$ 6,291	$ 57	$ 10,658	$ —	$ 10,658
Total assets	$ 304,439	$ 1,001,032	$ 15,848	$ 1,321,319	$ (480,448)	$ 840,871
Total as a percentage of gross assets[4]	23.0 %	75.8 %	1.2 %			
Liabilities						
Interest-bearing deposits	$ —	$ 1,860	$ 15	$ 1,875	$ —	$ 1,875
Securities loaned and sold under agreements to repurchase	—	155,822	1,031	156,853	(85,967)	70,886
Trading account liabilities						
Securities sold, not yet purchased	97,559	13,111	50	110,720	—	110,720
Other trading liabilities	—	8	3	11	—	11
Total trading liabilities	$ 97,559	$ 13,119	$ 53	$ 110,731	$ —	$ 110,731
Trading derivatives						
Interest rate contracts	$ 175	$ 169,049	$ 3,396	$ 172,620		
Foreign exchange contracts	—	185,279	716	185,995		
Equity contracts	70	40,905	2,808	43,783		
Commodity contracts	2	25,093	1,223	26,318		
Credit derivatives	—	6,715	1,062	7,777		
Total trading derivatives—before netting and collateral	$ 247	$ 427,041	$ 9,205	$ 436,493		
Netting agreements					$ (346,545)	
Netting of cash collateral paid					(30,032)	
Total trading derivatives—after netting and collateral	$ 247	$ 427,041	$ 9,205	$ 436,493	$ (376,577)	$ 59,916
Short-term borrowings	$ —	$ 6,184	$ 38	$ 6,222	$ —	$ 6,222
Long-term debt	—	69,878	36,117	105,995	—	105,995
Total non-trading derivatives and other financial liabilities measured on a recurring basis	$ 4,197	$ 240	$ 2	$ 4,439	$ —	$ 4,439
Total liabilities	$ 102,003	$ 674,144	$ 46,461	$ 822,608	$ (462,544)	$ 360,064
Total as a percentage of gross liabilities[4]	12.4 %	82.0 %	5.6 %			

(1) Represents netting of (i) the amounts due under securities purchased under agreements to resell and the amounts owed under securities sold under agreements to repurchase and (ii) derivative exposures covered by a qualifying master netting agreement and cash collateral offsetting.

(2) Includes positions related to investments in unallocated precious metals, as discussed in Note 26. Also includes physical commodities accounted for at the lower of cost or fair value and unfunded credit products.

(3) Amounts exclude $27 million of investments measured at net asset value (NAV) in accordance with ASU 2015-07, *Fair Value Measurement (Topic 820): Disclosures for Investments in Certain Entities That Calculate Net Asset Value per Share (or Its Equivalent).*

(4) Because the amount of the cash collateral paid/received has not been allocated to the Level 1, 2 and 3 subtotals, these percentages are calculated based on total assets and liabilities measured at fair value on a recurring basis, excluding the cash collateral paid/received on derivatives.

Fair Value Levels

In millions of dollars at December 31, 2021	Level 1	Level 2	Level 3	Gross inventory	Netting[1]	Net balance
Assets						
Securities borrowed and purchased under agreements to resell	$ —	$ 342,030	$ 231	$ 342,261	$ (125,795)	$216,466
Trading non-derivative assets						
Trading mortgage-backed securities						
U.S. government-sponsored agency guaranteed	—	34,534	496	35,030	—	35,030
Residential	1	643	104	748	—	748
Commercial	—	778	81	859	—	859
Total trading mortgage-backed securities	$ 1	$ 35,955	$ 681	$ 36,637	$ —	$ 36,637
U.S. Treasury and federal agency securities	$ 44,900	$ 3,230	$ 4	$ 48,134	$ —	$ 48,134
State and municipal	—	1,995	37	2,032	—	2,032
Foreign government	39,176	31,485	23	70,684	—	70,684
Corporate	1,544	16,156	412	18,112	—	18,112
Equity securities	53,833	10,047	174	64,054	—	64,054
Asset-backed securities	—	981	613	1,594	—	1,594
Other trading assets[2]	—	20,346	576	20,922	—	20,922
Total trading non-derivative assets	$ 139,454	$ 120,195	$ 2,520	$ 262,169	$ —	$262,169
Trading derivatives						
Interest rate contracts	$ 90	$ 161,500	$ 3,898	$ 165,488		
Foreign exchange contracts	—	134,912	637	135,549		
Equity contracts	41	43,904	1,307	45,252		
Commodity contracts	—	28,547	1,797	30,344		
Credit derivatives	—	9,299	919	10,218		
Total trading derivatives—before netting and collateral	$ 131	$ 378,162	$ 8,558	$ 386,851		
Netting agreements					$ (292,628)	
Netting of cash collateral received[3]					(24,447)	
Total trading derivatives—after netting and collateral	$ 131	$ 378,162	$ 8,558	$ 386,851	$ (317,075)	$ 69,776
Investments						
Mortgage-backed securities						
U.S. government-sponsored agency guaranteed	$ —	$ 33,165	$ 51	$ 33,216	$ —	$ 33,216
Residential	—	286	94	380	—	380
Commercial	—	25	—	25	—	25
Total investment mortgage-backed securities	$ —	$ 33,476	$ 145	$ 33,621	$ —	$ 33,621
U.S. Treasury and federal agency securities	$ 122,271	$ 168	$ 1	$ 122,440	$ —	$122,440
State and municipal	—	1,849	772	2,621	—	2,621
Foreign government	56,842	61,112	786	118,740	—	118,740
Corporate	2,861	2,871	188	5,920	—	5,920
Marketable equity securities	350	177	16	543	—	543
Asset-backed securities	—	300	3	303	—	303
Other debt securities	—	4,877	—	4,877	—	4,877
Non-marketable equity securities[4]	—	28	316	344	—	344
Total investments	$ 182,324	$ 104,858	$ 2,227	$ 289,409	$ —	$289,409

Table continues on the next page.

In millions of dollars at December 31, 2021	Level 1	Level 2	Level 3	Gross inventory	Netting[1]	Net balance
Loans	$ —	$ 5,371	$ 711	$ 6,082	$ —	$ 6,082
Mortgage servicing rights	—	—	404	404	—	404
Non-trading derivatives and other financial assets measured on a recurring basis	$ 4,075	$ 8,194	$ 73	$ 12,342	$ —	$ 12,342
Total assets	$ 325,984	$ 958,810	$14,724	$ 1,299,518	$ (442,870)	$856,648
Total as a percentage of gross assets[5]	29.0 %	69.9 %	1.1 %			
Liabilities						
Interest-bearing deposits	$ —	$ 1,483	$ 183	$ 1,666	$ —	$ 1,666
Securities loaned and sold under agreements to repurchase	—	174,318	643	174,961	(118,267)	56,694
Trading account liabilities						
Securities sold, not yet purchased	82,675	23,268	65	106,008	—	106,008
Other trading liabilities	—	5	—	5	—	5
Total trading account liabilities	$ 82,675	$ 23,273	$ 65	$ 106,013	$ —	$106,013
Trading derivatives						
Interest rate contracts	$ 56	$ 147,846	$ 2,172	$ 150,074		
Foreign exchange contracts	—	134,572	726	135,298		
Equity contracts	60	46,177	3,447	49,684		
Commodity contracts	—	30,004	1,375	31,379		
Credit derivatives	—	10,065	950	11,015		
Total trading derivatives—before netting and collateral	$ 116	$ 368,664	$ 8,670	$ 377,450		
Netting agreements					$ (292,628)	
Netting of cash collateral paid[3]					(29,306)	
Total trading derivatives—after netting and collateral	$ 116	$ 368,664	$ 8,670	$ 377,450	$ (321,934)	$ 55,516
Short-term borrowings	$ —	$ 7,253	$ 105	$ 7,358	$ —	$ 7,358
Long-term debt	—	57,100	25,509	82,609	—	82,609
Non-trading derivatives and other financial liabilities measured on a recurring basis	$ 3,574	$ —	$ 1	$ 3,575	$ —	$ 3,575
Total liabilities	$ 86,365	$ 632,091	$35,176	$ 753,632	$ (440,201)	$313,431
Total as a percentage of gross liabilities[5]	11.5 %	83.9 %	4.7 %			

(1) Represents netting of (i) the amounts due under securities purchased under agreements to resell and the amounts owed under securities sold under agreements to repurchase and (ii) derivative exposures covered by a qualifying master netting agreement and cash collateral offsetting.

(2) Includes positions related to investments in unallocated precious metals, as discussed in Note 26. Also includes physical commodities accounted for at the lower of cost or fair value and unfunded credit products.

(3) Represents the netting of cash collateral paid and received by counterparties under enforceable credit support agreements. Substantially all netting of cash collateral received and paid is against OTC derivative assets and liabilities, respectively.

(4) Amounts exclude $145 million of investments measured at NAV in accordance with ASU 2015-07, *Fair Value Measurement (Topic 820): Disclosures for Investments in Certain Entities That Calculate Net Asset Value per Share (or Its Equivalent).*

(5) Because the amount of the cash collateral paid/received has not been allocated to the Level 1, 2 and 3 subtotals, these percentages are calculated based on total assets and liabilities measured at fair value on a recurring basis, excluding the cash collateral paid/received on derivatives.

Changes in Level 3 Fair Value Category

The following tables present the changes in the Level 3 fair value category for the years ended December 31, 2022 and 2021. The gains and losses presented below include changes in the fair value related to both observable and unobservable inputs.

The Company often hedges positions with offsetting positions that are classified in a different level. For example, the gains and losses for assets and liabilities in the Level 3 category presented in the tables below do not reflect the effect of offsetting losses and gains on hedging instruments that may be classified in the Level 1 and Level 2 categories. In addition, the Company hedges items classified in the Level 3 category with instruments also classified in Level 3 of the fair value hierarchy. The hedged items and related hedges are presented gross in the following tables:

Level 3 Fair Value Rollforward

		Net realized/unrealized gains (losses) included in[1]		Transfers							
In millions of dollars	Dec. 31, 2021	Principal transactions	Other[1][2]	into Level 3	out of Level 3	Purchases	Issuances	Sales	Settlements	Dec. 31, 2022	Unrealized gains (losses) still held[3]
Assets											
Securities borrowed and purchased under agreements to resell	$ 231	**$ 12**	**$ —**	**$ 3**	**$ —**	**$ 252**	**$ —**	**$ —**	**$ (349)**	**$ 149**	**$ 18**
Trading non-derivative assets											
Trading mortgage-backed securities											
U.S. government-sponsored agency guaranteed	496	**(81)**	**—**	**244**	**(475)**	**969**	**—**	**(553)**	**—**	**600**	**(59)**
Residential	104	**(5)**	**—**	**112**	**(87)**	**187**	**—**	**(145)**	**—**	**166**	**(1)**
Commercial	81	**(13)**	**—**	**167**	**(78)**	**37**	**—**	**(49)**	**—**	**145**	**(3)**
Total trading mortgage-backed securities	$ 681	**$ (99)**	**$ —**	**$ 523**	**$ (640)**	**$ 1,193**	**$ —**	**$ (747)**	**$ —**	**$ 911**	**$ (63)**
U.S. Treasury and federal agency securities	$ 4	**$ (4)**	**$ —**	**$ 2**	**$ (1)**	**$ 1**	**$ —**	**$ —**	**$ (1)**	**$ 1**	**$ (1)**
State and municipal	37	**9**	**—**	**77**	**(35)**	**16**	**—**	**(97)**	**—**	**7**	**—**
Foreign government	23	**(41)**	**—**	**308**	**(326)**	**248**	**—**	**(93)**	**—**	**119**	**(22)**
Corporate	412	**101**	**—**	**499**	**(451)**	**1,068**	**—**	**(1,235)**	**—**	**394**	**(136)**
Marketable equity securities	174	**45**	**—**	**161**	**(105)**	**155**	**—**	**(238)**	**—**	**192**	**(42)**
Asset-backed securities	613	**(41)**	**—**	**243**	**(239)**	**835**	**—**	**(743)**	**—**	**668**	**(36)**
Other trading assets	576	**249**	**—**	**407**	**(594)**	**774**	**27**	**(779)**	**(12)**	**648**	**(122)**
Total trading non-derivative assets	$ 2,520	**$ 219**	**$ —**	**$ 2,220**	**$ (2,391)**	**$ 4,290**	**$ 27**	**$ (3,932)**	**$ (13)**	**$ 2,940**	**$ (422)**
Trading derivatives, net[4]											
Interest rate contracts	$ 1,726	**$ 176**	**$ —**	**$ 33**	**$ (792)**	**$ (163)**	**$ 7**	**$ 79**	**$ (711)**	**$ 355**	**$ (588)**
Foreign exchange contracts	(89)	**734**	**—**	**(422)**	**(22)**	**124**	**20**	**(459)**	**164**	**50**	**(81)**
Equity contracts	(2,140)	**1,604**	**—**	**(572)**	**673**	**176**	**—**	**(370)**	**(475)**	**(1,104)**	**1,057**
Commodity contracts	422	**822**	**—**	**194**	**(716)**	**100**	**—**	**(211)**	**(333)**	**278**	**413**
Credit derivatives	(31)	**(266)**	**—**	**(7)**	**131**	**(36)**	**—**	**—**	**52**	**(157)**	**(198)**
Total trading derivatives, net[4]	$ (112)	**$ 3,070**	**$ —**	**$ (774)**	**$ (726)**	**$ 201**	**$ 27**	**$ (961)**	**$ (1,303)**	**$ (578)**	**$ 603**

Table continues on the next page.

In millions of dollars	Dec. 31, 2021	Net realized/unrealized gains (losses) included in[1]		Transfers		Purchases	Issuances	Sales	Settlements	Dec. 31, 2022	Unrealized gains (losses) still held[3]
		Principal transactions	Other[1][2]	into Level 3	out of Level 3						
Investments											
Mortgage-backed securities											
U.S. government-sponsored agency guaranteed	$ 51	$ —	$ (7)	$ 1	$ (10)	$ 7	$ —	$ (12)	$ —	$ 30	$ (24)
Residential	94	—	(5)	—	(42)	3	—	(9)	—	41	(5)
Commercial	—	—	—	—	—	—	—	—	—	—	—
Total investment mortgage-backed securities	$ 145	$ —	$ (12)	$ 1	$ (52)	$ 10	$ —	$ (21)	$ —	$ 71	$ (29)
U.S. Treasury and federal agency securities	$ 1	$ —	$ (1)	$ —	$ —	$ —	$ —	$ —	$ —	$ —	$ —
State and municipal	772	—	(65)	82	(164)	2	—	(41)	—	586	(49)
Foreign government	786	—	(72)	256	(276)	706	—	(792)	—	608	(23)
Corporate	188	—	(4)	197	(4)	24	—	(58)	—	343	(2)
Marketable equity securities	16	—	(7)	—	—	1	—	—	—	10	—
Asset-backed securities	3	—	22	41	(1)	—	—	(64)	—	1	(5)
Other debt securities	—	—	—	—	—	82	—	(82)	—	—	—
Non-marketable equity securities	316	—	(11)	11	(12)	155	—	(29)	—	430	4
Total investments	$ 2,227	$ —	$ (150)	$ 588	$ (509)	$ 980	$ —	$(1,087)	$ —	$ 2,049	$ (104)
Loans	$ 711	$ —	$ 15	$ 426	$ (208)	$ —	$ 569	$ —	$ (152)	$ 1,361	$ 145
Mortgage servicing rights	404	—	201	—	—	—	120	—	(60)	665	199
Other financial assets measured on a recurring basis	73	—	(12)	29	(26)	46	39	(26)	(66)	57	—
Liabilities											
Interest-bearing deposits	$ 183	$ —	$ 6	$ 8	$ (122)	$ —	$ 20	$ —	$ (68)	$ 15	$ —
Securities loaned and sold under agreements to repurchase	643	86	—	3	(3)	453	196	—	(175)	1,031	7
Trading account liabilities											
Securities sold, not yet purchased	65	2	—	55	(36)	135	—	—	(167)	50	(65)
Other trading liabilities	—	(3)	—	—	—	—	—	—	—	3	—
Short-term borrowings	105	109	—	46	(69)	—	96	—	(31)	38	(14)
Long-term debt	25,509	9,796	—	9,873	(7,612)	—	18,847	—	(704)	36,117	7,805
Other financial liabilities measured on a recurring basis	1	—	(6)	5	(5)	—	2	—	(7)	2	—

(1) Net realized/unrealized gains (losses) are presented as increase (decrease) to Level 3 assets, and as (increase) decrease to Level 3 liabilities. Changes in fair value of available-for-sale debt securities are recorded in *AOCI*, unless related to credit impairment, while gains and losses from sales are recorded in *Realized gains (losses) from sales of investments* in the Consolidated Statement of Income.

(2) Unrealized gains (losses) on MSRs are recorded in *Other revenue* in the Consolidated Statement of Income.

(3) Represents the amount of total gains or losses for the period, included in earnings (and *AOCI* for changes in fair value of available-for-sale debt securities and DVA on fair value option liabilities), attributable to the change in fair value relating to assets and liabilities classified as Level 3 that are still held at December 31, 2022.

(4) Total Level 3 trading derivative assets and liabilities have been netted in these tables for presentation purposes only.

In millions of dollars	Dec. 31, 2020	Net realized/unrealized gains (losses) included in[1]		Transfers		Purchases	Issuances	Sales	Settlements	Dec. 31, 2021	Unrealized gains (losses) still held[3]
		Principal transactions	Other[1][2]	into Level 3	out of Level 3						
Assets											
Securities borrowed and purchased under agreements to resell	$ 320	$ (36)	$ —	$ 45	$ (49)	$ 362	$ —	$ —	$ (411)	$ 231	$ —
Trading non-derivative assets											
Trading mortgage-backed securities											
U.S. government-sponsored agency guaranteed	27	8	—	355	(131)	447	—	(210)	—	496	11
Residential	340	25	—	89	(96)	282	—	(536)	—	104	13
Commercial	136	23	—	96	(58)	62	—	(178)	—	81	—
Total trading mortgage-backed securities	$ 503	$ 56	$ —	$ 540	$ (285)	$ 791	$ —	$ (924)	$ —	$ 681	$ 24
U.S. Treasury and federal agency securities	$ —	$ —	$ —	$ 4	$ —	$ —	$ —	$ —	$ —	$ 4	$ —
State and municipal	94	(4)	—	20	(29)	17	—	(61)	—	37	(6)
Foreign government	51	29	—	143	(129)	83	—	(154)	—	23	(2)
Corporate	375	74	—	461	(384)	867	—	(981)	—	412	(38)
Marketable equity securities	73	67	—	156	(52)	118	—	(188)	—	174	23
Asset-backed securities	1,606	371	—	173	(297)	1,313	—	(2,553)	—	613	(43)
Other trading assets	945	97	—	158	(457)	980	4	(1,147)	(4)	576	(37)
Total trading non-derivative assets	$ 3,647	$ 690	$ —	$ 1,655	$ (1,633)	$ 4,169	$ 4	$ (6,008)	$ (4)	$ 2,520	$ (79)
Trading derivatives, net[4]											
Interest rate contracts	$ 1,614	$ (376)	$ —	$ 102	$ 562	$ 27	$ (84)	$ —	$ (119)	$ 1,726	$ 4
Foreign exchange contracts	52	(8)	—	(57)	104	220	—	(326)	(74)	(89)	7
Equity contracts	(3,213)	964	—	(1,101)	1,923	364	—	(364)	(713)	(2,140)	(729)
Commodity contracts	292	474	—	174	(454)	162	—	(238)	12	422	261
Credit derivatives	48	(136)	—	(96)	40	—	—	—	113	(31)	(130)
Total trading derivatives, net[4]	$ (1,207)	$ 918	$ —	$ (978)	$ 2,175	$ 773	$ (84)	$ (928)	$ (781)	$ (112)	$ (587)
Investments											
Mortgage-backed securities											
U.S. government-sponsored agency guaranteed	$ 30	$ —	$ 2	$ 42	$ (10)	$ 3	$ —	$ (16)	$ —	$ 51	$ 2
Residential	—	—	—	54	(12)	52	—	—	—	94	(1)
Commercial	—	—	—	—	—	—	—	—	—	—	—
Total investment mortgage-backed securities	$ 30	$ —	$ 2	$ 96	$ (22)	$ 55	$ —	$ (16)	$ —	$ 145	$ 1
U.S. Treasury and federal agency securities	$ —	$ —	$ —	$ 1	$ —	$ —	$ —	$ —	$ —	$ 1	$ —
State and municipal	834	—	(21)	58	(108)	49	—	(40)	—	772	(12)
Foreign government	268	—	(49)	512	(565)	871	—	(251)	—	786	(2)
Corporate	60	—	(14)	183	(44)	37	—	(34)	—	188	2
Marketable equity securities	—	—	—	16	—	—	—	—	—	16	—
Asset-backed securities	1	—	(21)	36	—	—	—	(13)	—	3	(2)
Other debt securities	—	—	—	—	—	—	—	—	—	—	—
Non-marketable equity securities	349	—	(27)	2	—	—	—	(8)	—	316	(6)
Total investments	$ 1,542	$ —	$ (130)	$ 904	$ (739)	$ 1,012	$ —	$ (362)	$ —	$ 2,227	$ (19)

Table continues on the next page.

In millions of dollars	Dec. 31, 2020	Net realized/unrealized gains (losses) included in[1]		Transfers		Purchases	Issuances	Sales	Settlements	Dec. 31, 2021	Unrealized gains (losses) still held[3]
		Principal transactions	Other[1][2]	into Level 3	out of Level 3						
Loans	$ 1,985	$ —	$ 90	$ 311	$ (2,071)	$ —	$ 529	$ —	$ (133)	$ 711	$ (77)
Mortgage servicing rights	336	—	43	—	—	—	92	—	(67)	404	52
Other financial assets measured on a recurring basis	—	—	6	65	(27)	58	—	(26)	(3)	73	—
Liabilities											
Interest-bearing deposits	$ 206	$ —	$ (18)	$ —	$ (44)	$ —	$ 38	$ —	$ (35)	$ 183	$ (19)
Securities loaned and sold under agreements to repurchase	631	(9)	—	183	(483)	488	—	—	(185)	643	32
Trading account liabilities											
Securities sold, not yet purchased	214	48	—	87	(34)	59	—	—	(213)	65	(4)
Other trading liabilities	26	26	—	—	—	—	—	—	—	—	—
Short-term borrowings	219	43	—	137	(57)	—	49	—	(200)	105	(2)
Long-term debt	25,210	2,774	—	8,611	(9,771)	—	10,262	—	(6,029)	25,509	1,756
Other financial liabilities measured on a recurring basis	1	—	(3)	—	(4)	—	14	—	(13)	1	—

(1) Net realized/unrealized gains (losses) are presented as increase (decrease) to Level 3 assets, and as (increase) decrease to Level 3 liabilities. Changes in fair value of available-for-sale debt securities are recorded in *AOCI*, unless related to credit impairment, while gains and losses from sales are recorded in *Realized gains (losses) from sales of investments* in the Consolidated Statement of Income.

(2) Unrealized gains (losses) on MSRs are recorded in *Other revenue* in the Consolidated Statement of Income.

(3) Represents the amount of total gains or losses for the period, included in earnings (and *AOCI* for changes in fair value of available-for-sale debt securities and DVA on fair value option liabilities), attributable to the change in fair value relating to assets and liabilities classified as Level 3 that are still held at December 31, 2021.

(4) Total Level 3 derivative assets and liabilities have been netted in these tables for presentation purposes only.

Level 3 Fair Value Transfers

The following were the significant Level 3 transfers for the period December 31, 2021 to December 31, 2022:

- During the 12 months ended December 31, 2022, transfers of *Long-term debt* were $9.9 billion from Level 2 to Level 3. Of the $9.9 billion transfer in, approximately $7.0 billion related to interest rate option volatility inputs becoming unobservable and/or significant relative to their overall valuation, and $2.9 billion related to equity and credit derivative inputs (in addition to other volatility inputs, e.g., interest rate volatility inputs) becoming unobservable and/or significant to their overall valuation. In other instances, market changes have resulted in some inputs becoming more observable, and some unobservable inputs becoming less significant to the overall valuation of the instruments (e.g., when an option becomes deep-in or deep-out of the money). This has resulted in $7.6 billion of certain structured long-term debt products being transferred from Level 3 to Level 2 during the 12 months ended December 31, 2022.

The following were the significant Level 3 transfers for the period December 31, 2020 to December 31, 2021:

- During the 12 months ended December 31, 2021, transfers of *Loans* of $2.1 billion from Level 3 to Level 2 were primarily driven by equity forward and volatility inputs that have been assessed as not significant to the overall valuation of certain hybrid loan instruments, including equity options and long dated equity call spreads.
- During the 12 months ended December 31, 2021, transfers of *Equity contracts* of $1.1 billion from Level 2 to Level 3 were due to equity forward and volatility inputs becoming an unobservable and/or significant input relative to the overall valuation of equity options and equity swaps. In other instances, market changes have resulted in observable equity forward and volatility inputs becoming an insignificant input to the overall valuation of the instrument (e.g., when an option becomes deep-in or deep-out of the money). This has resulted in $1.9 billion of certain equity contracts being transferred from Level 3 to Level 2.
- During the 12 months ended December 31, 2021, transfers of *Long-term debt* were $8.6 billion from Level 2 to Level 3. Of the $8.6 billion transfer in, approximately $7.2 billion related to interest rate option volatility inputs becoming unobservable and/or significant relative to their overall valuation, and $1.0 billion related to equity volatility inputs (in addition to other volatility inputs, e.g., interest rate volatility inputs) becoming unobservable and/or significant to their overall valuation. In other instances, market changes have resulted in some inputs becoming more observable, and some unobservable inputs becoming less significant to the overall valuation of the instruments (e.g., when an option becomes deep-in or deep-out of the money). This has resulted in $9.8 billion of certain structured long-term debt products being transferred from Level 3 to Level 2 during the 12 months ended December 31, 2021.

