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, 2021

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 Section 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. ☒

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, 2021 was approximately $143.2 billion.

Number of shares of Citigroup Inc. common stock outstanding on January 31, 2022: 1,980,894,613

Documents Incorporated by Reference: Portions of the registrant's proxy statement for the annual meeting of stockholders scheduled to be held on April 26, 2022 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 26, 2022, 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 "2021 Summary Compensation Table and Compensation Information" and "CEO Pay Ratio" in the Proxy Statement, incorporated herein by reference.

*** 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 2021 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 more than 160 countries and jurisdictions.

At December 31, 2021, Citi had approximately 223,400 full-time employees, compared to approximately 210,000 full-time employees at December 31, 2020. 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 terms and acronyms used in this Annual Report on Form 10-K and other Citigroup presentations, see "Glossary of Terms and Acronyms" at the end of this report.

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 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," then "Citigroup Inc." The SEC's website also contains current reports on Form 8-K and other information regarding Citi at www.sec.gov.