Valuation Techniques and Inputs for Level 3 Fair Value Measurements

The Company's Level 3 inventory consists of both cash instruments and derivatives of varying complexity.

The following tables present the valuation techniques covering the majority of Level 3 inventory and the most significant unobservable inputs used in Level 3 fair value measurements. Methodologies are applied consistently. Changes in listed inputs period versus period represent variables that become more, or less, significant, hence their addition or removal from the table below. Differences between this table and amounts presented in the Level 3 Fair Value Rollforward table above represent individually immaterial items that have been measured using a variety of valuation techniques other than those listed.

As of December 31, 2022	**Fair value[1]** *(in millions)*	**Methodology**	**Input**	**Low[2][3]**	**High[2][3]**	**Weighted average[4]**
Assets						
Securities borrowed and purchased under agreements to resell	**$ 146**	Model-based	Credit spread	**15 bps**	**15 bps**	**15 bps**
			Interest rate	**2.61 %**	**2.61 %**	**2.61 %**
Mortgage-backed securities	**$ 228**	Price-based	Price	**$ 1.04**	**$ 99.71**	**$ 51.51**
	732	Yield analysis	Yield	**4.41 %**	**20.30 %**	**9.74 %**
State and municipal, foreign government, corporate and other debt securities	**$ 2,360**	Price-based	Price	**$ 0.01**	**$ 994.68**	**$ 245.85**
Marketable equity securities[5]	**$ 147**	Price-based	Price	**$ —**	**$ 9,087.76**	**$ 114.29**
	31	Model-based	WAL	**2.24 years**	**2.24 years**	**2.24 years**
			Recovery *(in millions)*	**$ 7,148**	**$ 7,148**	**$ 7,148**
Asset-backed securities	**$ 304**	Price-based	Price	**$ 10.50**	**$ 145.00**	**$ 74.97**
	308	Yield analysis	Yield	**5.76 %**	**18.58 %**	**9.34 %**
Non-marketable equities	**$ 287**	Comparables analysis	Illiquidity discount	**8.60 %**	**17.00 %**	**10.16 %**
	101	Price-based	PE ratio	**14.00x**	**15.70x**	**15.16x**
			Cost of capital	**8.10 %**	**17.50 %**	**10.44 %**
			Revenue multiple	**3.60x**	**13.90x**	**12.40x**
Derivatives—gross[6]						
Interest rate contracts (gross)	**$ 7,108**	Model-based	IR normal volatility	**0.33 %**	**1.82 %**	**0.96 %**
Foreign exchange contracts (gross)	**$ 1,437**	Model-based	IR normal volatility	**0.33 %**	**1.47 %**	**0.67 %**
			IR Basis	**(4.23)%**	**9.68 %**	**(0.03)%**
			Equity volatility	**0.05 %**	**300.72 %**	**33.91 %**
			Credit spread	**116 bps**	**626 bps**	**594 bps**
Equity contracts (gross)[7]	**$ 4,430**	Model-based	Equity volatility	**0.05 %**	**300.72 %**	**41.47 %**
			Equity forward	**68.34 %**	**271.61 %**	**103.50 %**
			Equity-FX correlation	**(95.00)%**	**50.00 %**	**(16.33)%**
			Equity-Equity correlation	**(3.98)%**	**98.68 %**	**85.63 %**
			WAL	**2.24 years**	**2.24 years**	**2.24 years**
			Recovery *(in millions)*	**$7,148**	**$7,148**	**$7,148**
			Equity-IR correlation	**(18.83)%**	**60.00 %**	**32.37 %**
Commodity and other contracts (gross)	**$ 2,724**	Model-based	Forward price	**14.27 %**	**385.50 %**	**106.08 %**
			Commodity volatility	**10.43 %**	**151.50 %**	**33.55 %**
			Commodity correlation	**(32.00)%**	**91.94 %**	**36.70 %**
Credit derivatives (gross)	**$ 1,520**	Model-based	Credit spread	**2.50 bps**	**955.10 bps**	**101.27 bps**
	439	Price-based	Recovery rate	**25.00 %**	**75.00 %**	**42.27 %**
			Credit correlation	**25.00 %**	**80.00 %**	**42.38 %**
			Price	**$ 31.71**	**$ 99.00**	**$ 78.75**

As of December 31, 2022	**Fair value[1] *(in millions)***	**Methodology**	**Input**	**Low[2][3]**	**High[2][3]**	**Weighted average[4]**
			Credit spread volatility	**35.58 %**	**64.79 %**	**40.47 %**
Non-trading derivatives and other financial assets and liabilities measured on a recurring basis (gross)	**$ 57**	Price-based	Price	**$ 80.16**	**$ 105.32**	**$ 92.65**
Loans and leases	**$ 1,059**	Model-based	Equity volatility	**0.05 %**	**300.72 %**	**42.62 %**
	304	Price-based	Forward price	**14.27 %**	**324.85 %**	**105.07 %**
			Price	**$0.01**	**$100.53**	**$84.77**
			Equity forward	**68.34 %**	**271.61 %**	**103.49 %**
Mortgage servicing rights	**$ 580**	Cash flow	Yield	**(0.40)%**	**13.20 %**	**5.36 %**
	84	Model-based	WAL	**3.92 years**	**9.33 years**	**7.71 years**
Liabilities						
Interest-bearing deposits	**$ 15**	Model-based	Forward price	**100.00 %**	**101.30 %**	**100.07 %**
Securities loaned and sold under agreements to repurchase	**$ 970**	Model-based	Interest rate	**4.01 %**	**4.97 %**	**4.07 %**
Trading account liabilities						
Securities sold, not yet purchased and other trading liabilities	**$ 47**	Price-based	Price	**$ —**	**$ 9,087.76**	**$ 41.22**
	6	Model-based	FX volatility	**2.00 %**	**40.00 %**	**12.85 %**
Short-term borrowings and long-term debt	**$ 36,155**	Model-based	IR normal volatility	**0.33 %**	**1.82 %**	**0.89 %**

As of December 31, 2021	Fair value[1] *(in millions)*	Methodology	Input	Low[2][3]	High[2][3]	Weighted average[4]
Assets						
Securities borrowed and purchased under agreements to resell	$ 231	Model-based	Credit spread	15 bps	15 bps	15 bps
			Interest rate	0.26 %	0.72 %	0.50 %
Mortgage-backed securities	$ 279	Price-based	Price	$ 4	$ 118	$ 79
	526	Yield analysis	Yield	1.43 %	23.79 %	7.25 %
State and municipal, foreign government, corporate and other debt securities	$ 2,264	Price-based	Price	$ —	$ 995	$ 193
	415	Model-based	Equity volatility	0.08 %	290.64 %	53.94 %
Marketable equity securities[5]	$ 128	Price-based	Price	$ —	$ 73,000	$ 6,477
	43	Model-based	WAL	1.73 years	1.73 years	1.73 years
			Recovery *(in millions)*	$ 7,148	$ 7,148	$ 7,148
Asset-backed securities	$ 386	Price-based	Price	$ 5	$ 754	$ 87
	208	Yield analysis	Yield	2.43 %	19.35 %	8.18 %
Non-marketable equities	$ 121	Price-based	Illiquidity discount	10.00 %	36.00 %	26.43 %
	112	Comparables analysis	PE ratio	11.00x	29.00x	15.42x
	83	Model-based	Price	$ 3	$ 2,601	$ 2,029
			Adjustment factor	0.33x	0.44x	0.34x
			Revenue multiple	19.80x	30.00x	20.48x
			Cost of capital	17.50 %	20.00 %	17.57 %
Derivatives—gross[6]						
Interest rate contracts (gross)	$ 6,054	Model-based	IR normal volatility	0.24 %	0.94 %	0.70 %
Foreign exchange contracts (gross)	$ 1,364	Model-based	IR normal volatility	0.24 %	0.74 %	0.58 %
			FX volatility	2.13 %	107.42 %	11.21 %

As of December 31, 2021	Fair value[1] *(in millions)*	Methodology	Input	Low[2][3]	High[2][3]	Weighted average[4]
			Credit spread	140 bps	696 bps	639 bps
Equity contracts (gross)[7]	$ 4,690	Model-based	Equity volatility	0.08 %	290.64 %	47.67 %
			Equity forward	57.99 %	165.83 %	89.45 %
			Equity-FX correlation	(95.00)%	80.00 %	(16.00)%
			Equity-Equity correlation	(6.49)%	99.00 %	85.61 %
Commodity and other contracts (gross)	$ 3,172	Model-based	Forward price	8.00 %	599.44 %	123.22 %
			Commodity volatility	10.87 %	188.30 %	26.85 %
			Commodity correlation	(50.52)%	89.83 %	(7.11)%
Credit derivatives (gross)	$ 1,480	Model-based	Credit spread	1.00 bps	874.72 bps	68.83 bps
	427	Price-based	Recovery rate	20.00 %	75.00 %	44.72 %
			Upfront points	2.74 %	99.96 %	59.37 %
			Price	$ 40	$ 103	$ 80
			Credit correlation	30.00 %	80.00 %	54.57 %
Non-trading derivatives and other financial assets and liabilities measured on a recurring basis (gross)	$ 69	Price-based	Price	$ 94	$ 2,598	$ 591
Loans and leases	$ 691	Model-based	Equity volatility	22.48 %	85.44 %	50.56 %
			Forward price	26.95 %	333.08 %	106.97 %
			Commodity volatility	10.87 %	188.30 %	26.85 %
			Commodity correlation	(50.52)%	89.83 %	(7.11)%
Mortgage servicing rights	$ 331	Cash flow	Yield	(1.20)%	12.10 %	4.51 %
	73	Model-based	WAL	2.75 years	5.86 years	5.14 years
Liabilities						
Interest-bearing deposits	$ 183	Model-based	IR normal volatility	0.34 %	0.88 %	0.68 %
			Equity volatility	0.08 %	290.64 %	54.05 %
			Equity forward	57.99 %	165.83 %	89.39 %
Securities loaned and sold under agreements to repurchase	$ 643	Model-based	Interest rate	0.12 %	1.95 %	1.47 %
Trading account liabilities						
Securities sold, not yet purchased and other trading liabilities	$ 63	Price-based	Price	$ —	$ 12,875	$ 1,707
Short-term borrowings and long-term debt	$ 25,514	Model-based	IR normal volatility	0.07 %	0.88 %	0.60 %
			Equity volatility	0.08 %	290.64 %	53.21 %
			Equity-IR correlation	(3.53)%	60.00 %	32.12 %
			Equity-FX correlation	(95.00)%	80.00 %	(15.98)%
			FX volatility	0.06 %	41.76 %	9.38 %

(1) The tables above include the fair values for the items listed and may not foot to the total population for each category.
(2) Some inputs are shown as zero due to rounding.
(3) When the low and high inputs are the same, there is either a constant input applied to all positions, or the methodology involving the input applies to only one large position.
(4) Weighted averages are calculated based on the fair values of the instruments.
(5) For equity securities, the price inputs are expressed on an absolute basis, not as a percentage of the notional amount.
(6) Both trading and non-trading account derivatives—assets and liabilities—are presented on a gross absolute value basis.
(7) Includes hybrid products.

Uncertainty of Fair Value Measurements Relating to Unobservable Inputs

Valuation uncertainty arises when there is insufficient or dispersed market data to allow a precise determination of the exit value of a fair-valued position or portfolio in today's market. This is especially prevalent in Level 3 fair value instruments, where uncertainty exists in valuation inputs that may be both unobservable and significant to the instrument's (or portfolio's) overall fair value measurement. The uncertainties associated with key unobservable inputs on the Level 3 fair value measurements may not be independent of one another. In addition, the amount and direction of the uncertainty on a fair value measurement for a given change in an unobservable input depends on the nature of the instrument as well as whether the Company holds the instrument as an asset or a liability. For certain instruments, the pricing, hedging and risk management are sensitive to the correlation between various inputs rather than on the analysis and aggregation of the individual inputs.

The following section describes some of the most significant unobservable inputs used by the Company in Level 3 fair value measurements.

Correlation

Correlation is a measure of the extent to which two or more variables change in relation to each other. A variety of correlation-related assumptions are required for a wide range of instruments, including equity and credit baskets, foreign exchange options, Credit Index Tranches and many other instruments. For almost all of these instruments, correlations are not directly observable in the market and must be calculated using alternative sources, including historical information. Estimating correlation can be especially difficult where it may vary over time, and calculating correlation information from market data requires significant assumptions regarding the informational efficiency of the market (e.g., swaption markets). Uncertainty therefore exists when an estimate of the appropriate level of correlation as an input into some fair value measurements is required.

Changes in correlation levels can have a substantial impact, favorable or unfavorable, on the value of an instrument, depending on its nature. A change in the default correlation of the fair value of the underlying bonds comprising a CDO structure would affect the fair value of the senior tranche. For example, an increase in the default correlation of the underlying bonds would reduce the fair value of the senior tranche, because highly correlated instruments produce greater losses in the event of default and a portion of these losses would become attributable to the senior tranche. That same change in default correlation would have a different impact on junior tranches of the same structure.

Volatility

Volatility represents the speed and severity of market price changes and is a key factor in pricing options. Volatility generally depends on the tenor of the underlying instrument and the strike price or level defined in the contract. Volatilities for certain combinations of tenor and strike are not observable and need to be estimated using alternative methods, such as comparable instruments, historical analysis or other sources of market information. This leads to uncertainty around the final fair value measurement of instruments with unobservable volatilities.

The general relationship between changes in the value of an instrument (or a portfolio) to changes in volatility also depends on changes in interest rates and the level of the underlying index. Generally, long option positions (assets) benefit from increases in volatility, whereas short option positions (liabilities) will suffer losses. Some instruments are more sensitive to changes in volatility than others. For example, an at-the-money option would experience a greater percentage change in its fair value than a deep-in-the-money option. In addition, the fair value of an option with more than one underlying security (e.g., an option on a basket of equities) depends on the volatility of the individual underlying securities as well as their correlations.

Yield

In some circumstances, the yield of an instrument is not observable in the market and must be estimated from historical data or from yields of similar securities. This estimated yield may need to be adjusted to capture the characteristics of the security being valued. Whenever the amount of the adjustment is significant to the value of the security, the fair value measurement is classified as Level 3.

Adjusted yield is generally used to discount the projected future principal and interest cash flows on instruments, such as asset-backed securities. Adjusted yield is impacted by changes in the interest rate environment and relevant credit spreads.

Prepayment

Voluntary unscheduled payments (prepayments) change the future cash flows for the investor and thereby change the fair value of the security. The effect of prepayments is more pronounced for residential mortgage-backed securities. Prepayment is generally negatively correlated with delinquency and interest rate. A combination of low prepayments and high delinquencies amplifies each input's negative impact on a mortgage security's valuation. As prepayment speeds change, the weighted average life of the security changes, which impacts the valuation either positively or negatively, depending upon the nature of the security and the direction of the change in the weighted average life.

Recovery

Recovery is the proportion of the total outstanding balance of a bond or loan that is expected to be collected in a liquidation scenario. For many credit securities (e.g., commercial mortgage-backed securities), the expected recovery amount of a defaulted property is typically unknown until a liquidation of the property is imminent. The assumed recovery of a security may differ from its actual recovery that will be observable in the future. Generally, an increase in the recovery rate assumption increases the fair value of the security. An increase in loss severity, the inverse of the recovery rate, reduces the amount of principal available for distribution and, as a result, decreases the fair value of the security.

Credit Spread

Credit spread is a component of the security representing its credit quality. Credit spread reflects the market perception of changes in prepayment, delinquency and recovery rates, therefore capturing the impact of other variables on the fair value. Changes in credit spread affect the fair value of securities differently depending on the characteristics and maturity profile of the security. For example, credit spread is a more significant driver of the fair value measurement of a high-yield bond as compared to an investment-grade bond. Generally, the credit spread for an investment-grade bond is also more observable and less volatile than its high-yield counterpart.

Items Measured at Fair Value on a Nonrecurring Basis

Certain assets and liabilities are measured at fair value on a nonrecurring basis and, therefore, are not included in the tables above. These include assets measured at cost that have been written down to fair value during the periods as a result of an impairment. These also include non-marketable equity securities that have been measured using the measurement alternative and are either (i) written down to fair value during the periods as a result of an impairment or (ii) adjusted upward or downward to fair value as a result of a transaction observed during the periods for an identical or similar investment in the same issuer. In addition, these assets include loans held-for-sale and other real estate owned that are measured at the lower of cost or market value.

The following tables present the carrying amounts of all assets that were still held for which a nonrecurring fair value measurement was recorded:

In millions of dollars	**Fair value**	**Level 2**	**Level 3**
December 31, 2022			
Loans HFS[(1)]	**$ 2,336**	**$ 457**	**$ 1,879**
Other real estate owned	**1**	**—**	**1**
Loans[(2)]	**69**	**—**	**69**
Non-marketable equity securities measured using the measurement alternative	**597**	**—**	**597**
Total assets at fair value on a nonrecurring basis	**$ 3,003**	**$ 457**	**$ 2,546**

In millions of dollars	Fair value	Level 2	Level 3
December 31, 2021			
Loans HFS[(1)]	$ 2,298	$ 986	$ 1,312
Other real estate owned	11	—	11
Loans[(2)]	144	—	144
Non-marketable equity securities measured using the measurement alternative	655	104	551
Total assets at fair value on a nonrecurring basis	$ 3,108	$ 1,090	$ 2,018

(1) Net of fair value amounts on the unfunded portion of loans HFS recognized as *Other liabilities* on the Consolidated Balance Sheet.

(2) Represents impaired loans held for investment whose carrying amount is based on the fair value of the underlying collateral less costs to sell, primarily real estate.

The fair value of loans HFS is determined where possible using quoted secondary-market prices. If no such quoted price exists, the fair value of a loan is determined using quoted prices for a similar asset or assets, adjusted for the specific attributes of that loan. Fair value for the other real estate owned is based on appraisals. For loans whose carrying amount is based on the fair value of the underlying collateral, the fair values depend on the type of collateral. Fair value of the collateral is typically estimated based on quoted market prices if available, appraisals or other internal valuation techniques.

Where the fair value of the related collateral is based on an appraised value, the loan is generally classified as Level 3. In addition, for corporate loans, appraisals of the collateral are often based on sales of similar assets; however, because the prices of similar assets require significant adjustments to reflect the unique features of the underlying collateral, these fair value measurements are generally classified as Level 3.

The fair value of non-marketable equity securities under the measurement alternative is based on observed transaction prices for the identical or similar investment of the same issuer, or an internal valuation technique in the case of an impairment. Where there are insufficient market observations to conclude the inputs are observable, where significant adjustments are made to the observed transaction prices or when an internal valuation technique is used, the security is classified as Level 3. Fair value may differ from the observed transaction price due to a number of factors, including marketability adjustments and differences in rights and obligations when the observed transaction is not for the identical investment held by Citi.

Valuation Techniques and Inputs for Level 3 Nonrecurring Fair Value Measurements

The following tables present the valuation techniques covering the majority of Level 3 nonrecurring fair value measurements and the most significant unobservable inputs used in those measurements:

As of December 31, 2022	**Fair value[1] *(in millions)***	**Methodology**	**Input**	**Low[2]**	**High**	**Weighted average[3]**
Loans held-for-sale	**$ 1,830**	Price-based	Price	**$ 0.88**	**$ 100.23**	**$ 65.91**
Other real estate owned	**$ 1**	Price-based	Appraised value[4]	**$ 30,000**	**$ 441,750**	**$ 310,552**
Loans[5]	**$ 45**	Recovery analysis	Appraised value[4]	**$ 12,000**	**$ 14,022,820**	**$ 3,714,342**
	24	Appraised value				
Non-marketable equity securities measured using the measurement alternative	**$ 234**		Revenue multiple	**4.95x**	**73.10x**	**19.68x**
	363		Price	**$ 0.46**	**$ 2,416.43**	**$ 557.86**

As of December 31, 2021	Fair value[1] *(in millions)*	Methodology	Input	Low[2]	High	Weighted average[3]
Loans held-for-sale	$ 1,312	Price-based	Price	$ 89	$ 100	$ 99
Other real estate owned	$ 4	Price-based	Appraised value[4]	$ 14,000	$ 2,392,464	$ 1,660,120
	5	Recovery analysis				
Loans[5]	$ 120	Recovery analysis	Appraised value[4]	$ 10,000	$ 3,900,000	$ 247,018
	24	Price-based	Price	$ 3	$ 75	$ 35
			Recovery rate	84.00 %	100.00 %	84.00 %
Non-marketable equity securities measured using the measurement alternative	$ 551	Price-based	Price	$ 6	$ 1,339	$ 52

(1) The table above includes the fair values for the items listed and may not foot to the total population for each category.
(2) Some inputs are shown as zero due to rounding.
(3) Weighted averages are calculated based on the fair values of the instruments.
(4) Appraised values are disclosed in whole dollars.
(5) Represents impaired loans held for investment whose carrying amount is based on the fair value of the underlying collateral less costs to sell, primarily real estate.

Nonrecurring Fair Value Changes

The following tables present total nonrecurring fair value measurements for the period, included in earnings, attributable to the change in fair value relating to assets that were still held:

	Year ended December 31,	
In millions of dollars	**2022**	2021
Loans HFS	**$ (58)**	$ (31)
Other real estate owned	**—**	—
Loans[1]	**13**	9
Non-marketable equity securities measured using the measurement alternative	**315**	468
Total nonrecurring fair value gains (losses)	**$ 270**	$ 446

(1) Represents loans held for investment whose carrying amount is based on the fair value of the underlying collateral less costs to sell, primarily real estate.

Estimated Fair Value of Financial Instruments Not Carried at Fair Value

The following tables present the carrying value and fair value of Citigroup's financial instruments that are not carried at fair value. The tables below therefore exclude items measured at fair value on a recurring basis presented in the tables above.

The disclosure also excludes leases, affiliate investments, pension and benefit obligations, certain insurance contracts and tax-related items. Also, as required, the disclosure excludes the effect of taxes, any premium or discount that could result from offering for sale at one time the entire holdings of a particular instrument, excess fair value associated with deposits with no fixed maturity and other expenses that would be incurred in a market transaction. In addition, the tables exclude the values of non-financial assets and liabilities, as well as a wide range of franchise, relationship and intangible values, which are integral to a full assessment of Citigroup's financial position and the value of its net assets.

Fair values vary from period to period based on changes in a wide range of factors, including interest rates, credit quality and market perceptions of value, and as existing assets and liabilities run off and new transactions are entered into.

	December 31, 2022		**Estimated fair value**		
In billions of dollars	**Carrying value**	**Estimated fair value**	**Level 1**	**Level 2**	**Level 3**
Assets					
Investments, net of allowance	**$ 274.3**	**$ 249.2**	**$ 123.2**	**$ 123.1**	**$ 2.9**
Securities borrowed and purchased under agreements to resell	**125.9**	**125.9**	**—**	**125.9**	**—**
Loans[1][2]	**634.5**	**634.9**	**—**	**—**	**634.9**
Other financial assets[2][3]	**427.1**	**427.1**	**320.0**	**22.0**	**85.1**
Liabilities					
Deposits	**$ 1,364.1**	**$ 1,345.4**	**$ —**	**$ 1,159.4**	**$ 186.0**
Securities loaned and sold under agreements to repurchase	**131.6**	**131.6**	**—**	**131.6**	**—**
Long-term debt[4]	**165.6**	**160.5**	**—**	**151.1**	**9.4**
Other financial liabilities[5]	**142.4**	**142.4**	**—**	**26.5**	**115.9**

	December 31, 2021		Estimated fair value		
In billions of dollars	Carrying value	Estimated fair value	Level 1	Level 2	Level 3
Assets					
Investments, net of allowance	$ 221.9	$ 221.0	$ 111.8	$ 106.4	$ 2.8
Securities borrowed and purchased under agreements to resell	110.8	110.8	—	106.4	4.4
Loans[1][2]	644.8	659.6	—	—	659.6
Other financial assets[2][3]	351.9	351.9	242.1	19.9	89.9
Liabilities					
Deposits	$ 1,315.6	$ 1,316.2	$ —	$ 1,153.9	$ 162.3
Securities loaned and sold under agreements to repurchase	134.6	134.6	—	134.5	0.1
Long-term debt[4]	171.8	184.6	—	171.9	12.7
Other financial liabilities[5]	111.1	111.1	—	17.0	94.1

(1) The carrying value of loans is net of the allowance for credit losses on loans of $17.0 billion for December 31, 2022 and $16.5 billion for December 31, 2021. In addition, the carrying values exclude $0.4 billion and $0.5 billion of lease finance receivables at December 31, 2022 and 2021 respectively.

(2) Includes items measured at fair value on a nonrecurring basis.

(3) Includes cash and due from banks, deposits with banks, brokerage receivables, reinsurance recoverables and other financial instruments included in *Other assets* on the Consolidated Balance Sheet, for all of which the carrying value is a reasonable estimate of fair value.

(4) The carrying value includes long-term debt balances under qualifying fair value hedges.

(5) Includes brokerage payables, separate and variable accounts, short-term borrowings (carried at cost) and other financial instruments included in *Other liabilities* on the Consolidated Balance Sheet, for all of which the carrying value is a reasonable estimate of fair value.

The estimated fair values of the Company's corporate unfunded lending commitments at December 31, 2022 and 2021 were off-balance sheet liabilities of $13.7 billion and $8.1 billion, respectively, substantially all of which are classified as Level 3. The Company does not estimate the fair values of consumer unfunded lending commitments, which are generally cancellable by providing notice to the borrower.

26. FAIR VALUE ELECTIONS

The Company may elect to report most financial instruments and certain other items at fair value on an instrument-by-instrument basis with changes in fair value reported in earnings, other than DVA (see below). The election is made upon the initial recognition of an eligible financial asset, financial liability or firm commitment or when certain specified reconsideration events occur. The fair value election may not otherwise be revoked once an election is made. The changes in fair value are recorded in current earnings. Movements in DVA are reported as a component of *AOCI*. Additional discussion regarding the applicable areas in which fair value elections were made is presented in Note 25.

The Company has elected fair value accounting for its mortgage servicing rights (MSRs). See Note 22 for additional details on Citi's MSRs.

The following table presents the changes in fair value of those items for which the fair value option has been elected:

	Changes in fair value—gains (losses) for the years ended December 31,	
In millions of dollars	**2022**	2021
Assets		
Securities borrowed and purchased under agreements to resell	**$ (109)**	$ (87)
Trading account assets	**(296)**	59
Investments	**—**	—
Loans		
Certain corporate loans	**(1,763)**	(171)
Certain consumer loans	**(1)**	—
Total loans	**$ (1,764)**	$ (171)
Other assets		
MSRs	**$ 201**	$ 43
Certain mortgage loans HFS[1]	**(455)**	70
Total other assets	**$ (254)**	$ 113
Total assets	**$ (2,423)**	$ (86)
Liabilities		
Interest-bearing deposits	**$ 42**	$ (118)
Securities loaned and sold under agreements to repurchase	**110**	66
Trading account liabilities	**(239)**	17
Short-term borrowings[2]	**1,424**	675
Long-term debt[2]	**15,589**	386
Total liabilities	**$ 16,926**	$ 1,026

(1) Includes gains (losses) associated with interest rate lock commitments for those loans that have been originated and elected under the fair value option.
(2) Includes DVA that is included in *AOCI*. See Notes 20 and 25.

Own Debt Valuation Adjustments (DVA)
Own debt valuation adjustments are recognized on Citi's liabilities for which the fair value option has been elected using Citi's credit spreads observed in the bond market. Changes in fair value of fair value option liabilities related to changes in Citigroup's own credit spreads (DVA) are reflected as a component of *AOCI*. See Note 20 for additional information.

Among other variables, the fair value of liabilities for which the fair value option has been elected (other than non-recourse debt and similar liabilities) is impacted by the narrowing or widening of the Company's credit spreads.

The estimated changes in the fair value of these non-derivative liabilities due to such changes in the Company's own credit spread (or instrument-specific credit risk) were a gain of $2,685 million and $296 million for the years ended December 31, 2022 and 2021, respectively. Changes in fair value resulting from changes in instrument-specific credit risk were estimated by incorporating the Company's current credit spreads observable in the bond market into the relevant valuation technique used to value each liability as described above.

The Fair Value Option for Financial Assets and Financial Liabilities

Selected Portfolios of Securities Purchased Under Agreements to Resell, Securities Borrowed, Securities Sold Under Agreements to Repurchase, Securities Loaned and Certain Uncollateralized Short-Term Borrowings
The Company elected the fair value option for certain portfolios of fixed income securities purchased under agreements to resell and fixed income securities sold under agreements to repurchase, securities borrowed, securities loaned and certain uncollateralized short-term borrowings held primarily by broker-dealer entities in the United States, the United Kingdom and Japan. In each case, the election was made because the related interest rate risk is managed on a portfolio basis, primarily with offsetting derivative instruments that are accounted for at fair value through earnings.

Changes in fair value for transactions in these portfolios are recorded in *Principal transactions*. The related interest revenue and interest expense are measured based on the contractual rates specified in the transactions and are reported as *Interest revenue* and *Interest expense* in the Consolidated Statement of Income.

Certain Loans and Other Credit Products
Citigroup has also elected the fair value option for certain other originated and purchased loans, including certain unfunded loan products, such as guarantees and letters of credit, executed by Citigroup's lending and trading businesses. None of these credit products are highly leveraged financing commitments. Significant groups of transactions include loans and unfunded loan products that are expected to be either sold or securitized in the near term, or transactions where the economic risks are hedged with derivative instruments, such as purchased credit default swaps or total return swaps where the Company pays the total return on the underlying loans to a third party. Citigroup has elected the fair value option to mitigate accounting mismatches in cases where hedge accounting is complex and to achieve operational simplifications. Fair value was not elected for most lending transactions across the Company.

The following table provides information about certain credit products carried at fair value:

	December 31, 2022		December 31, 2021	
In millions of dollars	**Trading assets**	**Loans**	Trading assets	Loans
Carrying amount reported on the Consolidated Balance Sheet	**$ 6,011**	**$ 5,360**	$ 9,530	$ 6,082
Aggregate unpaid principal balance in excess of (less than) fair value	**167**	**51**	(100)	226
Balance of non-accrual loans or loans more than 90 days past due	**—**	**2**	—	1
Aggregate unpaid principal balance in excess of (less than) fair value for non-accrual loans or loans more than 90 days past due	**—**	**1**	—	—

In addition to the amounts reported above, $729 million and $719 million of unfunded commitments related to certain credit products selected for fair value accounting were outstanding as of December 31, 2022 and 2021, respectively.

Changes in the fair value of funded and unfunded credit products are classified in *Principal transactions* in Citi's Consolidated Statement of Income. Related interest revenue is measured based on the contractual interest rates and reported as *Interest revenue* on *Trading account assets* or loan interest depending on the balance sheet classifications of the credit products. The changes in fair value for the years ended December 31, 2022 and 2021 due to instrument-specific credit risk totaled to losses of $155 million and $21 million, respectively. Changes in fair value due to instrument-specific credit risk are estimated based on changes in borrower-specific credit spreads and recovery assumptions.

Certain Investments in Unallocated Precious Metals

Citigroup invests in unallocated precious metals accounts (e.g., gold, silver, platinum and palladium) as part of its commodity and foreign currency trading activities or to economically hedge certain exposures from issuing structured liabilities. Under ASC 815, the investment is bifurcated into a debt host contract and a commodity forward derivative instrument. Citigroup elects the fair value option for the debt host contract, and reports the debt host contract within *Trading account assets* on the Company's Consolidated Balance Sheet. The total carrying amount of debt host contracts across unallocated precious metals accounts was approximately $0.3 billion and $0.3 billion at December 31, 2022 and 2021, respectively. The amounts are expected to fluctuate based on trading activity in future periods.

As part of its commodity and foreign currency trading activities, Citi trades unallocated precious metals investments and executes forward purchase and forward sale derivative contracts with trading counterparties. When Citi sells an unallocated precious metals investment, Citi's receivable from its depository bank is repaid and Citi derecognizes its investment in the unallocated precious metal. The forward purchase or sale contract with the trading counterparty indexed to unallocated precious metals is accounted for as a derivative, at fair value through earnings. As of December 31, 2022, there were approximately $18.6 billion and $10.8 billion of notional amounts of such forward purchase and forward sale derivative contracts outstanding, respectively.

Certain Investments in Private Equity and Real Estate Ventures

Citigroup invests in private equity and real estate ventures for the purpose of earning investment returns and for capital appreciation. The Company has elected the fair value option for certain of these ventures, because such investments are considered similar to many private equity or hedge fund activities in Citi's investment companies, which are reported at fair value. The fair value option brings consistency in the accounting and evaluation of these investments. All investments (debt and equity) in such private equity and real estate entities are accounted for at fair value. These investments are classified as *Investments* on Citigroup's Consolidated Balance Sheet.

Changes in the fair values of these investments are classified in *Other revenue* in the Company's Consolidated Statement of Income.

Certain Mortgage Loans Held-for-Sale (HFS)

Citigroup has elected the fair value option for certain purchased and originated prime fixed-rate and conforming adjustable-rate first mortgage loans HFS. These loans are intended for sale or securitization and are hedged with derivative instruments. The Company has elected the fair value option to mitigate accounting mismatches in cases where hedge accounting is complex and to achieve operational simplifications.

The following table provides information about certain mortgage loans HFS carried at fair value:

In millions of dollars	**December 31, 2022**	December 31, 2021
Carrying amount reported on the Consolidated Balance Sheet	**$ 793**	$ 3,035
Aggregate fair value in excess of (less than) unpaid principal balance	**(10)**	70
Balance of non-accrual loans or loans more than 90 days past due	**1**	—
Aggregate unpaid principal balance in excess of fair value for non-accrual loans or loans more than 90 days past due	**—**	—

The changes in the fair values of these mortgage loans are reported in *Other revenue* in the Company's Consolidated Statement of Income. There was no net change in fair value during the years ended December 31, 2022 and 2021 due to instrument-specific credit risk. Changes in fair value due to instrument-specific credit risk are estimated based on changes in the borrower default, prepayment and recovery forecasts in addition to instrument-specific credit spread. Related interest income continues to be measured based on the contractual interest rates and reported as *Interest revenue* in the Consolidated Statement of Income.

Certain Debt Liabilities

The Company has elected the fair value option for certain debt liabilities, because these exposures are considered to be trading-related positions and, therefore, are managed on a fair value basis. These positions are classified as *Long-term debt* on the Company's Consolidated Balance Sheet.

The following table provides information about the carrying value of notes carried at fair value, disaggregated by type of risk:

In billions of dollars	**December 31, 2022**	December 31, 2021
Interest rate linked	**$ 53.4**	$ 38.9
Foreign exchange linked	**0.1**	—
Equity linked	**42.5**	36.1
Commodity linked	**5.0**	3.9
Credit linked	**5.0**	3.7
Total	**$ 106.0**	$ 82.6

The portion of the changes in fair value attributable to changes in Citigroup's own credit spreads (DVA) is reflected as a component of *AOCI* while all other changes in fair value are reported in *Principal transactions*. Changes in the fair value of these liabilities include accrued interest, which is also included in the change in fair value reported in *Principal transactions*.

Certain Non-Structured Liabilities

The Company has elected the fair value option for certain non-structured liabilities with fixed and floating interest rates. The Company has elected the fair value option where the interest rate risk of such liabilities may be economically hedged with derivative contracts or the proceeds are used to purchase financial assets that will also be accounted for at fair value through earnings. The elections have been made to mitigate accounting mismatches and to achieve operational simplifications. These positions are reported in *Short-term borrowings* and *Long-term debt* on the Company's Consolidated Balance Sheet. The portion of the changes in fair value attributable to changes in Citigroup's own credit spreads (i.e., DVA) is reflected as a component of *AOCI* while all other changes in fair value are reported in *Principal transactions*.

Interest expense on non-structured liabilities is measured based on the contractual interest rates and reported as *Interest expense* in the Consolidated Statement of Income.

The following table provides information about long-term debt carried at fair value:

In millions of dollars	**December 31, 2022**	December 31, 2021
Carrying amount reported on the Consolidated Balance Sheet	**$ 105,995**	$ 82,609
Aggregate unpaid principal balance in excess of (less than) fair value	**(2,944)**	(2,459)

The following table provides information about short-term borrowings carried at fair value:

In millions of dollars	**December 31, 2022**	December 31, 2021
Carrying amount reported on the Consolidated Balance Sheet	**$ 6,222**	$ 7,358
Aggregate unpaid principal balance in excess of (less than) fair value	**(9)**	(644)

27. PLEDGED ASSETS, RESTRICTED CASH, COLLATERAL, GUARANTEES AND COMMITMENTS

Pledged Assets

In connection with Citi's financing and trading activities, Citi has pledged assets to collateralize its obligations under repurchase agreements, secured financing agreements, secured liabilities of consolidated VIEs and other borrowings. The approximate carrying values of the significant components of pledged assets recognized on Citi's Consolidated Balance Sheet included the following:

In millions of dollars	**December 31, 2022**	December 31, 2021
Investment securities	**$ 246,252**	$ 252,192
Loans	**261,450**	232,319
Trading account assets	**135,978**	140,980
Total	**$ 643,680**	$ 625,491

Restricted Cash

Citigroup defines restricted cash (as cash subject to withdrawal restrictions) to include cash deposited with central banks that must be maintained to meet minimum regulatory requirements, and cash set aside for the benefit of customers or for other purposes such as compensating balance arrangements or debt retirement. Restricted cash may include minimum reserve requirements at certain central banks and cash segregated to satisfy rules regarding the protection of customer assets as required by Citigroup broker-dealers' primary regulators, including the SEC, the Commodity Futures Trading Commission and the United Kingdom's Prudential Regulation Authority.

Restricted cash is included on the Consolidated Balance Sheet within the following balance sheet lines:

In millions of dollars	**December 31, 2022**	December 31, 2021
Cash and due from banks	**$ 4,820**	$ 2,786
Deposits with banks, net of allowance	**12,156**	10,636
Total	**$ 16,976**	$ 13,422

In addition to the restricted cash amounts shown above, approximately $1.8 billion held at the Russia National Settlements Depository is subject to restrictions imposed by the Russian government. This restricted amount is reported within *Other assets* on the Consolidated Balance Sheet.

Collateral

At December 31, 2022 and 2021, the approximate fair value of securities collateral received by Citi that may be resold or repledged, excluding the impact of allowable netting, was $725.5 billion and $650.8 billion, respectively. This collateral was received in connection with resale agreements, securities borrowings and loans, securities for securities lending transactions, derivative transactions and margined broker loans.

At December 31, 2022 and 2021, a substantial portion of the collateral received by Citi had been sold or repledged in connection with repurchase agreements, securities sold, not yet purchased, securities lendings, pledges to clearing organizations, segregation requirements under securities laws and regulations, derivative transactions and bank loans.

In addition, at December 31, 2022 and 2021, Citi had pledged $502.0 billion and $481.0 billion, respectively, of collateral that may not be sold or repledged by the secured parties.

Guarantees

Citi provides a variety of guarantees and indemnifications to its customers to enhance their credit standing and enable them to complete a wide range of business transactions. For certain contracts meeting the definition of a guarantee, the guarantor must recognize, at inception, a liability for the fair value of the obligation undertaken in issuing the guarantee.

In addition, the guarantor must disclose the maximum potential amount of future payments that the guarantor could be required to make under the guarantee, if there were a total default by the guaranteed parties. The determination of the maximum potential future payments is based on the notional amount of the guarantees without consideration of possible recoveries under recourse provisions or from collateral held or pledged. As such, Citi believes such amounts bear no relationship to the anticipated losses, if any, on these guarantees.

The following tables present information about Citi's guarantees:

	Maximum potential amount of future payments			
In billions of dollars at December 31, 2022	**Expire within 1 year**	**Expire after 1 year**	**Total amount outstanding**	**Carrying value** *(in millions of dollars)*
Financial standby letters of credit	**$ 31.3**	**$ 58.3**	**$ 89.6**	**$ 905**
Performance guarantees	**6.1**	**5.6**	**11.7**	**65**
Derivative instruments considered to be guarantees	**18.5**	**30.0**	**48.5**	**353**
Loans sold with recourse	**—**	**1.7**	**1.7**	**13**
Securities lending indemnifications[1]	**95.9**	**—**	**95.9**	**—**
Credit card merchant processing[2]	**129.6**	**—**	**129.6**	**1**
Credit card arrangements with partners	**—**	**0.6**	**0.6**	**7**
Other	**0.1**	**8.4**	**8.5**	**32**
Total	**$ 281.5**	**$ 104.6**	**$ 386.1**	**$ 1,376**

	Maximum potential amount of future payments			
In billions of dollars at December 31, 2021	Expire within 1 year	Expire after 1 year	Total amount outstanding	Carrying value *(in millions of dollars)*
Financial standby letters of credit	$ 34.3	$ 58.4	$ 92.7	$ 791
Performance guarantees	6.6	6.4	13.0	47
Derivative instruments considered to be guarantees	14.6	48.9	63.5	514
Loans sold with recourse	—	1.7	1.7	15
Securities lending indemnifications[1]	121.9	—	121.9	—
Credit card merchant processing[2]	119.4	—	119.4	1
Credit card arrangements with partners	—	0.8	0.8	7
Other	2.0	12.0	14.0	34
Total	$ 298.8	$ 128.2	$ 427.0	$ 1,409

(1) The carrying values of securities lending indemnifications were not material for either period presented, as the probability of potential liabilities arising from these guarantees is minimal.

(2) At December 31, 2022 and 2021, this maximum potential exposure was estimated to be approximately $130 billion and $119 billion, respectively. However, Citi believes that the maximum exposure is not representative of the actual potential loss exposure based on its historical experience. This contingent liability is unlikely to arise, as most products and services are delivered when purchased and amounts are refunded when items are returned to merchants.

Financial Standby Letters of Credit

Citi issues standby letters of credit, which substitute its own credit for that of the borrower. If a letter of credit is drawn down, the borrower is obligated to repay Citi. Standby letters of credit protect a third party from defaults on contractual obligations. Financial standby letters of credit include (i) guarantees of payment of insurance premiums and reinsurance risks that support industrial revenue bond underwriting, (ii) settlement of payment obligations to clearing houses, including futures and over-the-counter derivatives clearing (see further discussion below), (iii) support options and purchases of securities in lieu of escrow deposit accounts and (iv) letters of credit that backstop loans, credit facilities, promissory notes and trade acceptances.

Performance Guarantees

Performance guarantees and letters of credit are issued to guarantee a customer's tender bid on a construction or systems-installation project or to guarantee completion of such projects in accordance with contract terms. They are also issued to support a customer's obligation to supply specified products, commodities or maintenance or warranty services to a third party.

Derivative Instruments Considered to Be Guarantees

Derivatives are financial instruments whose cash flows are based on a notional amount and an underlying instrument, reference credit or index, where there is little or no initial investment and whose terms require or permit net settlement. See Note 23 for a discussion of Citi's derivatives activities.

Derivative instruments considered to be guarantees include only those instruments that require Citi to make payments to the counterparty based on changes in an underlying instrument that is related to an asset, a liability or an equity security held by the guaranteed party. More specifically, derivative instruments considered to be guarantees include certain over-the-counter written put options where the counterparty is not a bank, hedge fund or broker-dealer (such counterparties are considered to be dealers in these markets and may, therefore, not hold the underlying instruments). Credit derivatives sold by Citi are excluded from the tables above as they are disclosed separately in Note 23. In instances where Citi's maximum potential future payment is unlimited, the notional amount of the contract is disclosed.

Loans Sold with Recourse

Loans sold with recourse represent Citi's obligations to reimburse the buyers for loan losses under certain circumstances. Recourse refers to the clause in a sales agreement under which a seller/lender will fully reimburse the buyer/investor for any losses resulting from the purchased loans. This may be accomplished by the sellers taking back any loans that become delinquent.

In addition to the amounts shown in the tables above, Citi has recorded a repurchase reserve for its potential repurchases or make-whole liability regarding residential mortgage representation and warranty claims related to its whole loan sales to U.S. government-sponsored agencies and, to a lesser extent, private investors. The repurchase reserve was approximately $10 million and $19 million at December 31, 2022 and 2021, respectively, and these amounts are included in *Other liabilities* on the Consolidated Balance Sheet.

Securities Lending Indemnifications

Owners of securities frequently lend those securities for a fee to other parties who may sell them short or deliver them to another party to satisfy some other obligation. Banks may administer such securities lending programs for their clients. Securities lending indemnifications are issued by the bank to guarantee that a securities lending customer will be made whole in the event that the security borrower does not return the security subject to the lending agreement and collateral held is insufficient to cover the market value of the security.

Credit Card Merchant Processing

Credit card merchant processing guarantees represent the Company's indirect obligations in connection with (i) providing transaction processing services to various merchants with respect to its private label cards and (ii) potential liability for bank card transaction processing services. The nature of the liability in either case arises as a result of a billing dispute between a merchant and a cardholder that is ultimately resolved in the cardholder's favor. The merchant is liable to refund the amount to the cardholder. In general, if the credit card processing company is unable to collect this amount from the merchant, the credit card processing company bears the loss for the amount of the credit or refund paid to the cardholder.

With regard to (i) above, Citi has the primary contingent liability with respect to its portfolio of private label merchants. The risk of loss is mitigated as the cash flows between Citi and the merchant are settled on a net basis, and Citi has the right to offset any payments with cash flows otherwise due to the merchant. To further mitigate this risk, Citi may delay settlement, require a merchant to make an escrow deposit, include event triggers to provide Citi with more financial and operational control in the event of the financial deterioration of the merchant or require various credit enhancements (including letters of credit and bank guarantees). In the unlikely event that a private label merchant is unable to deliver products, services or a refund to its private label cardholders, Citi is contingently liable to credit or refund cardholders.

With regard to (ii) above, Citi has a potential liability for bank card transactions where Citi provides the transaction processing services as well as those where a third party provides the services and Citi acts as a secondary guarantor, should that processor fail to perform.

Citi's maximum potential contingent liability related to both bank card and private label merchant processing services is estimated to be the total volume of credit card transactions that meet the requirements to be valid charge-back transactions at any given time. At December 31, 2022 and 2021, this maximum potential exposure was estimated to be $129.6 billion and $119.4 billion, respectively.

However, Citi believes that the maximum exposure is not representative of the actual potential loss exposure based on its historical experience. This contingent liability is unlikely to arise, as most products and services are delivered when purchased and amounts are refunded when items are returned to merchants. Citi assesses the probability and amount of its

contingent liability related to merchant processing based on the financial strength of the primary guarantor, the extent and nature of unresolved charge-backs and its historical loss experience. At December 31, 2022 and 2021, the losses incurred and the carrying amounts of Citi's contingent obligations related to merchant processing activities were immaterial.

Credit Card Arrangements with Partners

Citi, in one of its credit card partner arrangements, provides guarantees to the partner regarding the volume of certain customer originations during the term of the agreement. To the extent that such origination targets are not met, the guarantees serve to compensate the partner for certain payments that otherwise would have been generated in connection with such originations.

Other Guarantees and Indemnifications

Credit Card Protection Programs

Citi, through its credit card businesses, provides various cardholder protection programs on several of its card products, including programs that provide insurance coverage for rental cars, coverage for certain losses associated with purchased products, price protection for certain purchases and protection for lost luggage. These guarantees are not included in the table, since the total outstanding amount of the guarantees and Citi's maximum exposure to loss cannot be quantified. The protection is limited to certain types of purchases and losses, and it is not possible to quantify the purchases that would qualify for these benefits at any given time. Citi assesses the probability and amount of its potential liability related to these programs based on the extent and nature of its historical loss experience. At December 31, 2022 and 2021, the actual and estimated losses incurred and the carrying value of Citi's obligations related to these programs were immaterial.

Other Representation and Warranty Indemnifications

In the normal course of business, Citi provides standard representations and warranties to counterparties in contracts in connection with numerous transactions and also provides indemnifications, including indemnifications that protect the counterparties to the contracts in the event that additional taxes are owed, due either to a change in the tax law or an adverse interpretation of the tax law. Counterparties to these transactions provide Citi with comparable indemnifications. While such representations, warranties and indemnifications are essential components of many contractual relationships, they do not represent the underlying business purpose for the transactions. The indemnification clauses are often standard contractual terms related to Citi's own performance under the terms of a contract and are entered into in the normal course of business based on an assessment that the risk of loss is remote. Often these clauses are intended to ensure that terms of a contract are met at inception. No compensation is received for these standard representations and warranties, and it is not possible to determine their fair value because they rarely, if ever, result in a payment. In many cases, there are no stated or notional amounts included in the indemnification clauses, and the contingencies potentially triggering the obligation to indemnify have not occurred and are not expected to occur. As a result, these indemnifications are not included in the tables above.

Value-Transfer Networks (Including Exchanges and Clearing Houses) (VTNs)

Citi is a member of, or shareholder in, hundreds of value-transfer networks (VTNs) (payment, clearing and settlement systems as well as exchanges) around the world. As a condition of membership, many of these VTNs require that members stand ready to pay a pro rata share of the losses incurred by the organization due to another member's default on its obligations. Citi's potential obligations may be limited to its membership interests in the VTNs, contributions to the VTN's funds, or, in certain narrow cases, to the full pro rata share. The maximum exposure is difficult to estimate as this would require an assessment of claims that have not yet occurred; however, Citi believes the risk of loss is remote given historical experience with the VTNs. Accordingly, Citi's participation in VTNs is not reported in the guarantees tables above, and there are no amounts reflected on the Consolidated Balance Sheet as of December 31, 2022 or 2021 for potential obligations that could arise from Citi's involvement with VTN associations.

Long-Term Care Insurance Indemnification

In 2000, Travelers Life & Annuity (Travelers), then a subsidiary of Citi, entered into a reinsurance agreement to transfer the risks and rewards of its long-term care (LTC) business to GE Life (now Genworth Financial Inc., or Genworth), then a subsidiary of the General Electric Company (GE). As part of this transaction, the reinsurance obligations were provided by two regulated insurance subsidiaries of GE Life, which funded two collateral trusts with securities. Presently, as discussed below, the trusts are referred to as the Genworth Trusts.

As part of GE's spin-off of Genworth in 2004, GE retained the risks and rewards associated with the 2000 Travelers reinsurance agreement by providing a reinsurance contract to Genworth through GE's Union Fidelity Life Insurance Company (UFLIC) subsidiary that covers the Travelers LTC policies. In addition, GE provided a capital maintenance agreement in favor of UFLIC that is designed to assure that UFLIC will have the funds to pay its reinsurance obligations. As a result of these reinsurance agreements and the spin-off of Genworth, Genworth has reinsurance protection from UFLIC (supported by GE) and has reinsurance obligations in connection with the Travelers LTC policies. As noted below, the Genworth reinsurance obligations now benefit Brighthouse Financial, Inc. (Brighthouse). While neither Brighthouse nor Citi are direct beneficiaries of the capital maintenance agreement between GE and UFLIC, Brighthouse and Citi benefit indirectly from the existence of the capital maintenance agreement, which helps assure that UFLIC will continue to have funds necessary to pay its reinsurance obligations to Genworth.

In connection with Citi's 2005 sale of Travelers to MetLife Inc. (MetLife), Citi provided an indemnification to MetLife for losses (including policyholder claims) relating to the LTC business for the entire term of the Travelers LTC

policies, which, as noted above, are reinsured by subsidiaries of Genworth. In 2017, MetLife spun off its retail insurance business to Brighthouse. As a result, the Travelers LTC policies now reside with Brighthouse. The original reinsurance agreement between Travelers (now Brighthouse) and Genworth remains in place and Brighthouse is the sole beneficiary of the Genworth Trusts. The Genworth Trusts are designed to provide collateral to Brighthouse in an amount equal to the statutory liabilities of Brighthouse in respect of the Travelers LTC policies. The assets in the Genworth Trusts are evaluated and adjusted periodically to ensure that the fair value of the assets continues to provide collateral in an amount equal to these estimated statutory liabilities, as the liabilities change over time.

If both (i) Genworth fails to perform under the original Travelers/GE Life reinsurance agreement for any reason, including its insolvency or the failure of UFLIC to perform under its reinsurance contract or GE to perform under the capital maintenance agreement, and (ii) the assets of the two Genworth Trusts are insufficient or unavailable, then Citi, through its LTC reinsurance indemnification, must reimburse Brighthouse for any losses incurred in connection with the LTC policies. Since both events would have to occur before Citi would become responsible for any payment to Brighthouse pursuant to its indemnification obligation, and the likelihood of such events occurring is currently not probable, there is no liability reflected on the Consolidated Balance Sheet as of December 31, 2022 and 2021 related to this indemnification. However, if both events become reasonably possible (meaning more than remote but less than probable), Citi will be required to estimate and disclose a reasonably possible loss or range of loss to the extent that such an estimate could be made. In addition, if both events become probable, Citi will be required to accrue for such liability in accordance with applicable accounting principles.

Futures and Over-the-Counter Derivatives Clearing

Citi provides clearing services on central clearing parties (CCP) for clients that need to clear exchange-traded and over-the-counter (OTC) derivatives contracts with CCPs. Based on all relevant facts and circumstances, Citi has concluded that it acts as an agent for accounting purposes in its role as clearing member for these client transactions. As such, Citi does not reflect the underlying exchange-traded or OTC derivatives contracts in its Consolidated Financial Statements. See Note 23 for a discussion of Citi's derivatives activities that are reflected in its Consolidated Financial Statements.

As a clearing member, Citi collects and remits cash and securities collateral (margin) between its clients and the respective CCP. In certain circumstances, Citi collects a higher amount of cash (or securities) from its clients than it needs to remit to the CCPs. This excess cash is then held at depository institutions such as banks or carry brokers.

There are two types of margin: initial and variation. Where Citi obtains benefits from or controls cash initial margin (e.g., retains an interest spread), cash initial margin collected from clients and remitted to the CCP or depository institutions is reflected within *Brokerage payables* (payables to customers) and *Brokerage receivables* (receivables from brokers, dealers and clearing organizations) or *Cash and due from banks*, respectively.

However, for exchange-traded and OTC-cleared derivatives contracts where Citi does not obtain benefits from or control the client cash balances, the client cash initial margin collected from clients and remitted to the CCP or depository institutions is not reflected on Citi's Consolidated Balance Sheet. These conditions are met when Citi has contractually agreed with the client that (i) Citi will pass through to the client all interest paid by the CCP or depository institutions on the cash initial margin, (ii) Citi will not utilize its right as a clearing member to transform cash margin into other assets, (iii) Citi does not guarantee and is not liable to the client for the performance of the CCP or the depository institution and (iv) the client cash balances are legally isolated from Citi's bankruptcy estate. The total amount of cash initial margin collected and remitted in this manner was approximately $18.0 billion and $18.7 billion as of December 31, 2022 and 2021, respectively.

Variation margin due from clients to the respective CCP, or from the CCP to clients, reflects changes in the value of the client's derivative contracts for each trading day. As a clearing member, Citi is exposed to the risk of non-performance by clients (e.g., failure of a client to post variation margin to the CCP for negative changes in the value of the client's derivative contracts). In the event of non-performance by a client, Citi would move to close out the client's positions. The CCP would typically utilize initial margin posted by the client and held by the CCP, with any remaining shortfalls required to be paid by Citi as clearing member. Citi generally holds incremental cash or securities margin posted by the client, which would typically be expected to be sufficient to mitigate Citi's credit risk in the event that the client fails to perform.

As required by ASC 860-30-25-5, securities collateral posted by clients is not recognized on Citi's Consolidated Balance Sheet.

Carrying Value—Guarantees and Indemnifications

At December 31, 2022 and 2021, the total carrying amounts of the liabilities related to the guarantees and indemnifications included in the tables above amounted to approximately $1.4 billion and $1.4 billion, respectively. The carrying value of financial and performance guarantees is included in *Other liabilities.* For loans sold with recourse, the carrying value of the liability is included in *Other liabilities*.

Collateral

Cash collateral available to Citi to reimburse losses realized under these guarantees and indemnifications amounted to $51.8 billion and $56.5 billion at December 31, 2022 and 2021, respectively. Securities and other marketable assets held as collateral amounted to $63.7 billion and $84.2 billion at December 31, 2022 and 2021, respectively. The majority of collateral is held to reimburse losses realized under securities lending indemnifications. In addition, letters of credit in favor of Citi held as collateral amounted to $3.7 billion and $4.1 billion at December 31, 2022 and 2021, respectively. Other property may also be available to Citi to cover losses under certain guarantees and indemnifications; however, the value of such property has not been determined.

Performance Risk

Citi evaluates the performance risk of its guarantees based on the assigned referenced counterparty internal or external ratings. Where external ratings are used, investment-grade ratings are considered to be Baa/BBB and above, while anything below is considered non-investment grade. Citi's internal ratings are in line with the related external rating system. On certain underlying referenced assets or entities, ratings are not available. Such referenced assets are included in the "not rated" category. The maximum potential amount of the future payments related to the outstanding guarantees is determined to be the notional amount of these contracts, which is the par amount of the assets guaranteed.

Presented in the tables below are the maximum potential amounts of future payments that are classified based on internal and external credit ratings. The determination of the maximum potential future payments is based on the notional amount of the guarantees without consideration of possible recoveries under recourse provisions or from collateral held or pledged. As such, Citi believes such amounts bear no relationship to the anticipated losses, if any, on these guarantees.

	Maximum potential amount of future payments			
In billions of dollars at December 31, 2022	**Investment grade**	**Non-investment grade**	**Not rated**	**Total**
Financial standby letters of credit	**$ 77.9**	**$ 10.4**	**$ 1.3**	**$ 89.6**
Performance guarantees	**9.3**	**2.4**	**—**	**11.7**
Derivative instruments deemed to be guarantees	**—**	**—**	**48.5**	**48.5**
Loans sold with recourse	**—**	**—**	**1.7**	**1.7**
Securities lending indemnifications	**—**	**—**	**95.9**	**95.9**
Credit card merchant processing	**—**	**—**	**129.6**	**129.6**
Credit card arrangements with partners	**—**	**—**	**0.6**	**0.6**
Other	**—**	**8.5**	**—**	**8.5**
Total	**$ 87.2**	**$ 21.3**	**$ 277.6**	**$ 386.1**

	Maximum potential amount of future payments			
In billions of dollars at December 31, 2021	Investment grade	Non-investment grade	Not rated	Total
Financial standby letters of credit	$ 81.4	$ 11.3	$ —	$ 92.7
Performance guarantees	10.5	2.5	—	13.0
Derivative instruments deemed to be guarantees	—	—	63.5	63.5
Loans sold with recourse	—	—	1.7	1.7
Securities lending indemnifications	—	—	121.9	121.9
Credit card merchant processing	—	—	119.4	119.4
Credit card arrangements with partners	—	—	0.8	0.8
Other	—	12.0	2.0	14.0
Total	$ 91.9	$ 25.8	$ 309.3	$ 427.0

Credit Commitments and Lines of Credit

The table below summarizes Citigroup's credit commitments:

In millions of dollars	U.S.	Outside of U.S.[1]	December 31, 2022	December 31, 2021
Commercial and similar letters of credit	$ 650	$ 4,666	$ 5,316	$ 5,910
One- to four-family residential mortgages	906	1,488	2,394	4,351
Revolving open-end loans secured by one- to four-family residential properties	5,719	661	6,380	7,913
Commercial real estate, construction and land development	13,275	1,895	15,170	17,843
Credit card lines	603,975	79,257	683,232	700,559
Commercial and other consumer loan commitments	191,318	106,081	297,399	320,556
Other commitments and contingencies	5,469	204	5,673	5,649
Total	$ 821,312	$ 194,252	$ 1,015,564	$ 1,062,781

(1) Consumer commitments related to the business HFS countries under sales agreements are reflected in their original categories until the respective sales are completed.

The majority of unused commitments are contingent upon customers maintaining specific credit standards. Commercial commitments generally have floating interest rates and fixed expiration dates and may require payment of fees. Such fees (net of certain direct costs) are deferred and, upon exercise of the commitment, amortized over the life of the loan or, if exercise is deemed remote, amortized over the commitment period.

Commercial and Similar Letters of Credit

A commercial letter of credit is an instrument by which Citigroup substitutes its credit for that of a customer to enable the customer to finance the purchase of goods or to incur other commitments. Citigroup issues a letter on behalf of its client to a supplier and agrees to pay the supplier upon presentation of documentary evidence that the supplier has performed in accordance with the terms of the letter of credit. When a letter of credit is drawn, the customer is then required to reimburse Citigroup.

One- to Four-Family Residential Mortgages

A one- to four-family residential mortgage commitment is a written confirmation from Citigroup to a seller of a property that the bank will advance the specified sums enabling the buyer to complete the purchase.

Revolving Open-End Loans Secured by One- to Four-Family Residential Properties

Revolving open-end loans secured by one- to four-family residential properties are essentially home equity lines of credit. A home equity line of credit is a loan secured by a primary residence or second home to the extent of the excess of fair market value over the debt outstanding for the first mortgage.

Commercial Real Estate, Construction and Land Development

Commercial real estate, construction and land development include unused portions of commitments to extend credit for the purpose of financing commercial and multifamily residential properties as well as land development projects.

Both secured-by-real-estate and unsecured commitments are included in this line, as well as undistributed loan proceeds, where there is an obligation to advance for construction progress payments. However, this line only includes those extensions of credit that, once funded, will be classified as *Total loans, net* on the Consolidated Balance Sheet.

Credit Card Lines

Citigroup provides credit to customers by issuing credit cards. The credit card lines are cancelable by providing notice to the cardholder or without such notice as permitted by local law.

Commercial and Other Consumer Loan Commitments

Commercial and other consumer loan commitments include overdraft and liquidity facilities as well as commercial commitments to make or purchase loans, purchase third-party receivables, provide note issuance or revolving underwriting facilities and invest in the form of equity.

Other Commitments and Contingencies

Other commitments and contingencies include all other transactions related to commitments and contingencies not reported on the lines above.

Unsettled Reverse Repurchase and Securities Borrowing Agreements and Unsettled Repurchase and Securities Lending Agreements

In addition, in the normal course of business, Citigroup enters into reverse repurchase and securities borrowing agreements, as well as repurchase and securities lending agreements, which settle at a future date. At December 31, 2022 and 2021, Citigroup had approximately $111.6 billion and $126.6 billion of unsettled reverse repurchase and securities borrowing agreements, and approximately $37.3 billion and $41.1 billion of unsettled repurchase and securities lending agreements, respectively. See Note 11 for a further discussion of securities purchased under agreements to resell and securities borrowed, and securities sold under agreements to repurchase and securities loaned, including the Company's policy for offsetting repurchase and reverse repurchase agreements.

28. LEASES

The Company's operating leases, where Citi is a lessee, include real estate such as office space and branches and various types of equipment. These leases may contain renewal and extension options and early termination features; however, these options do not impact the lease term unless the Company is reasonably certain that it will exercise options. These leases have a weighted-average remaining lease term of approximately six years as of December 31, 2022 and 2021.

For additional information regarding Citi's leases, see Note 1.

The following table presents information on the right-of-use (ROU) asset and lease liabilities included in *Premises and equipment* and *Other liabilities*, respectively:

In millions of dollars	**December 31, 2022**	December 31, 2021
ROU asset	**$ 2,892**	$ 2,914
Lease liability	**3,076**	3,116

The Company recognizes fixed lease costs on a straight-line basis throughout the lease term in the Consolidated Statement of Income. In addition, variable lease costs are recognized in the period in which the obligation for those payments is incurred.

The following table presents the total operating lease expense (principally for offices, branches and equipment) included in the Consolidated Statement of Income:

In millions of dollars	**Dec. 31, 2022**	Dec. 31, 2021	Dec. 31, 2020
Operating lease expense[1]	**$ 1,048**	$ 1,061	$ 1,054

(1) Balances presented net of $3 million, $12 million and $27 million of sublease income for the years ended December 31, 2022, 2021 and 2020, respectively.

The table below provides the Cash Flow Statement Supplemental Information:

In millions of dollars	**December 31, 2022**	December 31, 2021
Cash paid for amounts included in the measurement of lease liabilities	**$ 725**	$ 806
ROU assets obtained in exchange for new operating lease liabilities[1][2]	**775**	845

(1) Represents non-cash activity and, accordingly, is not reflected in the Consolidated Statement of Cash Flows.
(2) Excludes the decrease in the ROU assets related to the purchase of a previously leased property.

Citi's future lease payments are as follows:

In millions of dollars	
2023	$ 704
2024	635
2025	541
2026	437
2027	319
Thereafter	769
Total future lease payments	$ 3,405
Less imputed interest (based on weighted-average discount rate of 3.1%)	$ (329)
Lease liability	$ 3,076

29. CONTINGENCIES

Accounting and Disclosure Framework

ASC 450 governs the disclosure and recognition of loss contingencies, including potential losses from litigation, regulatory, tax and other matters. ASC 450 defines a "loss contingency" as "an existing condition, situation, or set of circumstances involving uncertainty as to possible loss to an entity that will ultimately be resolved when one or more future events occur or fail to occur." It imposes different requirements for the recognition and disclosure of loss contingencies based on the likelihood of occurrence of the contingent future event or events. It distinguishes among degrees of likelihood using the following three terms: "probable," meaning that "the future event or events are likely to occur"; "remote," meaning that "the chance of the future event or events occurring is slight"; and "reasonably possible," meaning that "the chance of the future event or events occurring is more than remote but less than likely." These three terms are used below as defined in ASC 450.

Accruals. ASC 450 requires accrual for a loss contingency when it is "probable that one or more future events will occur confirming the fact of loss" *and* "the amount of the loss can be reasonably estimated." In accordance with ASC 450, Citigroup establishes accruals for contingencies, including any litigation, regulatory or tax matters disclosed herein, when Citigroup believes it is probable that a loss has been incurred and the amount of the loss can be reasonably estimated. When the reasonable estimate of the loss is within a range of amounts, the minimum amount of the range is accrued, unless some higher amount within the range is a better estimate than any other amount within the range. Once established, accruals are adjusted from time to time, as appropriate, in light of additional information. The amount of loss ultimately incurred in relation to those matters may be substantially higher or lower than the amounts accrued for those matters.

Disclosure. ASC 450 requires disclosure of a loss contingency if "there is at least a reasonable possibility that a loss or an additional loss may have been incurred" *and* there is no accrual for the loss because the conditions described above are not met or an exposure to loss exists in excess of the amount accrued. In accordance with ASC 450, if Citigroup has not accrued for a matter because Citigroup believes that a loss is reasonably possible but not probable, or that a loss is probable but not reasonably estimable, and the reasonably possible loss is material, it discloses the loss contingency. In addition, Citigroup discloses matters for which it has accrued if it believes a reasonably possible exposure to material loss exists in excess of the amount accrued. In accordance with ASC 450, Citigroup's disclosure includes an estimate of the reasonably possible loss or range of loss for those matters as to which an estimate can be made. ASC 450 does not require disclosure of an estimate of the reasonably possible loss or range of loss where an estimate cannot be made. Neither accrual nor disclosure is required for losses that are deemed remote.

Litigation, Regulatory and Other Contingencies

Overview. In addition to the matters described below, in the ordinary course of business, Citigroup, its affiliates and subsidiaries, and current and former officers, directors and employees (for purposes of this section, sometimes collectively referred to as Citigroup and Related Parties) routinely are named as defendants in, or as parties to, various legal actions and proceedings. Certain of these actions and proceedings assert claims or seek relief in connection with alleged violations of consumer protection, fair lending, securities, banking, antifraud, antitrust, anti-money laundering, employment and other statutory and common laws. Certain of these actual or threatened legal actions and proceedings include claims for substantial or indeterminate compensatory or punitive damages, or for injunctive relief, and in some instances seek recovery on a class-wide basis.

In the ordinary course of business, Citigroup and Related Parties also are subject to governmental and regulatory examinations, information-gathering requests, investigations and proceedings (both formal and informal), certain of which may result in adverse judgments, settlements, fines, penalties, restitution, disgorgement, injunctions or other relief. In addition, certain affiliates and subsidiaries of Citigroup are banks, registered broker-dealers, futures commission merchants, investment advisors or other regulated entities and, in those capacities, are subject to regulation by various U.S., state and foreign securities, banking, commodity futures, consumer protection and other regulators. In connection with formal and informal inquiries by these regulators, Citigroup and such affiliates and subsidiaries receive numerous requests, subpoenas and orders seeking documents, testimony and other information in connection with various aspects of their regulated activities. From time to time Citigroup and Related Parties also receive grand jury subpoenas and other requests for information or assistance, formal or informal, from federal or state law enforcement agencies including, among others, various United States Attorneys' Offices, the Money Laundering and Asset Recovery Section and other divisions of the Department of Justice, the Financial Crimes Enforcement Network of the United States Department of the Treasury, and the Federal Bureau of Investigation relating to Citigroup and its customers.

Because of the global scope of Citigroup's operations and its presence in countries around the world, Citigroup and Related Parties are subject to litigation and governmental and regulatory examinations, information-gathering requests, investigations and proceedings (both formal and informal) in multiple jurisdictions with legal, regulatory and tax regimes that may differ substantially, and present substantially different risks, from those Citigroup and Related Parties are subject to in the United States. In some instances, Citigroup and Related Parties may be involved in proceedings involving the same subject matter in multiple jurisdictions, which may result in overlapping, cumulative or inconsistent outcomes.

Citigroup seeks to resolve all litigation, regulatory, tax and other matters in the manner management believes is in the best interests of Citigroup and its shareholders, and contests liability, allegations of wrongdoing and, where applicable, the amount of damages or scope of any penalties or other relief sought as appropriate in each pending matter.

Inherent Uncertainty of the Matters Disclosed. Certain of the matters disclosed below involve claims for substantial or indeterminate damages. The claims asserted in these matters

typically are broad, often spanning a multiyear period and sometimes a wide range of business activities, and the plaintiffs' or claimants' alleged damages frequently are not quantified or factually supported in the complaint or statement of claim. Other matters relate to regulatory investigations or proceedings, as to which there may be no objective basis for quantifying the range of potential fine, penalty or other remedy. As a result, Citigroup is often unable to estimate the loss in such matters, even if it believes that a loss is probable or reasonably possible, until developments in the case, proceeding or investigation have yielded additional information sufficient to support a quantitative assessment of the range of reasonably possible loss. Such developments may include, among other things, discovery from adverse parties or third parties, rulings by the court on key issues, analysis by retained experts and engagement in settlement negotiations.

Depending on a range of factors, such as the complexity of the facts, the novelty of the legal theories, the pace of discovery, the court's scheduling order, the timing of court decisions and the adverse party's, regulator's or other authority's willingness to negotiate in good faith toward a resolution, it may be months or years after the filing of a case or commencement of a proceeding or an investigation before an estimate of the range of reasonably possible loss can be made.

Matters as to Which an Estimate Can Be Made. For some of the matters disclosed below, Citigroup is currently able to estimate a reasonably possible loss or range of loss in excess of amounts accrued (if any). For some of the matters included within this estimation, an accrual has been made because a loss is believed to be both probable and reasonably estimable, but a reasonably possible exposure to loss exists in excess of the amount accrued. In these cases, the estimate reflects the reasonably possible range of loss in excess of the accrued amount. For other matters included within this estimation, no accrual has been made because a loss, although estimable, is believed to be reasonably possible, but not probable; in these cases, the estimate reflects the reasonably possible loss or range of loss. As of December 31, 2022, Citigroup estimates that the reasonably possible unaccrued loss for these matters ranges up to approximately $1.2 billion in the aggregate.

These estimates are based on currently available information. As available information changes, the matters for which Citigroup is able to estimate will change, and the estimates themselves will change. In addition, while many estimates presented in financial statements and other financial disclosures involve significant judgment and may be subject to significant uncertainty, estimates of the range of reasonably possible loss arising from litigation, regulatory and tax proceedings are subject to particular uncertainties. For example, at the time of making an estimate, (i) Citigroup may have only preliminary, incomplete or inaccurate information about the facts underlying the claim, (ii) its assumptions about the future rulings of the court, other tribunal or authority on significant issues, or the behavior and incentives of adverse parties, regulators or other authorities, may prove to be wrong and (iii) the outcomes it is attempting to predict are often not amenable to the use of statistical or other quantitative analytical tools. In addition, from time to time an outcome may occur that Citigroup had not accounted for in its estimate because it had deemed such an outcome to be remote. For all of these reasons, the amount of loss in excess of amounts accrued in relation to matters for which an estimate has been made could be substantially higher or lower than the range of loss included in the estimate.

Matters as to Which an Estimate Cannot Be Made. For other matters disclosed below, Citigroup is not currently able to estimate the reasonably possible loss or range of loss. Many of these matters remain in very preliminary stages (even in some cases where a substantial period of time has passed since the commencement of the matter), with few or no substantive legal decisions by the court, tribunal or other authority defining the scope of the claims, the class (if any) or the potentially available damages or other exposure, and fact discovery is still in progress or has not yet begun. In many of these matters, Citigroup has not yet answered the complaint or statement of claim or asserted its defenses, nor has it engaged in any negotiations with the adverse party (whether a regulator, taxing authority or a private party). For all these reasons, Citigroup cannot at this time estimate the reasonably possible loss or range of loss, if any, for these matters.

Opinion of Management as to Eventual Outcome. Subject to the foregoing, it is the opinion of Citigroup's management, based on current knowledge and after taking into account its current accruals, that the eventual outcome of all matters described in this Note would not likely have a material adverse effect on the consolidated financial condition of Citigroup.

Nonetheless, given the substantial or indeterminate amounts sought in certain of these matters, and the inherent unpredictability of such matters, an adverse outcome in certain of these matters could, from time to time, have a material adverse effect on Citigroup's consolidated results of operations or cash flows in particular quarterly or annual periods.

Foreign Exchange Matters

Regulatory Actions: Government and regulatory agencies in the U.S. and other jurisdictions are conducting investigations or making inquiries regarding Citigroup's foreign exchange business. Citigroup is cooperating with these and related investigations and inquiries.

Antitrust and Other Litigation: In 2018, a number of institutional investors who opted out of the previously disclosed August 2018 final settlement filed an action against Citigroup, Citibank, Citigroup Global Markets Inc. (CGMI) and other defendants, captioned ALLIANZ GLOBAL INVESTORS, ET AL. v. BANK OF AMERICA CORP., ET AL., in the United States District Court for the Southern District of New York. Plaintiffs allege that defendants manipulated, and colluded to manipulate, the foreign exchange markets. Plaintiffs assert claims under the Sherman Act and unjust enrichment claims, and seek consequential and punitive damages and other forms of relief. In July 2020, plaintiffs filed a third amended complaint. Additional information concerning this action is publicly available in court filings under the docket number 18-CV-10364 (S.D.N.Y.) (Schofield, J.).

In 2018, a group of institutional investors issued a claim against Citigroup, Citibank and other defendants, captioned ALLIANZ GLOBAL INVESTORS GMBH AND OTHERS v. BARCLAYS BANK PLC AND OTHERS, in the High Court

of Justice in London. Claimants allege that defendants manipulated, and colluded to manipulate, the foreign exchange market in violation of EU and U.K. competition laws. In December 2021, the High Court ordered that the case be transferred to the U.K.'s Competition Appeal Tribunal. Additional information concerning this action is publicly available in court filings under the case number CL-2018-000840 in the High Court and under the case number 1430/5/7/22 (T) in the Competition Appeal Tribunal.

In 2015, a putative class of consumers and businesses in the U.S. who directly purchased supracompetitive foreign currency at benchmark exchange rates filed an action against Citigroup and other defendants, captioned NYPL v. JPMORGAN CHASE & CO., ET AL., in the United States District Court for the Northern District of California (later transferred to the United States District Court for the Southern District of New York). Subsequently, plaintiffs filed an amended class action complaint against Citigroup, Citibank and Citicorp as defendants. Plaintiffs allege that they suffered losses as a result of defendants' alleged manipulation of, and collusion with respect to, the foreign exchange market. Plaintiffs assert claims under federal and California antitrust and consumer protection laws, and seek compensatory damages, treble damages and declaratory and injunctive relief. On March 8, 2022, the court denied plaintiffs' motion for class certification. On August 22, 2022, the United States Court of Appeals for the Second Circuit denied plaintiffs' application seeking appellate review of the decision denying class certification. Additional information concerning this action is publicly available in court filings under the docket numbers 15-CV-2290 (N.D. Cal.) (Chhabria, J.), 15-CV-9300 (S.D.N.Y.) (Schofield, J.) and 22-698 (2d Cir.).

In 2019, two applications, captioned MICHAEL O' HIGGINS FX CLASS REPRESENTATIVE LIMITED v. BARCLAYS BANK PLC AND OTHERS and PHILLIP EVANS v. BARCLAYS BANK PLC AND OTHERS, were made to the U.K.'s Competition Appeal Tribunal requesting permission to commence collective proceedings against Citigroup, Citibank and other defendants. The applications seek compensatory damages for losses alleged to have arisen from the actions at issue in the European Commission's foreign exchange spot trading infringement decision (European Commission Decision of May 16, 2019 in Case AT.40135-FOREX (Three Way Banana Split) C(2019) 3631 final). On March 31, 2022, the U.K.'s Competition Appeal Tribunal issued its judgment on certification, and on October 4, 2022, the U.K.'s Competition Appeal Tribunal granted both claimants permission to appeal the certification judgment. Additional information concerning these actions is publicly available in court filings under the case numbers 1329/7/7/19 and 1336/7/7/19.

In 2019, a putative class action was filed against Citibank and other defendants, captioned J WISBEY & ASSOCIATES PTY LTD v. UBS AG & ORS, in the Federal Court of Australia. Plaintiffs allege that defendants manipulated the foreign exchange markets. Plaintiffs assert claims under antitrust laws, and seek compensatory damages and declaratory and injunctive relief. Additional information concerning this action is publicly available in court filings under the docket number VID567/2019.

In 2019, two motions for certification of class actions filed against Citigroup, Citibank and Citicorp and other defendants were consolidated, under the caption GERTLER, ET AL. v. DEUTSCHE BANK AG, in the Tel Aviv Central District Court in Israel. Plaintiffs allege that defendants manipulated the foreign exchange markets. In April 2021, Citibank's motion to dismiss plaintiffs' petition for certification was denied. On April 6, 2022, the Supreme Court of Israel denied Citibank's motion for leave to appeal the Central District Court's denial of its motion to dismiss. Additional information concerning this action is publicly available in court filings under the docket number CA 29013-09-18.

Hong Kong Private Bank Litigation

In 2007, a claim was filed in the High Court of Hong Kong claiming damages of over $51 million against Citibank. The case, captioned PT ASURANSI TUGU PRATAMA INDONESIA TBK v. CITIBANK N.A., was dismissed in 2018 by the Hong Kong Court of First Instance on grounds that the claim was time-barred. On April 12, 2022, the Court of Appeal upheld the dismissal of the claim. The plaintiff appealed, and on February 6, 2023, the Court of Final Appeal rendered a judgment in the plaintiff's favor. Additional information concerning this action is publicly available in court filings under the docket number FACV 11/2022.

Interbank Offered Rates-Related Litigation and Other Matters

In August 2020, individual borrowers and consumers of loans and credit cards filed an action against Citigroup, Citibank, CGMI and other defendants, captioned MCCARTHY, ET AL. v. INTERCONTINENTAL EXCHANGE, INC., ET AL., in the United States District Court for the Northern District of California. Plaintiffs allege that defendants conspired to fix ICE LIBOR, assert claims under the Sherman Act and the Clayton Act, and seek declaratory relief, injunctive relief, and treble damages. On October 4, 2022, plaintiffs filed an amended complaint, and on November 4, 2022, defendants moved to dismiss the amended complaint. Additional information concerning this action is publicly available in court filings under the docket number 20-CV-5832 (N.D. Cal.) (Donato, J.).

Interchange Fee Litigation

Beginning in 2005, several putative class actions were filed against Citigroup, Citibank, and Citicorp, together with Visa, MasterCard, and other banks and their affiliates, in various federal district courts and consolidated with other related individual cases in a multi-district litigation proceeding in the United States District Court for the Eastern District of New York. This proceeding is captioned IN RE PAYMENT CARD INTERCHANGE FEE AND MERCHANT DISCOUNT ANTITRUST LITIGATION.

The plaintiffs, merchants that accept Visa and MasterCard branded payment cards, as well as various membership associations that claim to represent certain groups of merchants, allege, among other things, that defendants have engaged in conspiracies to set the price of interchange and merchant discount fees on credit and debit card transactions

and to restrain trade unreasonably through various Visa and MasterCard rules governing merchant conduct, all in violation of Section 1 of the Sherman Act and certain California statutes. Plaintiffs further alleged violations of Section 2 of the Sherman Act. Supplemental complaints also were filed against defendants in the putative class actions alleging that Visa's and MasterCard's respective initial public offerings were anticompetitive and violated Section 7 of the Clayton Act, and that MasterCard's initial public offering constituted a fraudulent conveyance.

In 2014, the district court entered a final judgment approving the terms of a class settlement. Various objectors appealed from the final class settlement approval order to the United States Court of Appeals for the Second Circuit.

In 2016, the Court of Appeals reversed the district court's approval of the class settlement and remanded for further proceedings. The district court thereafter appointed separate interim counsel for a putative class seeking damages and a putative class seeking injunctive relief. Amended or new complaints on behalf of the putative classes and various individual merchants were subsequently filed, including a further amended complaint on behalf of a putative damages class and a new complaint on behalf of a putative injunctive class, both of which named Citigroup and Related Parties. In addition, numerous merchants have filed amended or new complaints against Visa, MasterCard, and in some instances one or more issuing banks, including Citigroup and affiliates.

In 2019, the district court granted the damages class plaintiffs' motion for final approval of a new settlement with the defendants. The settlement involves the damages class only and does not settle the claims of the injunctive relief class or any actions brought on a non-class basis by individual merchants. The settlement provides for a cash payment to the damages class of $6.24 billion, later reduced by $700 million based on the transaction volume of class members that opted out from the settlement. Several merchants and merchant groups have appealed the final approval order. On September 27, 2021, the court granted the injunctive relief class plaintiffs' motion to certify a non-opt-out class. On October 7 and 9, 2022, the court issued rulings on several pretrial motions. Additional information concerning these consolidated actions is publicly available in court filings under the docket number MDL 05-1720 (E.D.N.Y.) (Brodie, J.).

Interest Rate and Credit Default Swap Matters

Regulatory Actions: The Commodity Futures Trading Commission (CFTC) is conducting an investigation into alleged anticompetitive conduct in the trading and clearing of interest rate swaps (IRS) by investment banks. Citigroup is cooperating with the investigation.

Antitrust and Other Litigation: Beginning in 2015, Citigroup, Citibank, CGMI, CGML and numerous other parties were named as defendants in a number of industry-wide putative class actions related to IRS trading. These actions have been consolidated in the United States District Court for the Southern District of New York under the caption IN RE INTEREST RATE SWAPS ANTITRUST LITIGATION. The actions allege that defendants colluded to prevent the development of exchange-like trading for IRS and assert federal and state antitrust claims and claims for unjust enrichment. Also consolidated under the same caption are individual actions filed by swap execution facilities, asserting federal and state antitrust claims, as well as claims for unjust enrichment and tortious interference with business relations. Plaintiffs in these actions seek treble damages, fees, costs and injunctive relief. Lead plaintiffs in the class action moved for class certification in 2019 and subsequently filed an amended complaint. Additional information concerning these actions is publicly available in court filings under the docket numbers 18-CV-5361 (S.D.N.Y.) (Oetken, J.) and 16-MD-2704 (S.D.N.Y.) (Oetken, J.).

In 2017, Citigroup, Citibank, CGMI, CGML and numerous other parties were named as defendants in an action filed in the United States District Court for the Southern District of New York under the caption TERA GROUP, INC., ET AL. v. CITIGROUP, INC., ET AL. The complaint alleges that defendants colluded to prevent the development of exchange-like trading for credit default swaps and asserts federal and state antitrust claims and state law tort claims. In January 2020, plaintiffs filed an amended complaint, which defendants later moved to dismiss. Additional information concerning this action is publicly available in court filings under the docket number 17-CV-4302 (S.D.N.Y.) (Sullivan, J.).

Madoff-Related Litigation

In 2008, a Securities Investor Protection Act (SIPA) trustee was appointed for the SIPA liquidation of Bernard L. Madoff Investment Securities LLC (BLMIS), in the United States Bankruptcy Court for the Southern District of New York. Beginning in 2010, the SIPA trustee commenced actions against multiple Citi entities, including Citibank, Citicorp North America, Inc., CGML and Citibank (Switzerland) AG, captioned PICARD v. CITIBANK, N.A., ET AL. and PICARD v. Citibank (Switzerland) Ltd., seeking recovery of monies that originated at BLMIS and were allegedly received by the Citi entities as subsequent transferees.

On February 11, 2022, the SIPA trustee filed an amended complaint against Citibank, Citicorp North America, Inc. and CGML, and subsequently voluntarily dismissed the case against Citibank (Switzerland) AG. On April 22, 2022, these remaining Citi entities moved to dismiss the amended complaint, which the bankruptcy court denied. On November 2, 2022, the remaining Citi entities moved to file an interlocutory appeal of the bankruptcy court's decision. On November 10, 2022, the remaining Citi entities answered the amended complaint. Additional information concerning these actions is publicly available in court filings under the docket numbers 10-5345, 12-1700 (Bankr. S.D.N.Y.) (Morris, J.); and 22-9597 (S.D.N.Y.) (Gardephe, J.).

Beginning in 2010, the British Virgin Islands liquidators of Fairfield Sentry Limited, whose assets were invested with BLMIS, commenced multiple actions against CGML, Citibank (Switzerland) AG, Citibank, NA London, Citivic Nominees Ltd., Cititrust Bahamas Ltd., and Citibank Korea Inc., captioned FAIRFIELD SENTRY LTD., ET AL. v. CITIGROUP GLOBAL MARKETS LTD., ET AL.; FAIRFIELD SENTRY LTD., ET AL. v. CITIBANK (SWITZERLAND) AG, ET AL.; FAIRFIELD SENTRY LTD., ET AL. v. ZURICH CAPITAL MARKETS

COMPANY, ET AL.; FAIRFIELD SENTRY LTD., ET AL. v. CITIBANK NA LONDON, ET AL.; FAIRFIELD SENTRY LTD., ET AL. v. CITIVIC NOMINEES LTD., ET AL.; FAIRFIELD SENTRY LTD., ET AL. v. DON CHIMANGO SA, ET AL.; and FAIRFIELD SENTRY LTD., ET AL. v. CITIBANK KOREA INC. ET AL., in the United States Bankruptcy Court for the Southern District of New York. The actions seek recovery of monies that were allegedly received directly or indirectly from Fairfield Sentry.

In October 2021, Citi (Switzerland) AG and Citivic Nominees Ltd. filed a motion to dismiss for lack of personal jurisdiction, which remains pending. On August 24, 2022, the United States District Court for the Southern District of New York affirmed various decisions of the bankruptcy court, which dismissed claims against CGML, Citibank (Switzerland) AG, Citibank, NA London, Citivic Nominees Ltd., Cititrust Bahamas Ltd., and Citibank Korea Inc., and permitted a single claim against Citibank, NA London, CGML, Citivic Nominees Ltd., and Citibank (Switzerland) AG to proceed. In late September 2022, the liquidators appealed the district court's decision dismissing the liquidators' claims. On September 30, 2022, CGML, Citibank (Switzerland) AG, Citibank, NA London, and Citivic Nominees Ltd. moved for leave to appeal the district court's decision permitting the single claim to proceed against them. Additional information is publicly available in court filings under the docket numbers 10-13164, 10-3496, 10-3622, 10-3634, 10-4100, 10-3640, 11-2770, 12-1142, 12-1298 (Bankr. S.D.N.Y.) (Morris, J.); 19-3911, 19-4267, 19-4396, 19-4484, 19-5106, 19-5135, 19-5109, 21-2997, 21-3243, 21-3526, 21-3529, 21-3530, 21-3998, 21-4307, 21-4498, 21-4496 (S.D.N.Y.) (Broderick, J.); and 22-2101 (consolidated lead appeal), 22-2557, 22-2122, 22-2562, 22-2216, 22-2545, 22-2308, 22-2591, 22-2502, 22-2553, 22-2398, 22-2582 (2d Cir.).

Parmalat Litigation

In 2004, an Italian commissioner appointed to oversee the administration of various Parmalat companies filed a complaint against Citigroup, Citibank, and related parties, alleging that the defendants facilitated a number of frauds by Parmalat insiders. In 2008, a jury rendered a verdict in Citigroup's favor and awarded Citi $431 million. In 2019, the Italian Supreme Court affirmed the decision in the full amount of $431 million. Citigroup has taken steps to enforce the judgment in Italian and Belgian courts. Additional information concerning these actions is publicly available in court filings under the docket numbers 27618/2014, 4133/2019, and 22098/2019 (Italy), and 20/3617/A and 20/4007/A (Brussels).

In 2015, Parmalat filed a claim in an Italian civil court in Milan claiming damages of €1.8 billion against Citigroup, Citibank, and related parties, which the court dismissed on grounds that it was duplicative of Parmalat's previously unsuccessful claims. In 2019, the Milan Court of Appeal rejected Parmalat's appeal of the Milan court's dismissal, which Parmalat appealed with the Italian Supreme Court. Additional information concerning this action is publicly available in court filings under the docket numbers 1009/2018 and 20598/2019.

In January 2020, Parmalat, its three directors, and its sole shareholder, Sofil S.a.s., as co-plaintiffs, filed a claim before the Italian civil court in Milan seeking a declaratory judgment that they do not owe compensatory damages of €990 million to Citibank. In November 2020, Citibank joined the proceedings, seeking dismissal of the declaratory judgment application and filing a counterclaim. Additional information concerning this action is publicly available in court filings under the docket number 8611/2020.

Shareholder Derivative and Securities Litigation

Beginning in October 2020, four derivative actions were filed in the United States District Court for the Southern District of New York, purportedly on behalf of Citigroup (as nominal defendant) against certain of Citigroup's current and former directors. The actions were later consolidated under the case name IN RE CITIGROUP INC. SHAREHOLDER DERIVATIVE LITIGATION. The consolidated complaint asserts claims for breach of fiduciary duty, unjust enrichment, and contribution and indemnification in connection with defendants' alleged failures to implement adequate internal controls. In addition, the consolidated complaint asserts derivative claims for violations of Sections 10(b) and 14(a) of the Securities Exchange Act of 1934 in connection with statements in Citigroup's 2019 and 2020 annual meeting proxy statements. In February 2021, the court stayed the action pending resolution of defendants' motion to dismiss in IN RE CITIGROUP SECURITIES LITIGATION. Additional information concerning this action is publicly available in court filings under the docket number 1:20-CV-09438 (S.D.N.Y.) (Preska, J.).

Beginning in December 2020, two derivative actions were filed in the Supreme Court of the State of New York, purportedly on behalf of Citigroup (as nominal defendant) against certain of Citigroup's current and former directors, and certain current and former officers. The actions were later consolidated under the case name IN RE CITIGROUP INC. DERIVATIVE LITIGATION, and the court stayed the action pending resolution of defendants' motion to dismiss in IN RE CITIGROUP SECURITIES LITIGATION. Additional information concerning this action is publicly available in court filings under the docket number 656759/2020 (N.Y. Sup. Ct.) (Schecter, J.).

On June 23, 2022, a third derivative action was filed in the Supreme Court of the State of New York, also purportedly on behalf of Citigroup (as nominal defendant) against certain of Citigroup's current and former directors, and certain current and former officers. A stipulation to stay and consolidate this action with the Supreme Court of the State of New York action captioned IN RE CITIGROUP INC. DERIVATIVE LITIGATION is pending. Additional information concerning this action is publicly available in court filings under the docket number 656930/2022 (N.Y. Sup. Ct.) (Schecter, J.).

On August 2, 2022, a shareholder derivative action captioned LIPSHUTZ ET AL. v. COSTELLO ET AL. was filed in the United States District Court for the Eastern District of New York, purportedly on behalf of Citigroup (as nominal defendant) against Citigroup's current directors. The action raises substantially the same claims and allegations as IN RE CITIGROUP INC. SHAREHOLDER DERIVATIVE

LITIGATION. The LIPSHUTZ action additionally asserts that plaintiffs made a litigation demand on the Citigroup Board of Directors and that the demand was wrongfully refused. Defendants moved to transfer the new action to the United States District Court for the Southern District of New York. Additional information concerning this action is publicly available in court filings under the docket number 22 Civ. 4547 (E.D.N.Y.) (Kovner, J.).

Beginning in October 2020, three putative class action complaints were filed in the United States District Court for the Southern District of New York against Citigroup and certain of its current and former officers, asserting violations of Sections 10(b) and 20(a) of the Securities Exchange Act of 1934 in connection with defendants' alleged misstatements concerning Citigroup's internal controls. The actions were later consolidated under the case name IN RE CITIGROUP SECURITIES LITIGATION. The consolidated complaint later added certain of Citigroup's current and former directors as defendants. Defendants have moved to dismiss the consolidated amended complaint. Additional information concerning this action is publicly available in court filings under the docket number 1:20-CV-9132 (S.D.N.Y.) (Preska, J.).

Sovereign Securities Matters

Regulatory Actions: Government and regulatory agencies are conducting investigations or making inquiries regarding Citigroup's sales and trading activities in connection with sovereign and other government-related securities. Citigroup is cooperating with these investigations and inquiries.

Antitrust and Other Litigation: In 2015, putative class actions filed against CGMI and other defendants were consolidated under the caption IN RE TREASURY SECURITIES AUCTION ANTITRUST LITIGATION in the United States District Court for the Southern District of New York. Plaintiffs allege that defendants colluded to fix U.S. treasury auction bids by sharing competitively sensitive information ahead of the auctions, and that defendants colluded to boycott and prevent the emergence of an anonymous, all-to-all electronic trading platform in the U.S. Treasuries secondary market. Plaintiffs assert claims under antitrust laws, and seek damages, including treble damages where authorized by statute, and injunctive relief. In March 2021, the court granted defendants' motion to dismiss, without prejudice. In May 2021, plaintiffs filed an amended consolidated complaint. In June 2021, certain defendants, including CGMI, moved to dismiss the amended complaint. On March 31, 2022, the court dismissed the amended complaint with prejudice, and the plaintiffs have appealed that decision to the United States Court of Appeals for the Second Circuit. Additional information concerning this action is publicly available in court filings under the docket number 15-MD-2673 (S.D.N.Y.) (Gardephe, J.).

In 2017, purchasers of supranational, sub-sovereign and agency (SSA) bonds filed a proposed class action on behalf of direct and indirect purchasers of SSA 296 bonds against Citigroup, Citibank, CGMI, CGML, Citibank Canada, Citigroup Global Markets Canada, Inc. and other defendants, captioned JOSEPH MANCINELLI, ET AL. v. BANK OF AMERICA CORPORATION, ET AL., in the Federal Court in Canada. Plaintiffs have filed an amended claim that alleges defendants manipulated, and colluded to manipulate, the SSA bonds market, asserts claims for breach of the Competition Act, breach of foreign law, civil conspiracy, unjust enrichment, waiver of tort and breach of contract, and seeks compensatory and punitive damages, among other relief. Additional information concerning this action is publicly available in court filings under the docket number T-1871-17 (Fed. Ct.).

In 2018, a putative class action was filed against Citigroup, CGMI, Citigroup Financial Products Inc., Citigroup Global Markets Holdings Inc., Citibanamex, Grupo Banamex and other banks, captioned IN RE MEXICAN GOVERNMENT BONDS ANTITRUST LITIGATION, in the United States District Court for the Southern District of New York. The complaint alleges that defendants colluded in the Mexican sovereign bond market. In September 2019, the court granted defendants' motion to dismiss. In December 2019, plaintiffs filed an amended complaint against Citibanamex and other market makers in the Mexican sovereign bond market. Plaintiffs no longer assert any claims against Citigroup or any other U.S. Citi affiliates. The amended complaint alleges a conspiracy to fix prices in the Mexican sovereign bond market, asserts antitrust and unjust enrichment claims, and seeks treble damages, restitution and injunctive relief. In February 2020, certain defendants, including Citibanamex, moved to dismiss the amended complaint. In June 2021, the court granted defendants' motion to dismiss, and the plaintiffs have appealed that decision to the United States Court of Appeals for the Second Circuit. Additional information concerning this action is publicly available in court filings under the docket numbers 18-CV-2830 (S.D.N.Y.) (Oetken, J.) and 22-2039 (2d Cir.).

In February 2021, purchasers of Euro-denominated sovereign debt issued by European central governments added CGMI, CGML and others as defendants to a putative class action, captioned IN RE EUROPEAN GOVERNMENT BONDS ANTITRUST LITIGATION, in the United States District Court for the Southern District of New York. Plaintiffs allege that defendants engaged in a conspiracy to inflate prices of European government bonds in primary market auctions and to fix the prices of European government bonds in secondary markets. Plaintiffs assert a claim under the Sherman Act and seek treble damages and attorneys' fees. On March 14, 2022, the court granted defendants' motion to dismiss the fourth amended complaint as to certain defendants, but denied defendants' motion to dismiss as to other defendants, including CGMI and CGML. On June 16, 2022, the court denied certain defendants' respective motions for reconsideration of the court's denial of defendants' motion to dismiss. In November 2022, plaintiffs moved for leave to amend the complaint. Additional information concerning this action is publicly available in court filings under the docket number 19-CV-2601 (S.D.N.Y.) (Marrero, J.).

Transaction Tax Matters

Citigroup and Citibank are engaged in litigation or examinations with non-U.S. tax authorities concerning the payment of transaction taxes and other non-income tax matters.

Variable Rate Demand Obligation Litigation

In 2019, the plaintiffs in the consolidated actions CITY OF PHILADELPHIA v. BANK OF AMERICA CORP, ET AL. and MAYOR AND CITY COUNCIL OF BALTIMORE v. BANK OF AMERICA CORP., ET AL. filed a consolidated complaint naming as defendants Citigroup, Citibank, CGMI, CGML and numerous other industry participants. The consolidated complaint asserts violations of the Sherman Act, as well as claims for breach of contract, breach of fiduciary duty, and unjust enrichment, and seeks damages and injunctive relief based on allegations that defendants served as remarketing agents for municipal bonds called variable rate demand obligations (VRDOs) and colluded to set artificially high VRDO interest rates. On November 6, 2020, the court granted in part and denied in part defendants' motion to dismiss the consolidated complaint.

In June 2021, the Board of Directors of the San Diego Association of Governments, acting as the San Diego County Regional Transportation Commission, filed a parallel putative class action against the same defendants named in the already pending nationwide consolidated class action. The two actions were consolidated and in August 2021, the plaintiffs in the nationwide putative class action filed a consolidated amended complaint, captioned THE CITY OF PHILADELPHIA, MAYOR AND CITY COUNCIL OF BALTIMORE, THE BOARD OF DIRECTORS OF THE SAN DIEGO ASSOCIATION OF GOVERNMENTS, ACTING AS THE SAN DIEGO COUNTY REGIONAL TRANSPORTATION COMMISSION v. BANK OF AMERICA CORP., ET AL. In September 2021, defendants moved to dismiss the consolidated amended complaint in part. On June 28, 2022, the court granted in part and denied in part defendants' partial motion to dismiss the consolidated amended complaint. On October 27, 2022, plaintiffs filed a motion to certify a class of persons and entities who, from February 2008 to November 2015, paid interest rates on VRDOs with respect to the antitrust claim. The plaintiffs also moved to certify a subclass of individuals who entered into remarketing agreements with the defendants during that same period. Additional information concerning this action is publicly available in court filings under the docket number 19-CV-1608 (S.D.N.Y.) (Furman, J.).

Settlement Payments

Payments required in settlement agreements described above have been made or are covered by existing litigation or other accruals.

30. CONDENSED CONSOLIDATING FINANCIAL STATEMENTS

Citigroup's Registration Statement on Form S-3 on file with the SEC includes its wholly owned subsidiary, Citigroup Global Markets Holdings Inc. (CGMHI), as a co-registrant. Any securities issued by CGMHI under the Form S-3 will be fully and unconditionally guaranteed by Citigroup.

The following are the Condensed Consolidating Statements of Income and Comprehensive Income for the years ended December 31, 2022, 2021 and 2020, Condensed Consolidating Balance Sheet as of December 31, 2022 and 2021 and Condensed Consolidating Statement of Cash Flows for the years ended December 31, 2022, 2021 and 2020 for Citigroup Inc., the parent holding company (Citigroup parent company), CGMHI, other Citigroup subsidiaries and eliminations, and total consolidating adjustments. "Other Citigroup subsidiaries and eliminations" includes all other subsidiaries of Citigroup, intercompany eliminations and income (loss) from discontinued operations. "Consolidating adjustments" includes Citigroup parent company elimination of distributed and undistributed income of subsidiaries and investment in subsidiaries.

These Condensed Consolidating Financial Statements have been prepared and presented in accordance with SEC Regulation S-X Rule 3-10, "Financial Statements of Guarantors and Issuers of Guaranteed Securities Registered or Being Registered."

These Condensed Consolidating Financial Statements are presented for purposes of additional analysis, but should be considered in relation to the Consolidated Financial Statements of Citigroup taken as a whole.

Condensed Consolidating Statements of Income and Comprehensive Income

	Year ended December 31, 2022				
In millions of dollars	Citigroup parent company	CGMHI	Other Citigroup subsidiaries and eliminations	Consolidating adjustments	Citigroup consolidated
Revenues					
Dividends from subsidiaries	$ 8,992		$ —	$ (8,992)	$ —
Interest revenue	—	10,021	64,387	—	74,408
Interest revenue—intercompany	4,628	2,324	(6,952)	—	—
Interest expense	5,250	5,938	14,552	—	25,740
Interest expense—intercompany	715	4,358	(5,073)	—	—
Net interest income	$ (1,337)	$ 2,049	$ 47,956	$ —	$ 48,668
Commissions and fees	$ —	$ 4,617	$ 4,558	$ —	$ 9,175
Commissions and fees—intercompany	(1)	127	(126)	—	—
Principal transactions	5,147	13,895	(4,883)	—	14,159
Principal transactions—intercompany	(5,686)	(10,532)	16,218	—	—
Other revenue	210	493	2,633	—	3,336
Other revenue—intercompany	(220)	(58)	278	—	—
Total non-interest revenues	$ (550)	$ 8,542	$ 18,678	$ —	$ 26,670
Total revenues, net of interest expense	$ 7,105	$ 10,591	$ 66,634	$ (8,992)	$ 75,338
Provisions for credit losses and for benefits and claims	$ —	$ 10	$ 5,229	$ —	$ 5,239
Operating expenses					
Compensation and benefits	$ 9	$ 5,450	$ 21,196	$ —	$ 26,655
Compensation and benefits—intercompany	12	—	(12)	—	—
Other operating	85	2,962	21,590	—	24,637
Other operating—intercompany	15	2,705	(2,720)	—	—
Total operating expenses	$ 121	$ 11,117	$ 40,054	$ —	$ 51,292
Equity in undistributed income of subsidiaries	$ 6,173	$ —	$ —	$ (6,173)	$ —
Income from continuing operations before income taxes	$ 13,157	$ (536)	$ 21,351	$ (15,165)	$ 18,807
Provision (benefit) for income taxes	(1,688)	(290)	5,620	—	3,642
Income from continuing operations	$ 14,845	$ (246)	$ 15,731	$ (15,165)	$ 15,165
Income (loss) from discontinued operations, net of taxes	—	—	(231)	—	(231)
Net income before attribution of noncontrolling interests	$ 14,845	$ (246)	$ 15,500	$ (15,165)	$ 14,934
Noncontrolling interests	—	—	89	—	89
Net income	$ 14,845	$ (246)	$ 15,411	$ (15,165)	$ 14,845
Comprehensive income					
Add: Other comprehensive income (loss)	$ (8,297)	$ 946	$ (5,120)	$ 4,174	$ (8,297)
Total Citigroup comprehensive income	$ 6,548	$ 700	$ 10,291	$ (10,991)	$ 6,548
Add: Other comprehensive income attributable to noncontrolling interests	$ —	$ —	$ (58)	$ —	$ (58)
Add: Net income attributable to noncontrolling interests	—	—	89	—	89
Total comprehensive income	$ 6,548	$ 700	$ 10,322	$ (10,991)	$ 6,579

Condensed Consolidating Statements of Income and Comprehensive Income

	Year ended December 31, 2021				
In millions of dollars	Citigroup parent company	CGMHI	Other Citigroup subsidiaries and eliminations	Consolidating adjustments	Citigroup consolidated
Revenues					
Dividends from subsidiaries	$ 6,482	$ —	$ —	$ (6,482)	$ —
Interest revenue	—	3,566	46,909	—	50,475
Interest revenue—intercompany	3,757	531	(4,288)	—	—
Interest expense	4,791	778	2,412	—	7,981
Interest expense—intercompany	294	1,320	(1,614)	—	—
Net interest income	$ (1,328)	$ 1,999	$ 41,823	$ —	$ 42,494
Commissions and fees	$ —	$ 7,770	$ 5,902	$ —	$ 13,672
Commissions and fees—intercompany	(36)	407	(371)	—	—
Principal transactions	976	10,140	(962)	—	10,154
Principal transactions—intercompany	(1,375)	(6,721)	8,096	—	—
Other revenue	(64)	576	5,052	—	5,564
Other revenue—intercompany	(133)	(60)	193	—	—
Total non-interest revenues	$ (632)	$ 12,112	$ 17,910	$ —	$ 29,390
Total revenues, net of interest expense	$ 4,522	$ 14,111	$ 59,733	$ (6,482)	$ 71,884
Provisions for credit losses and for benefits and claims	$ —	$ 6	$ (3,784)	$ —	$ (3,778)
Operating expenses					
Compensation and benefits	$ 10	$ 5,251	$ 19,873	$ —	$ 25,134
Compensation and benefits—intercompany	69	—	(69)	—	—
Other operating	83	2,868	20,108	—	23,059
Other operating—intercompany	11	2,826	(2,837)	—	—
Total operating expenses	$ 173	$ 10,945	$ 37,075	$ —	$ 48,193
Equity in undistributed income of subsidiaries	$ 16,596	$ —	$ —	$ (16,596)	$ —
Income from continuing operations before income taxes	$ 20,945	$ 3,160	$ 26,442	$ (23,078)	$ 27,469
Provision (benefit) for income taxes	(1,007)	625	5,833	—	5,451
Income from continuing operations	$ 21,952	$ 2,535	$ 20,609	$ (23,078)	$ 22,018
Income (loss) from discontinued operations, net of taxes	—	—	7	—	7
Net income (loss) before attribution of noncontrolling interests	$ 21,952	$ 2,535	$ 20,616	$ (23,078)	$ 22,025
Noncontrolling interests	—	—	73	—	73
Net income	$ 21,952	$ 2,535	$ 20,543	$ (23,078)	$ 21,952
Comprehensive income					
Add: Other comprehensive income (loss)	$ (6,707)	$ (76)	$ (450)	$ 526	$ (6,707)
Total Citigroup comprehensive income	$ 15,245	$ 2,459	$ 20,093	$ (22,552)	$ 15,245
Add: Other comprehensive income attributable to noncontrolling interests	$ —	$ —	$ (99)	$ —	$ (99)
Add: Net income attributable to noncontrolling interests	—	—	73	—	73
Total comprehensive income	$ 15,245	$ 2,459	$ 20,067	$ (22,552)	$ 15,219

Condensed Consolidating Statements of Income and Comprehensive Income

	Year ended December 31, 2020				
In millions of dollars	Citigroup parent company	CGMHI	Other Citigroup subsidiaries and eliminations	Consolidating adjustments	Citigroup consolidated
Revenues					
Dividends from subsidiaries	$ 2,355	$ —	$ —	$ (2,355)	$ —
Interest revenue	—	5,364	52,725	—	58,089
Interest revenue—intercompany	4,162	920	(5,082)	—	—
Interest expense	4,992	1,989	6,357	—	13,338
Interest expense—intercompany	502	2,170	(2,672)	—	—
Net interest income	$ (1,332)	$ 2,125	$ 43,958	$ —	$ 44,751
Commissions and fees	$ —	$ 6,216	$ 5,169	$ —	$ 11,385
Commissions and fees—intercompany	(36)	290	(254)	—	—
Principal transactions	(1,254)	(4,252)	19,391	—	13,885
Principal transactions—intercompany	693	9,064	(9,757)	—	—
Other revenue	(127)	706	4,901	—	5,480
Other revenue—intercompany	111	23	(134)	—	—
Total non-interest revenues	$ (613)	$ 12,047	$ 19,316	$ —	$ 30,750
Total revenues, net of interest expense	$ 410	$ 14,172	$ 63,274	$ (2,355)	$ 75,501
Provisions for credit losses and for benefits and claims	$ —	$ (1)	$ 17,496	$ —	$ 17,495
Operating expenses					
Compensation and benefits	$ (5)	$ 4,941	$ 17,278	$ —	$ 22,214
Compensation and benefits—intercompany	191	—	(191)	—	—
Other operating	37	2,393	19,730	—	22,160
Other operating—intercompany	15	2,317	(2,332)	—	—
Total operating expenses	$ 238	$ 9,651	$ 34,485	$ —	$ 44,374
Equity in undistributed income of subsidiaries	$ 9,894	$ —	$ —	$ (9,894)	$ —
Income from continuing operations before income taxes	$ 10,066	$ 4,522	$ 11,293	$ (12,249)	$ 13,632
Provision (benefit) for income taxes	(981)	1,249	2,257	—	2,525
Income from continuing operations	$ 11,047	$ 3,273	$ 9,036	$ (12,249)	$ 11,107
Income (loss) from discontinued operations, net of taxes	—	—	(20)	—	(20)
Net income before attribution of noncontrolling interests	$ 11,047	$ 3,273	$ 9,016	$ (12,249)	$ 11,087
Noncontrolling interests	—	—	40	—	40
Net income	$ 11,047	$ 3,273	$ 8,976	$ (12,249)	$ 11,047
Comprehensive income					
Add: Other comprehensive income (loss)	$ 4,260	$ (223)	$ 4,244	$ (4,021)	$ 4,260
Total Citigroup comprehensive income	$ 15,307	$ 3,050	$ 13,220	$ (16,270)	$ 15,307
Add: Other comprehensive income attributable to noncontrolling interests	$ —	$ —	$ 26	$ —	$ 26
Add: Net income attributable to noncontrolling interests	—	—	40	—	40
Total comprehensive income	$ 15,307	$ 3,050	$ 13,286	$ (16,270)	$ 15,373

Condensed Consolidating Balance Sheet

In millions of dollars	December 31, 2022				
	Citigroup parent company	CGMHI	Other Citigroup subsidiaries and eliminations	Consolidating adjustments	Citigroup consolidated
Assets					
Cash and due from banks	$ —	$ 955	$ 29,622	$ —	$ 30,577
Cash and due from banks—intercompany	15	7,448	(7,463)	—	—
Deposits with banks, net of allowance	—	7,902	303,546	—	311,448
Deposits with banks—intercompany	3,000	10,816	(13,816)	—	—
Securities borrowed and purchased under resale agreements	—	286,724	78,677	—	365,401
Securities borrowed and purchased under resale agreements—intercompany	—	19,549	(19,549)	—	—
Trading account assets	130	202,678	131,306	—	334,114
Trading account assets—intercompany	176	7,279	(7,455)	—	—
Investments, net of allowance	1	265	526,316	—	526,582
Loans, net of unearned income	—	1,749	655,472	—	657,221
Loans, net of unearned income—intercompany	—	337	(337)	—	—
Allowance for credit losses on loans (ACLL)	—	—	(16,974)	—	(16,974)
Total loans, net	$ —	$ 2,086	$ 638,161	$ —	$ 640,247
Advances to subsidiaries	$ 146,843	$ —	$ (146,843)	$ —	$ —
Investments in subsidiary bank holding company	172,721	—	—	(172,721)	—
Investments in non-bank subsidiaries	48,295	—	—	(48,295)	—
Other assets, net of allowance[(1)]	10,441	66,753	131,113	—	208,307
Other assets—intercompany	3,346	94,716	(98,062)	—	—
Total assets	$ 384,968	$ 707,171	$ 1,545,553	$ (221,016)	$ 2,416,676
Liabilities and equity					
Deposits	$ —	$ —	$ 1,365,954	$ —	$ 1,365,954
Deposits—intercompany	—	—	—	—	—
Securities loaned and sold under repurchase agreements	—	181,765	20,679	—	202,444
Securities loaned and sold under repurchase agreements—intercompany	—	64,151	(64,151)	—	—
Trading account liabilities	23	108,940	61,684	—	170,647
Trading account liabilities—intercompany	581	6,989	(7,570)	—	—
Short-term borrowings	—	20,382	26,714	—	47,096
Short-term borrowings—intercompany	—	23,468	(23,468)	—	—
Long-term debt	166,257	88,844	16,505	—	271,606
Long-term debt—intercompany	—	83,224	(83,224)	—	—
Advances from subsidiary bank holding company	6,629	—	(6,629)	—	—
Advances from non-bank subsidiaries	7,933	—	(7,933)	—	—
Other liabilities	2,321	75,040	79,730	—	157,091
Other liabilities—intercompany	35	15,530	(15,565)	—	—
Stockholders' equity	201,189	38,838	182,827	(221,016)	201,838
Total liabilities and equity	$ 384,968	$ 707,171	$ 1,545,553	$ (221,016)	$ 2,416,676

(1) Citigroup parent company and Other Citigroup subsidiaries at December 31, 2022 included $40.2 billion of placements to Citibank and its branches, of which $29.2 billion had a remaining term of less than 30 days.

Condensed Consolidating Balance Sheet

	December 31, 2021				
In millions of dollars	Citigroup parent company	CGMHI	Other Citigroup subsidiaries and eliminations	Consolidating adjustments	Citigroup consolidated
Assets					
Cash and due from banks	$ —	$ 834	$ 26,681	$ —	$ 27,515
Cash and due from banks—intercompany	17	6,890	(6,907)	—	—
Deposits with banks, net of allowance	—	7,936	226,582	—	234,518
Deposits with banks—intercompany	3,500	11,005	(14,505)	—	—
Securities borrowed and purchased under resale agreements	—	269,608	57,680	—	327,288
Securities borrowed and purchased under resale agreements—intercompany	—	23,362	(23,362)	—	—
Trading account assets	248	189,841	141,856	—	331,945
Trading account assets—intercompany	1,215	1,438	(2,653)	—	—
Investments, net of allowance	1	224	512,597	—	512,822
Loans, net of unearned income	—	2,293	665,474	—	667,767
Loans, net of unearned income—intercompany	—	—	—	—	—
Allowance for credit losses on loans (ACLL)	—	—	(16,455)	—	(16,455)
Total loans, net	$ —	$ 2,293	$ 649,019	$ —	$ 651,312
Advances to subsidiaries	$ 142,144	$ —	$ (142,144)	$ —	$ —
Investments in subsidiary bank holding company	175,849	—	—	(175,849)	—
Investments in non-bank subsidiaries	47,454	—	—	(47,454)	—
Other assets, net of allowance[(1)]	10,589	69,312	126,112	—	206,013
Other assets—intercompany	2,737	60,567	(63,304)	—	—
Total assets	$ 383,754	$ 643,310	$ 1,487,652	$ (223,303)	$ 2,291,413
Liabilities and equity					
Deposits	$ —	$ —	$ 1,317,230	$ —	$ 1,317,230
Deposits—intercompany	—	—	—	—	—
Securities loaned and sold under repurchase agreements	—	171,818	19,467	—	191,285
Securities loaned and sold under repurchase agreements—intercompany	—	62,197	(62,197)	—	—
Trading account liabilities	17	122,383	39,129	—	161,529
Trading account liabilities—intercompany	777	500	(1,277)	—	—
Short-term borrowings	—	13,425	14,548	—	27,973
Short-term borrowings—intercompany	—	17,230	(17,230)	—	—
Long-term debt	164,945	61,416	28,013	—	254,374
Long-term debt—intercompany	—	76,335	(76,335)	—	—
Advances from subsidiary bank holding company	5,426	—	(5,426)	—	—
Advances from non-bank subsidiaries	8,043	—	(8,043)	—	—
Other liabilities	2,574	68,206	65,570	—	136,350
Other liabilities—intercompany	—	11,774	(11,774)	—	—
Stockholders' equity	201,972	38,026	185,977	(223,303)	202,672
Total liabilities and equity	$ 383,754	$ 643,310	$ 1,487,652	$ (223,303)	$ 2,291,413

(1) Citigroup parent company and Other Citigroup subsidiaries at December 31, 2021 included $30.5 billion of placements to Citibank and its branches, of which $19.5 billion had a remaining term of less than 30 days.

Condensed Consolidating Statement of Cash Flows

	Year ended December 31, 2022				
In millions of dollars	Citigroup parent company	CGMHI	Other Citigroup subsidiaries and eliminations	Consolidating adjustments	Citigroup consolidated
Net cash provided by (used in) operating activities of continuing operations	**$ 156**	**$ (18,505)**	**$ 43,418**	**$ —**	**$ 25,069**
Cash flows from investing activities of continuing operations					
Available-for-sale debt securities:					
Purchases of investments	$ —	$ —	$ (218,747)	$ —	$ (218,747)
Proceeds from sales of investments	—	—	79,687	—	79,687
Proceeds from maturities of investments	—	—	140,934	—	140,934
Held-to-maturity debt securities:					
Purchases of investments	—	—	(42,903)	—	(42,903)
Proceeds from maturities of investments	—	—	12,188	—	12,188
Change in loans	—	—	(16,591)	—	(16,591)
Proceeds from sales and securitizations of loans	—	—	4,709	—	4,709
Proceeds from divestitures	—	—	5,741	—	5,741
Change in securities borrowed and purchased under agreements to resell	—	(13,303)	(24,810)	—	(38,113)
Changes in investments and advances—intercompany	(7,815)	(33,929)	41,744	—	—
Other investing activities	—	(65)	(6,295)	—	(6,360)
Net cash used in investing activities of continuing operations	**$ (7,815)**	**$ (47,297)**	**$ (24,343)**	**$ —**	**$ (79,455)**
Cash flows from financing activities of continuing operations					
Dividends paid	$ (5,003)	$ (281)	$ 281	$ —	$ (5,003)
Issuance of preferred stock	—	—	—	—	—
Redemption of preferred stock	—	—	—	—	—
Treasury stock acquired	(3,250)	—	—	—	(3,250)
Proceeds (repayments) from issuance of long-term debt, net	14,661	34,162	(1,160)	—	47,663
Proceeds (repayments) from issuance of long-term debt—intercompany, net	—	11,089	(11,089)	—	—
Change in deposits	—	—	68,415	—	68,415
Change in securities loaned and sold under agreements to repurchase	—	11,901	(742)	—	11,159
Change in short-term borrowings	—	6,957	12,166	—	19,123
Net change in short-term borrowings and other advances—intercompany	1,093	2,038	(3,131)	—	—
Capital contributions from (to) parent	—	380	(380)	—	—
Other financing activities	(344)	12	(12)	—	(344)
Net cash provided by financing activities of continuing operations	**$ 7,157**	**$ 66,258**	**$ 64,348**	**$ —**	**$ 137,763**
Effect of exchange rate changes on cash and due from banks	$ —	$ —	$ (3,385)	$ —	$ (3,385)
Change in cash and due from banks and deposits with banks	**$ (502)**	**$ 456**	**$ 80,038**	**$ —**	**$ 79,992**
Cash and due from banks and deposits with banks at beginning of year	3,517	26,665	231,851	—	262,033
Cash and due from banks and deposits with banks at end of year	**$ 3,015**	**$ 27,121**	**$ 311,889**	**$ —**	**$ 342,025**
Cash and due from banks (including segregated cash and other deposits)	$ 15	$ 8,403	$ 22,159	$ —	$ 30,577
Deposits with banks, net of allowance	3,000	18,718	289,730	—	311,448
Cash and due from banks and deposits with banks at end of year	**$ 3,015**	**$ 27,121**	**$ 311,889**	**$ —**	**$ 342,025**
Supplemental disclosure of cash flow information for continuing operations					
Cash paid (received) during the year for income taxes	$ (1,269)	$ 363	$ 4,639	$ —	$ 3,733
Cash paid during the year for interest	1,309	9,936	11,370	—	22,615
Non-cash investing activities					
Transfer of investment securities from AFS to HTM	$ —	$ —	$ 21,688	$ —	$ 21,688
Decrease in net loans associated with divestitures reclassified to HFS	—	—	16,956	—	16,956
Decrease in goodwill associated with divestitures reclassified to HFS	—	—	876	—	876
Transfers to loans HFS (*Other assets*) from loans	—	—	5,582	—	5,582
Non-cash financing activities					
Decrease in deposits associated with significant disposals reclassified to HFS	$ —	$ —	$ 19,691	$ —	$ 19,691

Condensed Consolidating Statement of Cash Flows

In millions of dollars	Year ended December 31, 2021 Citigroup parent company	CGMHI	Other Citigroup subsidiaries and eliminations	Consolidating adjustments	Citigroup consolidated
Net cash provided by (used in) operating activities of continuing operations	$ 3,947	$ 43,227	$ (84)	$ —	$ 47,090
Cash flows from investing activities of continuing operations					
Available-for-sale debt securities:					
Purchases of investments	$ —	$ —	$ (205,980)	$ —	$ (205,980)
Proceeds from sales of investments	—	—	125,895	—	125,895
Proceeds from maturities of investments	—	—	120,936	—	120,936
Held-to-maturity debt securities:					
Purchases of investments	—	—	(136,450)	—	(136,450)
Proceeds from maturities of investments	—	—	21,164	—	21,164
Change in loans	—	—	(1,173)	—	(1,173)
Proceeds from sales and securitizations of loans	—	—	2,918	—	2,918
Change in securities borrowed and purchased under agreements to resell	—	(29,944)	(2,632)	—	(32,576)
Changes in investments and advances—intercompany	8,260	(9,040)	780	—	—
Other investing activities	—	(2)	(5,478)	—	(5,480)
Net cash provided by (used in) investing activities of continuing operations	$ 8,260	$ (38,986)	$ (80,020)	$ —	$ (110,746)
Cash flows from financing activities of continuing operations					
Dividends paid	$ (5,198)	$ (196)	$ 196	$ —	$ (5,198)
Issuance of preferred stock	3,300	—	—	—	3,300
Redemption of preferred stock	(3,785)	—	—	—	(3,785)
Treasury stock acquired	(7,601)	—	—	—	(7,601)
Proceeds from issuance of long-term debt, net	(86)	15,071	(19,277)	—	(4,292)
Proceeds (repayments) from issuance of long-term debt—intercompany, net	—	14,410	(14,410)	—	—
Change in deposits	—	—	44,966	—	44,966
Change in securities loaned and sold under agreements to repurchase	—	(27,241)	19,001	—	(8,240)
Change in short-term borrowings	—	1,102	(2,643)	—	(1,541)
Net change in short-term borrowings and other advances—intercompany	501	(917)	416	—	—
Capital contributions from (to) parent	—	71	(71)	—	—
Other financing activities	(337)	12	(12)	—	(337)
Net cash provided by (used in) financing activities of continuing operations	$ (13,206)	$ 2,312	$ 28,166	$ —	$ 17,272
Effect of exchange rate changes on cash and due from banks	$ —	$ —	$ (1,198)	$ —	$ (1,198)
Change in cash and due from banks and deposits with banks	$ (999)	$ 6,553	$ (53,136)	$ —	$ (47,582)
Cash and due from banks and deposits with banks at beginning of year	4,516	20,112	284,987	—	309,615
Cash and due from banks and deposits with banks at end of year	$ 3,517	$ 26,665	$ 231,851	$ —	$ 262,033
Cash and due from banks (including segregated cash and other deposits)	$ 17	$ 7,724	$ 19,774	$ —	$ 27,515
Deposits with banks, net of allowance	3,500	18,941	212,077	—	234,518
Cash and due from banks and deposits with banks at end of year	$ 3,517	$ 26,665	$ 231,851	$ —	$ 262,033
Supplemental disclosure of cash flow information for continuing operations					
Cash paid (received) during the year for income taxes	$ (2,406)	$ 919	$ 5,515	$ —	$ 4,028
Cash paid during the year for interest	3,101	2,210	1,832	—	7,143
Non-cash investing activities					
Decrease in net loans associated with divestitures reclassified to HFS	$ —	$ —	$ 9,945	$ —	$ 9,945
Transfers to loans HFS (*Other assets*) from loans	—	—	7,414	—	7,414
Non-cash financing activities					
Decrease in long-term debt associated with divestitures reclassified to HFS	$ —	$ —	$ 479	$ —	$ 479
Decrease in deposits associated with divestitures reclassified to HFS reclassified to HFS	—	—	8,407	—	8,407

Condensed Consolidating Statements of Cash Flows

In millions of dollars	Year ended December 31, 2020				
	Citigroup parent company	CGMHI	Other Citigroup subsidiaries and eliminations	Consolidating adjustments	Citigroup consolidated
Net cash provided by (used in) operating activities of continuing operations	$ 5,002	$ (26,195)	$ (2,295)	$ —	$ (23,488)
Cash flows from investing activities of continuing operations					
Available-for-sale debt securities:					
Purchases of investments	$ —	$ —	$ (306,801)	$ —	$ (306,801)
Proceeds from sales of investments	—	—	144,035	—	144,035
Proceeds from maturities of investments	—	—	110,941	—	110,941
Held-to-maturity debt securities:					
Purchases of investments	—	—	(25,586)	—	(25,586)
Proceeds from maturities of investments	—	—	15,215	—	15,215
Change in loans	—	—	14,249	—	14,249
Proceeds from sales and securitizations of loans	—	—	1,495	—	1,495
Change in securities borrowed and purchased under agreements to resell	—	(46,044)	2,654	—	(43,390)
Changes in investments and advances—intercompany	(5,584)	(6,917)	12,501	—	—
Other investing activities	—	(54)	(2,549)	—	(2,603)
Net cash provided by (used in) investing activities of continuing operations	$ (5,584)	$ (53,015)	$ (33,846)	$ —	$ (92,445)
Cash flows from financing activities of continuing operations					
Dividends paid	$ (5,352)	$ (172)	$ 172	$ —	$ (5,352)
Issuance of preferred stock	2,995	—	—	—	2,995
Redemption of preferred stock	(1,500)	—	—	—	(1,500)
Treasury stock acquired	(2,925)	—	—	—	(2,925)
Proceeds (repayments) from issuance of long-term debt, net	16,798	6,349	(10,091)	—	13,056
Proceeds (repayments) from issuance of long-term debt—intercompany, net	—	3,960	(3,960)	—	—
Change in deposits	—	—	210,081	—	210,081
Change in securities loaned and sold under agreements to repurchase	—	79,322	(46,136)	—	33,186
Change in short-term borrowings	—	1,228	(16,763)	—	(15,535)
Net change in short-term borrowings and other advances—intercompany	(7,528)	(7,806)	15,334	—	—
Other financing activities	(411)	—	—	—	(411)
Net cash provided by financing activities of continuing operations	$ 2,077	$ 82,881	$ 148,637	$ —	$ 233,595
Effect of exchange rate changes on cash and due from banks	$ —	$ —	$ (1,966)	$ —	$ (1,966)
Change in cash and due from banks and deposits with banks	$ 1,495	$ 3,671	$ 110,530	$ —	$ 115,696
Cash and due from banks and deposits with banks at beginning of year	3,021	16,441	174,457	—	193,919
Cash and due from banks and deposits with banks at end of year	$ 4,516	$ 20,112	$ 284,987	$ —	$ 309,615
Cash and due from banks (including segregated cash and other deposits)	$ 16	$ 6,709	$ 19,624	$ —	$ 26,349
Deposits with banks, net of allowance	4,500	13,403	265,363	—	283,266
Cash and due from banks and deposits with banks at end of year	$ 4,516	$ 20,112	$ 284,987	$ —	$ 309,615
Supplemental disclosure of cash flow information for continuing operations					
Cash paid (received) during the year for income taxes	$ (1,883)	$ 1,138	$ 5,542	$ —	$ 4,797
Cash paid during the year for interest	2,681	4,516	4,897	—	12,094
Non-cash investing activities					
Transfers to loans HFS (*Other assets*) from loans	$ —	$ —	$ 2,614	$ —	$ 2,614

FINANCIAL DATA SUPPLEMENT

RATIOS

	2022	2021	2020
Return on average assets	**0.62%**	0.94 %	0.50%
Return on average common stockholders' equity[1]	**7.7**	11.5	5.7
Return on average total stockholders' equity[2]	**7.5**	10.9	5.7
Total average equity to average assets[3]	**8.3**	8.6	8.7
Dividend payout ratio[4]	**29**	20	43

(1) Based on Citigroup's net income less preferred stock dividends as a percentage of average common stockholders' equity.
(2) Based on Citigroup's net income as a percentage of average total Citigroup stockholders' equity.
(3) Based on average Citigroup stockholders' equity as a percentage of average assets.
(4) Dividends declared per common share as a percentage of diluted EPS.

AVERAGE DEPOSIT LIABILITIES IN OFFICES OUTSIDE THE U.S.[1]

	2022		2021		2020	
In millions of dollars at year end, except ratios	**Average interest rate**	**Average balance**	Average interest rate	Average balance	Average interest rate	Average balance
Banks	**0.66%**	**$ 32,094**	0.16%	$ 42,222	0.10%	$ 130,970
Other demand deposits	**0.49**	**394,488**	0.15	412,815	0.33	311,342
Other time and savings deposits	**1.79**	**190,448**	0.55	200,194	0.94	210,896
Total	**0.90%**	**$ 617,030**	0.28%	$ 655,231	0.48%	$ 653,208

(1) Interest rates and amounts include the effects of risk management activities and also reflect the impact of the local interest rates prevailing in certain countries.

UNINSURED DEPOSITS

The table below shows the estimated amount of uninsured time deposits by maturity profile:

In millions of dollars at December 31, 2022	**Under 3 months or less**	**Over 3 months but within 6 months**	**Over 6 months but within 12 months**	**Over 12 months**	**Total**
In U.S. offices[1]					
Time deposits in excess of FDIC insurance limits[2]	**$ 24,534**	**$ 11,556**	**$ 22,868**	**$ 2,642**	**$ 61,600**
In offices outside the U.S.[1]					
Time deposits in excess of foreign jurisdiction insurance limits[3]	**128,189**	**9,289**	**12,125**	**1,318**	**150,921**
Total uninsured time deposits[4]	**$ 152,723**	**$ 20,845**	**$ 34,993**	**$ 3,960**	**$ 212,521**

(1) The classification between offices in the U.S. and outside the U.S. is based on the domicile of the booking unit, rather than the domicile of the depositor.
(2) The standard insurance amount is $250,000 and $500,000 per depositor, per insured bank, for single and joint account ownership categories, respectively.
(3) For purposes of this presentation, time deposits in offices outside the U.S. are deemed to be uninsured.
(4) The maturity term is based on the remaining term of the time deposit rather than the original maturity date.

Total uninsured deposits as of December 31, 2022 were $1.16 trillion (see footnotes 1, 2 and 3 to the table above).

SUPERVISION, REGULATION AND OTHER

SUPERVISION AND REGULATION

Citi is subject to regulation under U.S. federal and state laws, as well as applicable laws in the other jurisdictions in which it does business.

General

Citigroup is a registered bank holding company and financial holding company and is regulated and supervised by the Federal Reserve Board (FRB). Citigroup's nationally chartered subsidiary banks, including Citibank, are regulated and supervised by the Office of the Comptroller of the Currency (OCC). The Federal Deposit Insurance Corporation (FDIC) also has examination authority for banking subsidiaries whose deposits it insures. Overseas branches of Citibank are regulated and supervised by the FRB and OCC and overseas subsidiary banks by the FRB. These overseas branches and subsidiary banks are also regulated and supervised by regulatory authorities in the host countries. In addition, the Consumer Financial Protection Bureau regulates consumer financial products and services. Citi is also subject to laws and regulations concerning the collection, use, sharing and disposition of certain customer, employee and other personal and confidential information, including those imposed by the Gramm-Leach-Bliley Act, the Fair Credit Reporting Act and the EU General Data Protection Regulation. For more information on U.S. and foreign regulation affecting or potentially affecting Citi, see "Managing Global Risk—Capital Resources" and "—Liquidity Risk" and "Risk Factors" above.

Other Bank and Bank Holding Company Regulation

Citi, including its banking subsidiaries, is subject to regulatory limitations, including requirements as to liquidity, risk-based capital and leverage (see "Capital Resources" above and Note 19), restrictions on the types and amounts of loans that may be made and the interest that may be charged, and limitations on investments that can be made and services that can be offered. The FRB may also expect Citi to commit resources to its subsidiary banks in certain circumstances. Citi is also subject to anti-money laundering and financial transparency laws, including standards for verifying client identification at account opening and obligations to monitor client transactions and report suspicious activities.

Securities and Commodities Regulation

Citi conducts securities underwriting, brokerage and dealing activities in the U.S. through Citigroup Global Markets Inc. (CGMI), its primary broker-dealer, and other broker-dealer subsidiaries, which are subject to regulations of the U.S. Securities and Exchange Commission (SEC), the Financial Industry Regulatory Authority and certain exchanges. Citi conducts similar securities activities outside the U.S., subject to local requirements, through various subsidiaries and affiliates, principally Citigroup Global Markets Limited in London (CGML), which is regulated principally by the U.K. Financial Conduct Authority and Prudential Regulation Authority (PRA), and Citigroup Global Markets Japan Inc. in Tokyo, which is regulated principally by the Financial Services Agency of Japan.

Citi also has subsidiaries that are members of futures exchanges and derivatives clearinghouses. In the U.S., CGMI is a member of the principal U.S. futures exchanges and clearinghouses, and Citi has subsidiaries that are registered as futures commission merchants and commodity pool operators with the Commodity Futures Trading Commission (CFTC). Citibank, CGMI, Citigroup Energy Inc., Citigroup Global Markets Europe AG (CGME) and CGML are also registered as swap dealers with the CFTC (for additional information, see below). CGMI is also subject to SEC and CFTC rules that specify uniform minimum net capital requirements. Compliance with these rules could limit those operations of CGMI that require the intensive use of capital and also limits the ability of broker-dealers to transfer large amounts of capital to parent companies and other affiliates. See "Capital Resources" above and Note 19 for a further discussion of capital considerations of Citi's non-banking subsidiaries.

Recent Rules Regarding Swap Dealers/Security-Based Swap Dealers

On July 22, 2020, the CFTC adopted final rules establishing capital and financial reporting requirements for swap dealers that took effect in October 2021.

In addition, the SEC has adopted rules governing the registration and regulation of security-based swap dealers. The regulations include requirements related to (i) capital, margin and segregation, (ii) record-keeping, reporting and notification and (iii) risk management practices for uncleared security-based swaps and the cross-border application of certain security-based swap requirements. These requirements also took effect in November 2021. Citibank, CGML and CGME registered with the SEC as security-based swap dealers.

Transactions with Affiliates

Transactions between Citi's U.S. subsidiary depository institutions and their non-bank affiliates are regulated by the FRB, and are generally required to be on arm's-length terms. See "Managing Global Risk—Liquidity Risk" above.

COMPETITION

The financial services industry is highly competitive. Citi's competitors include a variety of financial services and advisory companies, as well as certain non-financial services firms. Citi competes for clients and capital (including deposits and funding in the short- and long-term debt markets) with some of these competitors globally and with others on a regional or product basis. Citi's competitive position depends on many factors, including, among others, the value of Citi's brand name, reputation, the types of clients and geographies served; the quality, range, performance, innovation and pricing of products and services; the effectiveness of and access to distribution channels, maintenance of partner relationships, emerging technologies and technology advances, customer service and convenience; the effectiveness of transaction execution, interest rates, lending limits and risk appetite; regulatory constraints and compliance; and changes in the

macroeconomic business environment or societal norms. Citi's ability to compete effectively also depends upon its ability to attract new colleagues and retain and motivate existing colleagues, while managing compensation and other costs. For additional information on competitive factors and uncertainties impacting Citi's businesses, see "Risk Factors—Strategic Risks" above.

DISCLOSURE PURSUANT TO SECTION 219 OF THE IRAN THREAT REDUCTION AND SYRIA HUMAN RIGHTS ACT

Pursuant to Section 219 of the Iran Threat Reduction and Syria Human Rights Act of 2012 (Section 219), which added Section 13(r) to the Securities Exchange Act of 1934, as amended, Citi is required to disclose in its annual or quarterly reports, as applicable, whether it or any of its affiliates knowingly engaged in certain activities, transactions or dealings relating to Iran or with certain individuals or entities that are the subject of sanctions under U.S. law. Disclosure is generally required even where the activities, transactions or dealings were conducted in compliance with applicable law. Citi, in its First Quarter of 2022 Form 10-Q, identified and reported certain activities pursuant to Section 219 for the first quarter of 2022. Citi did not report any activities pursuant to Section 219 in its Second Quarter of 2022 Form 10-Q or Third Quarter of 2022 Form 10-Q. During the fourth quarter of 2022, Citigroup identified seven transactions pursuant to Section 219 related to the second, third and fourth quarters of 2022.

Between April 2022 and July 2022, a Citigroup subsidiary processed four payments to cover the service and insurance fees on a now closed credit card held by a Specially Designated National, who was designated pursuant to the Weapons of Mass Destruction Proliferators Sanctions Regulations. The total value of the payments was equivalent to USD 14.29, and they were assessed for the period after the designation but prior to the closure of the account. Citi did not realize any additional fees for the processing of the payments. Once identified, the transactions were disclosed to the U.S. Department of the Treasury's Office of Foreign Assets Control (OFAC).

On October 19, 2022, Citibank, N.A., New York Branch, participated in a transaction that indirectly involved the Foreign Trade Bank of the Democratic People's Republic of Korea when it processed a funds transfer from an international organization to the account of the Permanent Mission of the Democratic People's Republic of Korea (DPRK) at the international organization's Federal Credit Union. The total value of the payment was approximately USD 1,000,000 and was a payment to fund the international organization's humanitarian activities in the DPRK and the operations of the DPRK mission. This transaction was made pursuant to a license issued by OFAC on September 27, 2022, which expires on September 30, 2023. Citi realized nominal fees for the processing of the payment.

In November 2022, Citibank, N.A., acting as an intermediary bank, processed a transfer of funds from the accounts of subsidiaries of the Islamic Republic of Iran Shipping Lines held at Société Générale bank, Paris, to Commerzbank AG, Hamburg, to satisfy a judgment from the Commercial Court of Paris. The total value of the payment was USD 22,610,822.13 and the transaction was authorized pursuant to a license issued by OFAC on May 3, 2022, which expires on May 31, 2024. Citi realized nominal fees for the processing of the payment.

On December 27, 2022, two subsidiaries of Citigroup processed a transaction between the Central Bank of Iran (the CBI) and an international organization. The CBI sent funds to the international organization's Korean won account at Citibank Korea Inc., which were then converted to U.S. dollars and transferred to the international organization's U.S. dollar account at Citibank, N.A., New York Branch. The total value of the payment was USD 20,573,794.74. The transaction was a payment for the Government of Iran's membership dues to the international organization. Citi obtained a two-year license from OFAC for such payments, expiring on May 31, 2023. Citi realized nominal fees for the processing of the payment.

UNREGISTERED SALES OF EQUITY SECURITIES, REPURCHASES OF EQUITY SECURITIES AND DIVIDENDS

Unregistered Sales of Equity Securities

None.

Equity Security Repurchases

All large banks, including Citi, are subject to limitations on capital distributions in the event of a breach of any regulatory capital buffers, including the Stress Capital Buffer, with the degree of such restrictions based on the extent to which the buffers are breached. For additional information, see "Capital Resources—Regulatory Capital Buffers" and "Risk Factors—Strategic Risks" above.

Citi did not have any share repurchases in the fourth quarter of 2022, other than repurchases relating to issuances of common stock related to employee stock ownership plans. For information on Citi's pause of common share repurchases, see "Executive Summary" above.

During the quarter, pursuant to Citigroup's Board of Directors' authorization, Citi withheld an insignificant number of shares of common stock, added to treasury stock, related to activity on employee stock programs to satisfy employee tax requirements.

Dividends

Citi paid common dividends of $0.51 per share for the fourth quarter of 2022 and the first quarter of 2023. As previously announced, Citi intends to maintain its planned capital actions, which include a quarterly common dividend of at least $0.51 per share, subject to financial and macroeconomic conditions as well as Board of Directors' approval.

As discussed above, Citi's ability to pay common stock dividends is subject to limitations on capital distributions in the event of a breach of any regulatory capital buffers, including the Stress Capital Buffer, with the degree of such restrictions based on the extent to which the buffers are breached. For additional information, see "Capital Resources—Regulatory Capital Buffers" and "Risk Factors—Strategic Risks" above.

Any dividend on Citi's outstanding common stock would also need to be in compliance with Citi's obligations on its outstanding preferred stock.

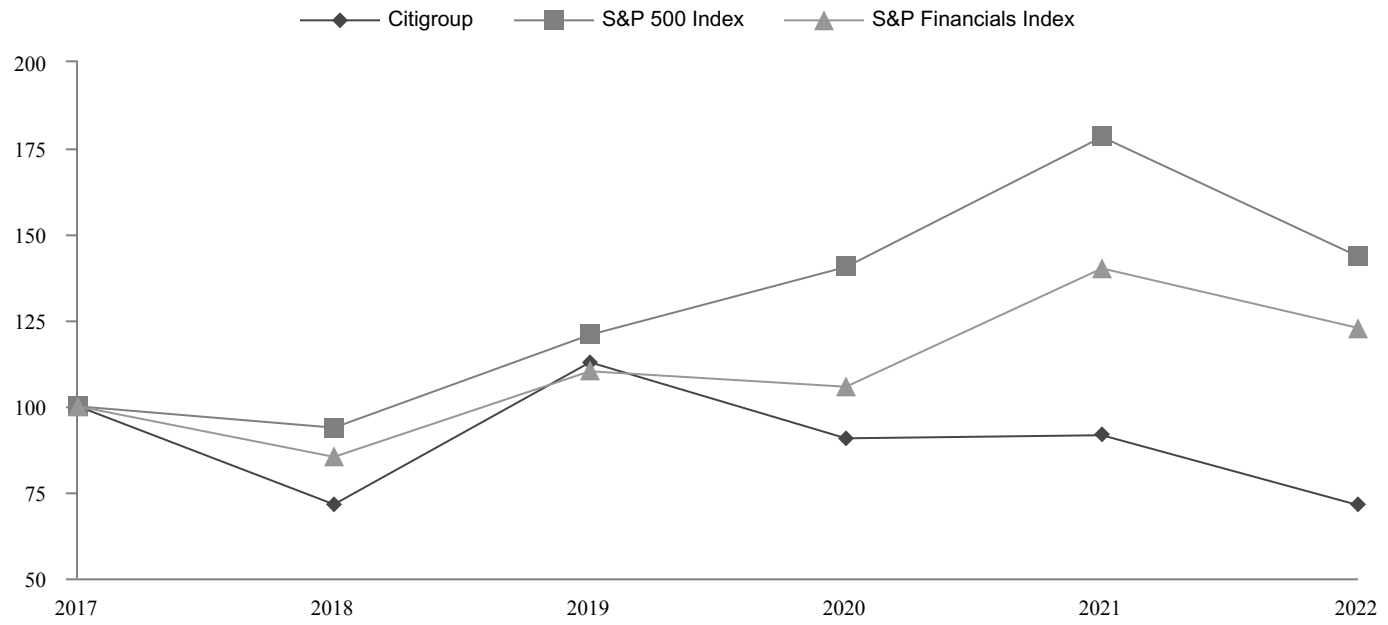
During 2022, Citi distributed $1,032 million in dividends on its outstanding preferred stock. On January 11, 2023, Citi declared preferred dividends of approximately $277 million for the first quarter of 2023.

See Note 19 for information on the ability of Citigroup's subsidiary depository institutions to pay dividends.

PERFORMANCE GRAPH

Comparison of Five-Year Cumulative Total Return
The following graph and table compare the cumulative total return on Citi's common stock with the cumulative total return of the S&P 500 Index and the S&P Financials Index over the five-year period through December 31, 2022. The graph and table assume that $100 was invested on December 31, 2017 in Citi's common stock, the S&P 500 Index and the S&P Financials Index, and that all dividends were reinvested.

Comparison of Five-Year Cumulative Total Return
For the years ended



DATE	Citigroup	S&P 500 Index	S&P Financials Index
31-Dec-2017	100.0	100.0	100.0
31-Dec-2018	71.5	93.8	85.3
31-Dec-2019	112.8	120.8	110.2
31-Dec-2020	90.7	140.5	105.7
31-Dec-2021	91.6	178.3	140.1
31-Dec-2022	71.3	143.6	122.8

Note: Citi's common stock is listed on the NYSE under the ticker symbol "C" and held by 60,813 common stockholders of record as of January 31, 2023.

CORPORATE INFORMATION

EXECUTIVE OFFICERS

Citigroup's executive officers as of February 24, 2023 are:

Name	Age	Position and office held
Peter Babej	59	CEO, Asia Pacific
Titi Cole	50	CEO, Legacy Franchises
Jane Fraser	55	Chief Executive Officer, Citigroup Inc.
Sunil Garg	57	Chief Executive Officer, Citibank, N.A.
David Livingstone	59	CEO, Europe, Middle East and Africa
Mark A. L. Mason	53	Chief Financial Officer
Brent McIntosh	49	General Counsel and Corporate Secretary
Johnbull Okpara	51	Controller and Chief Accounting Officer
Karen Peetz	67	Chief Administrative Officer
Anand Selvakesari	55	CEO, Personal Banking and Wealth Management
Edward Skyler	49	Head of Enterprise Services & Public Affairs
Ernesto Torres Cantú	58	CEO, Latin America
Zdenek Turek	58	Chief Risk Officer
Sara Wechter	42	Head of Human Resources
Mike Whitaker	59	Head of Enterprise Operations and Technology
Paco Ybarra	61	CEO, Institutional Clients Group

The following executive officers have not held their current executive officer positions with Citigroup for at least five years:

- Mr. Babej joined Citi in 2010 and assumed his current position in October 2019. Previously, he served as *ICG*'s Global Head of the Financial Institutions Group (FIG) from January 2017 to October 2019 and Global Co-Head of FIG from 2010 to January 2017. Prior to joining Citi, Mr. Babej served as Co-Head, Financial Institutions—Americas at Deutsche Bank, among other roles;
- Ms. Cole joined Citi in her current position in February 2022. Previously, she served as *PBWM*'s Head of Global Operations and Fraud Prevention and Chief Client Officer. Prior to joining Citi, Ms. Cole served as Head of Consumer and Small Business Banking Operations and Contact Centers at Wells Fargo, and before that, led Retail Products and Underwriting for Bank of America;
- Ms. Fraser joined Citi in 2004 and assumed her current position on February 26, 2021. Previously, she served as CEO of (the former) *Global Consumer Banking* from October 2019 to December 2020. Before that, she served as CEO of Citi Latin America from June 2015 to October 2019. She held a number of other roles across the organization, including CEO of U.S. Consumer and Commercial Banking and CitiMortgage, CEO of Citi's Global Private Bank and Global Head of Strategy and M&A;
- Mr. Garg joined Citi in May 1988 and assumed his current position in February 2021. Previously, he was global CEO of the Commercial Bank beginning in 2011. Prior to that, Mr. Garg led the U.S. Commercial Banking business from 2008 until 2011. In addition, he held various other roles at Citi in Operations and Technology, Treasury and Trade Solutions, Corporate and Investment Banking and Commercial Banking.
- Mr. Livingstone joined Citi in 2016 and assumed his current position in March 2019. Previously, he served as Citi Country Officer for Australia and New Zealand since June 2016. Prior to joining Citi, he had a nine-year career at Credit Suisse, where he was Vice Chairman of the Investment Banking and Capital Markets Division for the EMEA region, Head of M&A and CEO of Credit Suisse Australia;
- Mr. Mason joined Citi in 2001 and assumed his current position in February 2019. Previously, he served as CFO of *ICG* since September 2014. He held a number of other senior operational, strategic and financial executive roles across the organization, including CEO of Citi Private Bank, CEO of Citi Holdings and CFO and Head of Strategy and M&A for Citi's Global Wealth Management Division;
- Mr. McIntosh joined Citi in his current position in October 2021. Previously, he served as Under Secretary for International Affairs at the U.S. Treasury from 2019 to 2021. From 2017 to 2019, Mr. McIntosh served as U.S. Treasury's General Counsel. Prior to that, he was a partner in the law firm of Sullivan & Cromwell and served in the U.S. White House from 2006 until 2009;
- Mr. Okpara joined Citi in his current position in November 2020. Previously he served as Managing Director, Global Head of Financial Planning and Analysis and CFO, Infrastructure Groups at Morgan Stanley since 2016. Prior to that, Mr. Okpara was Managing Vice President, Finance and Deputy Controller at Capital One Financial Corporation;
- Ms. Peetz joined Citi in her current position in June 2020. Previously, she served on the Board of Directors of Wells Fargo from 2017 to 2019. Ms. Peetz spent nearly 20 years at BNY Mellon, where she managed several business units and ultimately served as President for five years until her departure in 2016. Prior to that, she worked at JPMorgan Chase, where she held a variety of management positions during her tenure;
- Mr. Selvakesari joined Citi in 1991 and assumed his current position in January 2021. Previously, he served as Head of the U.S. Consumer Bank since October 2018 and held various other roles at Citi prior to that, including Head of Consumer Banking for Asia Pacific from 2015 to 2018, as well as a number of regional and country roles, including Head of Consumer Banking for ASEAN and India, leading the consumer banking businesses in Singapore, Malaysia, Indonesia, the Philippines, Thailand and Vietnam, as well as India;
- Mr. Torres Cantú joined Citi in 1989 and assumed his current position in October 2019. Previously, he served as CEO of Citibanamex since October 2014. He served as CEO of (the former) *Global Consumer Banking* in

Mexico from 2006 to 2011 and CEO of Crédito Familiar from 2003 to 2006. In addition, he previously held roles in Citibanamex, including Regional Director and Divisional Director;

- Mr. Turek joined Citi in 1991 and assumed his current position in December 2020. Previously, he served as CRO for EMEA since February 2020 and held various other roles at Citi, including CEO of Citibank Europe as well as leading significant franchises across Citi, including in Russia, South Africa and Hungary;
- Ms. Wechter joined Citi in 2004 and assumed her current position in July 2018. Previously, she served as Citi's Head of Talent and Diversity as well as Chief of Staff to Citi CEO Michael Corbat. She served as Chief of Staff to both Michael O'Neill and Richard Parsons during their terms as Chairman of Citigroup's Board of Directors. In addition, she held roles in Citi's *ICG*, including Corporate M&A and Strategy and Investment Banking;
- Mr. Whitaker joined Citi in 2009 and assumed his current position in November 2018. Previously, he served as Head of Operations & Technology for *ICG* since September 2014 and held various other roles at Citi, including Head of Securities & Banking Operations & Technology, Head of *ICG* Technology and Regional Chief Information Officer; and
- Mr. Ybarra joined Citi in 1987 and assumed his current position in May 2019. Previously, he served as *ICG*'s Global Head of Markets and Securities Services since November 2013. In addition, he has held a number of other roles across *ICG*, including Deputy Head of *ICG*, Global Head of Markets and Co-Head of Global Fixed Income.

Code of Conduct, Code of Ethics

Citi has a Code of Conduct that maintains its commitment to the highest standards of conduct. The Code of Conduct is supplemented by a Code of Ethics for Financial Professionals (including accounting, controllers, financial reporting operations, financial planning and analysis, treasury, capital planning, tax, productivity and strategy, M&A, investor relations and regional/product finance professionals and administrative staff) that applies worldwide. The Code of Ethics for Financial Professionals applies to Citi's principal executive officer, principal financial officer and principal accounting officer. Amendments and waivers, if any, to the Code of Ethics for Financial Professionals will be disclosed on Citi's website, www.citigroup.com. The Audit Committee has responsibility for the oversight of Citi's Code of Ethics for Financial Professionals.

Both the Code of Conduct and the Code of Ethics for Financial Professionals can be found on the Citi website by clicking on "Investors" and then "Corporate Governance." Citi's Corporate Governance Guidelines can also be found there, as well as the charters for the Audit Committee, the Compensation, Performance and Culture Committee, the Nomination, Governance and Public Affairs Committee, the Risk Management Committee and the Technology Committee of Citigroup's Board of Directors. These materials are also available by writing to Citigroup Inc., Corporate Governance, 388 Greenwich Street, 17th Floor, New York, New York 10013.

CITIGROUP BOARD OF DIRECTORS

Ellen M. Costello
Former President and CEO
BMO Financial Corporation and
Former U.S. Country Head
BMO Financial Group

Grace E. Dailey
Former Senior Deputy Comptroller
for Bank Supervision Policy and
Chief National Bank Examiner
Office of the Comptroller of the
Currency (OCC)

Barbara J. Desoer
Chair
Citibank, N.A.

John C. Dugan
Chair
Citigroup Inc.

Jane Fraser
Chief Executive Officer
Citigroup Inc.

Duncan P. Hennes
Co-Founder and Partner
Atrevida Partners, LLC

Peter Blair Henry
Class of 1984 Senior Fellow, Hoover
Institution, and Senior Fellow,
Freeman Spogli Institute for
International Studies, Stanford
University

S. Leslie Ireland
Former Assistant Secretary for
Intelligence and Analysis
U.S. Department of the Treasury,
and National Intelligence Manager
for Threat Finance, Office of the
Director of National Intelligence

Renée J. James
Founder, Chair and CEO
Ampere Computing

Gary M. Reiner
Operating Partner
General Atlantic LLC

Diana L. Taylor
Former Superintendent of Banks
State of New York

James S. Turley
Former Chairman and CEO
Ernst & Young

Casper W. von Koskull
Former President and Group Chief
Executive Officer
Nordea Bank Abp

Signatures

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized, on the 24th day of February, 2023.

Citigroup Inc.
(Registrant)

/s/ Mark A. L. Mason

Mark A. L. Mason
Chief Financial Officer

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below by the following persons on behalf of the registrant and in the capacities indicated on the 24th day of February, 2023.

Citigroup's Principal Executive Officer and a Director:

/s/ Jane Fraser

Jane Fraser

Citigroup's Principal Financial Officer:

/s/ Mark A. L. Mason

Mark A. L. Mason

Citigroup's Principal Accounting Officer:

/s/ Johnbull E. Okpara

Johnbull E. Okpara

The Directors of Citigroup listed below executed a power of attorney appointing Mark A. L. Mason their attorney-in-fact, empowering him to sign this report on their behalf.

Ellen M. Costello	S. Leslie Ireland
Grace E. Dailey	Renée J. James
Barbara Desoer	Gary M. Reiner
John C. Dugan	Diana L. Taylor
Duncan P. Hennes	James S. Turley
Peter Blair Henry	Casper W. von Koskull

/s/ Mark A. L. Mason

Mark A. L. Mason

GLOSSARY OF TERMS AND ACRONYMS

The following is a list of terms and acronyms that are used in this report and other Citigroup presentations.

* Denotes a Citi metric

2022 Annual Report on Form 10-K: Annual report on Form 10-K for year ended December 31, 2022, filed with the SEC.

90+ days past due delinquency rate*: Represents consumer loans that are past due by 90 or more days, divided by that period's total EOP loans.

ABS: Asset-backed securities

ACL: Allowance for credit losses, which is composed of the allowance for credit losses on loans (ACLL) and allowance for credit losses on unfunded lending commitments (ACLUC), allowance for credit losses on HTM securities and allowance for credit losses on other assets.

ACLL: Allowance for credit losses on loans

ACLUC: Allowance for credit losses on unfunded lending commitments

Advanced Approaches: The Advanced Approaches capital framework, established through Basel III rules by the FRB, requires certain banking organizations to use an internal ratings-based approach and other methodologies to calculate risk-based capital requirements for credit risk and advanced measurement approaches to calculate risk-based capital requirements for operational risk.

AFS: Available-for-sale

ALCO: Asset Liability Committee

Amortized cost: Amount at which a financing receivable or investment is originated or acquired, adjusted for accretion or amortization of premium, discount, and net deferred fees or costs, collection of cash, charge-offs, foreign exchange, and fair value hedge accounting adjustments. For AFS securities, amortized cost is also reduced by any impairment losses recognized in earnings. Amortized cost is not reduced by the allowance for credit losses, except where explicitly presented net.

AOCI: Accumulated other comprehensive income (loss)

ARM: Adjustable rate mortgage(s)

ASC: Accounting Standards Codification under GAAP issued by the FASB.

Asia Consumer: Asia Consumer Banking

ASU: Accounting Standards Update under GAAP issued by the FASB.

AUC: Assets under custody

AUM: Assets under management. Represent assets managed on behalf of Citi's clients.

Available liquidity resources*: Resources available at the balance sheet date to support Citi's client and business needs, including HQLA assets; additional unencumbered securities, including excess liquidity held at bank entities that is non-transferable to other entities within Citigroup; and available assets not already accounted for within Citi's HQLA to support Federal Home Loan Bank (FHLB) and Federal Reserve Bank discount window borrowing capacity.

Basel III: Liquidity and capital rules adopted by the FRB based on an internationally agreed set of measures developed by the Basel Committee on Banking Supervision.

Beneficial interests issued by consolidated VIEs: Represents the interest of third-party holders of debt, equity securities or other obligations, issued by VIEs that Citi consolidates.

Benefit obligation: Refers to the projected benefit obligation for pension plans and the accumulated postretirement benefit obligation for OPEB plans.

BHC: Bank holding company

Board: Citigroup's Board of Directors

Book value per share*: EOP common equity divided by EOP common shares outstanding.

Bps: Basis points. One basis point equals 1/100th of one percent.

Branded cards: Citi's branded cards business with a portfolio of proprietary cards (Double Cash, Custom Cash, ThankYou and Value cards) and co-branded cards (including, among others, American Airlines and Costco).

Build: A net increase in ACL through the provision for credit losses.

Cards: Citi's credit cards' businesses or activities.

CCAR: Comprehensive Capital Analysis and Review

CCO: Chief Compliance Officer

CDS: Credit default swaps

CECL: Current expected credit losses

CEO: Chief Executive Officer

CET1 Capital: Common Equity Tier 1 Capital. See "Capital Resources—Components of Citigroup Capital" above for the components of CET1.

CET1 Capital ratio*: Common Equity Tier 1 Capital ratio. A primary regulatory capital ratio representing end-of-period CET1 Capital divided by total risk-weighted assets.

CFO: Chief Financial Officer

CFTC: Commodity Futures Trading Commission

CGMHI: Citigroup Global Markets Holdings Inc.

Citi: Citigroup Inc.

Citibank or CBNA: Citibank, N.A. (National Association)

Classifiably managed: Loans primarily evaluated for credit risk based on internal risk rating classification.

Client assets: Represent assets under management as well as custody, brokerage, administration and deposit accounts.

CLO: Collateralized loan obligations

Coincident NCL coverage ratio: A credit metric, representing the ACLL at period end divided by (the most recent quarter's NCLs divided by 3). This ratio is expressed in months of coverage.

Collateral dependent: A loan is considered collateral dependent when repayment of the loan is expected to be provided substantially through the operation or sale of the collateral when the borrower is experiencing financial difficulty, including when foreclosure is deemed probable based on borrower delinquency.

Commercial cards: Provides a wide range of payment services to corporate and public sector clients worldwide through commercial card products. Services include procurement, corporate travel and entertainment, expense management services, and business-to-business payment solutions.

Consent orders: In October 2020, Citigroup and Citibank entered into consent orders with the Federal Reserve and OCC that require Citigroup and Citibank to make improvements in various aspects of enterprise-wide risk management, compliance, data quality management and governance and internal controls.

CRE: Commercial real estate

Credit card spend volume*: Dollar amount of card customers' purchases, net of returns. Also known as purchase sales.

Credit cycle: A period of time over which credit quality improves, deteriorates and then improves again (or vice versa). The duration of a credit cycle can vary from a couple of years to several years.

Credit derivatives: Financial instruments whose value is derived from the credit risk associated with the debt of a third-party issuer (the reference entity), which allow one party (the protection purchaser) to transfer that risk to another party (the protection seller).

Critical Audit Matters: Audit matters communicated by KPMG to Citi's Audit Committee of the Board of Directors, relating to accounts or disclosures that are material to the Consolidated Financial Statements and involved especially challenging, subjective or complex judgments. See "Report of Independent Registered Public Accounting Firm" above.

Criticized: Criticized loans, lending-related commitments and derivative receivables that are classified as special mention, substandard and doubtful categories for regulatory purposes.

CRO: Chief Risk Officer

CTA: Cumulative translation adjustment (also known as currency translation adjustment). A separate component of equity within *AOCI* reported net of tax. For Citi, represents the impact of translating non-USD balance sheet items into USD each period. The CTA amount in EOP *AOCI* is a cumulative balance, net of tax.

CVA: Credit valuation adjustment

Delinquency managed: Loans primarily evaluated for credit risk based on delinquencies, FICO scores and the value of underlying collateral.

Dividend payout ratio*: Represents dividends declared per common share as a percentage of net income per diluted share.

Dodd-Frank Act: Wall Street Reform and Consumer Protection Act

DPD: Days past due

DSA: Deferred stock awards

DTA: Deferred tax asset

DVA: Debt valuation adjustment

EC: European Commission

Efficiency ratio*: A ratio signifying how much of a dollar in expenses (as a percentage) it takes to generate one dollar in revenue. Represents total operating expenses divided by total revenues, net.

EMEA: Europe, Middle East and Africa

EOP: End-of-period

EPS*: Earnings per share

ERISA: Employee Retirement Income Security Act of 1974

ESG: Environmental, Social and Governance

ETR: Effective tax rate

EU: European Union

Fannie Mae: Federal National Mortgage Association

FASB: Financial Accounting Standards Board

FCA: Financial Conduct Authority

FDIC: Federal Deposit Insurance Corporation

Federal Reserve: The Board of the Governors of the Federal Reserve System

FFIEC: Federal Financial Institutions Examination Council

FHA: Federal Housing Administration

FHLB: Federal Home Loan Bank

FICO: Fair Issac Corporation

FICO score: A measure of consumer credit risk provided by credit bureaus, typically produced from statistical models by Fair Isaac Corporation utilizing data collected by the credit bureaus.

FINRA: Financial Industry Regulatory Authority

Firm: Citigroup Inc.

FRB: Federal Reserve Board

FRBNY: Federal Reserve Bank of New York

Freddie Mac: Federal Home Loan Mortgage Corporation

Free standing derivatives: A derivative contract entered into either separate and apart from any of the Company's other financial instruments or equity transactions, or in conjunction with some other transaction and legally detachable and separately exercisable.

FTCs: Foreign tax credit carry-forwards

FTE: Full time employee

FVA: Funding valuation adjustment

FX: Foreign exchange

FX translation: The impact of converting non-U.S.-dollar currencies into U.S. dollars.

G7: Group of Seven nations. Countries in the G7 are Canada, France, Germany, Italy, Japan, the U.K. and the U.S.

GAAP or U.S. GAAP: Generally accepted accounting principles in the United States of America.

Ginnie Mae: Government National Mortgage Association

Global Wealth: Global Wealth Management

GSIB: Global systemically important banks

HELOC: Home equity line of credit

HFI loans: Loans that are held-for-investment (i.e., excludes loans held-for-sale).

HFS: Held-for-sale

HQLA: High-quality liquid assets. Consist of cash and certain high-quality liquid securities as defined in the LCR rule.

HTM: Held-to-maturity

Hyperinflation: Extreme economic inflation with prices rising at a very high rate in a very short time. Under U.S. GAAP, entities operating in a hyperinflationary economy need to change their functional currency to the U.S. dollar. Once an entity switches its functional currency to the U.S. dollar, the CTA balance is frozen.

IBOR: Interbank Offered Rate

ICG: Institutional Clients Group

ICRM: Independent Compliance Risk Management

IPO: Initial public offering

ISDA: International Swaps and Derivatives Association

KM: Key financial and non-financial metric used by management when evaluating consolidated and/or individual business results.

KPMG LLP: Citi's Independent Registered Public Accounting Firm.

LATAM: Latin America, which for Citi, includes Mexico.

LCR: Liquidity coverage ratio. Represents HQLA divided by net outflows in the period.

LDA: Loss Distribution Approach

LF: Legacy Franchises

LGD: Loss given default

LIBOR: London Interbank Offered Rate

LLC: Limited Liability Company

LTD: Long-term debt

LTV: Loan-to-value. For residential real estate loans, the relationship, expressed as a percentage, between the principal amount of a loan and the appraised value of the collateral (i.e., residential real estate) securing the loan.

Master netting agreement: A single agreement with a counterparty that permits multiple transactions governed by that agreement to be terminated or accelerated and settled through a single payment in a single currency in the event of a default (e.g., bankruptcy, failure to make a required payment or securities transfer or deliver collateral or margin when due).

MBS: Mortgage-backed securities

MCA: Manager's control assessment

MD&A: Management's discussion and analysis

Measurement alternative: Measures equity securities without readily determinable fair values at cost less impairment (if any), plus or minus observable price changes from an identical or similar investment of the same issuer.

Mexico Consumer: Mexico Consumer Banking

Mexico Consumer/SBMM: Mexico Consumer Banking and Small Business and Middle-Market Banking

Mexico SBMM: Mexico Small Business and Middle-Market Banking

Moody's: Moody's Investor Services

MSRs: Mortgage servicing rights

N/A: Data is not applicable or available for the period presented.

NAA: Non-accrual assets. Consists of non-accrual loans and OREO.

NAL: Non-accrual loans. Loans for which interest income is not recognized on an accrual basis. Loans (other than credit card loans and certain consumer loans insured by U.S. government-sponsored agencies) are placed on non-accrual status when full payment of principal and interest is not expected, regardless of delinquency status, or when principal and interest have been in default for a period of 90 days or more unless the loan is both well secured and in the process of collection. Collateral-dependent loans are typically maintained on non-accrual status.

NAV: Net asset value

NCL(s): Net credit losses. Represents gross credit losses, less gross credit recoveries.

NCL ratio*: Represents net credit losses (recoveries) (annualized), divided by average loans for the reporting period.

Net capital rule: Rule 15c3-1 under the Securities Exchange Act of 1934.

Net interchange income: Includes the following components:

- Interchange revenue: Fees earned from merchants based on Citi's credit and debit card customers' sales transactions.
- Reward costs: The cost to Citi for points earned by cardholders enrolled in credit card rewards programs generally tied to sales transactions.
- Partner payments: Payments to co-brand credit card partners based on the cost of loyalty program rewards earned by cardholders on credit card transactions.

NII: Net interest income. Represents total interest revenue less total interest expenses.

NIM*: Net interest margin expressed as a yield percentage, calculated as annualized net interest income divided by average interest-earning assets for the period.

NIR: Non-interest revenues

NM: Not meaningful

Noncontrolling interests: The portion of an investment that has been consolidated by Citi that is not 100% owned by Citi.

Non-GAAP financial measure: Management uses these financial measures because it believes they provide information to enable investors to understand the underlying operational performance and trends of Citi and its businesses.

NSFR: Net stable funding ratio

O/S: Outstanding

OCC: Office of the Comptroller of the Currency

OCI: Other comprehensive income (loss)

OREO: Other real estate owned

OTTI: Other-than-temporary impairment

Over-the-counter cleared (OTC-cleared) derivatives: Derivative contracts that are negotiated and executed bilaterally, but subsequently settled via a central clearing house, such that each derivative counterparty is only exposed to the default of that clearing house.

Over-the-counter (OTC) derivatives: Derivative contracts that are negotiated, executed and settled bilaterally between two derivative counterparties, where one or both counterparties is a derivatives dealer.

Parent company: Citigroup Inc.

Participating securities: Represents unvested share-based compensation awards containing nonforfeitable rights to dividends or dividend equivalents (collectively, "dividends"), which are included in the earnings per share calculation using the two-class method. Citi grants RSUs to certain employees under its share-based compensation programs, which entitle the recipients to receive non-forfeitable dividends during the vesting period on a basis equivalent to the dividends paid to holders of common stock. These unvested awards meet the definition of participating securities. Under the two-class method for calculating EPS, all earnings (distributed and undistributed) are allocated to each class of common stock and participating securities, based on their respective rights to receive dividends.

PBWM: Personal Banking and Wealth Management

PCD: Purchased credit-deteriorated assets are financial assets that as of the date of acquisition have experienced a more-than-insignificant deterioration in credit quality since origination, as determined by the Company.

PCI: Purchased credit-impaired loans represented certain loans that were acquired and deemed to be credit impaired on the acquisition date. The now superseded FASB guidance that allowed purchasers to aggregate credit-impaired loans acquired in the same fiscal quarter into one or more pools, provided that the loans had common risk characteristics (e.g., product type, LTV ratios).

PD: Probability of default

Principal transactions revenue: Primarily trading-related revenues predominantly generated by the *ICG* businesses. See Note 6.

Provision for credit losses: Composed of the provision for credit losses on loans, provision for credit losses on HTM investments, provision for credit losses on other assets and provision for credit losses on unfunded lending commitments.

Provisions: Provisions for credit losses and for benefits and claims.

PSUs: Performance share units

R&S forecast period: Reasonable and supportable period over which Citi forecasts future macroeconomic conditions for CECL purposes.

Real GDP: Real gross domestic product is the inflation-adjusted value of the goods and services produced by labor and property located in a country.

Regulatory VAR: Daily aggregated VAR calculated in accordance with regulatory rules.

REITs: Real estate investment trusts

Release: A net decrease in ACL through the provision for credit losses.

Reported basis: Financial statements prepared under U.S. GAAP.

Results of operations that exclude certain impacts from gains or losses on sale, or one-time charges*: Represents GAAP items, excluding the impact of gains or losses on sales, or one-time charges (e.g., the loss on sale related to the sale of Citi's consumer banking business in Australia).

Results of operations that exclude the impact of FX translation*: Represents GAAP items, excluding the impact of FX translation, whereby the prior periods' foreign currency balances are translated into U.S. dollars at the current periods' conversion rates (also known as constant dollar).

Retail services: Citi's U.S. retail services cards business with a portfolio of co-brand and private label relationships (including, among others, The Home Depot, Sears, Best Buy and Macy's).

RMI: A non-partisan, non-profit organization that works to transform global energy systems across the real economy. Citi joined the RMI Center for Climate-Aligned Finance in 2021.

ROA*: Return on assets. Represents net income (annualized), divided by average assets for the period.

ROCE*: Return on Common Equity. Represents net income less preferred dividends (both annualized), divided by average common equity for the period.

ROE: Return on equity. Represents net income less preferred dividends (both annualized), divided by average Citigroup equity for the period.

RoTCE*: Return on tangible common equity. Represents net income less preferred dividends (both annualized), divided by average tangible common equity for the period.

RSU(s): Restricted stock units

RWA: Risk-weighted assets. Basel III establishes two comprehensive approaches for calculating RWA (the Standardized Approach and the Advanced Approaches), which include capital requirements for credit risk, market risk, and operational risk for Advanced Approaches. Key differences in the calculation of credit risk RWA between the Standardized and Advanced Approaches are that for Advanced, credit risk RWA is based on risk-sensitive approaches that largely rely on the use of internal credit models and parameters, whereas for Standardized, credit risk RWA is generally based on supervisory risk-weightings, which vary primarily by counterparty type and asset class. Market risk RWA is calculated on a generally consistent basis between Basel III Standardized Approach and Basel III Advanced Approaches.

S&P: Standard and Poor's Global Ratings

SCB: Stress Capital Buffer

SCF: Subscription credit facility. SCFs are revolving credit facilities provided to private equity funds that are secured against the fund's investors' capital commitments.

SEC: The U.S. Securities and Exchange Commission

Securities financing agreements: Include resale, repurchase, securities borrowed and securities loaned agreements.

SLR: Supplementary Leverage ratio. Represents Tier 1 Capital divided by total leverage exposure.

SOFR: Secured Overnight Financing Rate

SPEs: Special purpose entities

Standardized Approach: Established through Basel III, the Standardized Approach aligns regulatory capital requirements more closely with the key elements of banking risk by introducing a wider differentiation of risk weights and a wider recognition of credit risk mitigation techniques, while avoiding excessive complexity. Accordingly, the Standardized Approach produces capital ratios more in line with the actual economic risks that banks are facing.

Structured notes: Financial instruments whose cash flows are linked to the movement in one or more indexes, interest rates, foreign exchange rates, commodities prices, prepayment rates or other market variables. The notes typically contain embedded (but not separable or detachable) derivatives. Contractual cash flows for principal, interest or both can vary in amount and timing throughout the life of the note based on non-traditional indexes or non-traditional uses of traditional interest rates or indexes.

Tangible book value per share (TBVPS)*: Represents tangible common equity divided by EOP common shares outstanding.

Tangible common equity (TCE): Represents common stockholders' equity less goodwill and identifiable intangible assets, other than MSRs.

Taxable-equivalent basis: Represents the total revenue, net of interest expense for the business, adjusted for revenue from investments that receive tax credits and the impact of tax-exempt securities. This metric presents results on a level comparable to taxable investments and securities.

TDR: Troubled debt restructuring. TDR is deemed to occur when the Company modifies the original terms of a loan agreement by granting a concession to a borrower that is experiencing financial difficulty. Loans with short-term and other insignificant modifications that are not considered concessions are not TDRs.

TLAC: Total loss-absorbing capacity

Total ACL: Allowance for credit losses, which comprises the allowance for credit losses on loans (ACLL), allowance for credit losses on unfunded lending commitments (ACLUC), allowance for credit losses on HTM securities and allowance for credit losses on other assets.

Total payout ratio*: Represents total common dividends declared plus common share repurchases as a percentage of net income available to common shareholders.

Transformation: Citi has embarked on a multiyear transformation, with the target outcome to change Citi's business and operating models such that they simultaneously strengthen risk and controls and improve Citi's value to customers, clients and shareholders.

Unaudited: Financial statements and information that have not been subjected to auditing procedures sufficient to permit an independent certified public accountant to express an opinion.

U.S. government agencies: U.S. government agencies include, but are not limited to, agencies such as Ginnie Mae and FHA, and do not include Fannie Mae and Freddie Mac, which are U.S. government-sponsored enterprises (U.S. GSEs). In general, obligations of U.S. government agencies are fully and explicitly guaranteed as to the timely payment of principal and interest by the full faith and credit of the U.S. government in the event of a default.

U.S. Treasury: U.S. Department of the Treasury

VAR: Value at risk. A measure of the dollar amount of potential loss from adverse market moves in an ordinary market environment.

VIEs: Variable interest entities

Wallet: Proportion of fee revenue based on estimates of investment banking fees generated across the industry (i.e., the revenue wallet) from investment banking transactions in M&A, equity and debt underwriting, and loan syndications.

Notes

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Stockholder information

Citigroup common stock is listed on the NYSE under the ticker symbol “C.” Citigroup preferred stock Series J and K are also listed on the NYSE.

Because Citigroup’s common stock is listed on the NYSE, the Chief Executive Officer is required to make an annual certification to the NYSE stating that she was not aware of any violation by Citigroup of the corporate governance listing standards of the NYSE. The annual certification to that effect was made to the NYSE on May 5, 2022.

As of January 31, 2023, Citigroup had approximately 60,813 common stockholders of record. This figure does not represent the actual number of beneficial owners of common stock because shares are frequently held in “street name” by securities dealers and others for the benefit of individual owners who may vote the shares.

Transfer agent

Stockholder address changes and inquiries regarding stock transfers, dividend replacement, 1099-DIV reporting and lost securities for common and preferred stock should be directed to:

Computershare
P.O. Box 43078
Providence, RI 02940-3078
Telephone No. 781 575 4555
Toll-free No. 888 250 3985
E-mail address: shareholder@computershare.com
Web address: www.computershare.com/investor

Exchange agent

Holders of Golden State Bancorp, Associates First Capital Corporation or Citicorp common stock should arrange to exchange their certificates by contacting:

Computershare
P.O. Box 43014
Providence, RI 02940-3014
Telephone No. 781 575 4555
Toll-free No. 888 250 3985
E-mail address: shareholder@computershare.com
Web address: www.computershare.com/investor

On May 9, 2011, Citi effected a 1-for-10 reverse stock split. All Citi common stock certificates issued prior to that date must be exchanged for new certificates by contacting Computershare at the address noted above.

Citi’s 2022 Form 10-K filed with the SEC, as well as other annual and quarterly reports, are available from Citi Document Services toll free at 877 936 2737 (outside the United States at 716 730 8055), by e-mailing a request to docserve@citi.com or by writing to:

Citi Document Services
540 Crosspoint Parkway
Getzville, NY 14068

Stockholder inquiries

Information about Citi, including quarterly earnings releases and filings with the U.S. Securities and Exchange Commission, can be accessed via Citi’s website at www.citigroup.com. Stockholder inquiries can also be directed by e-mail to shareholderrelations@citi.com.

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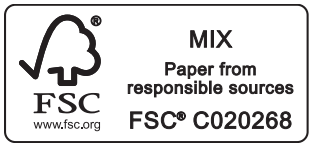

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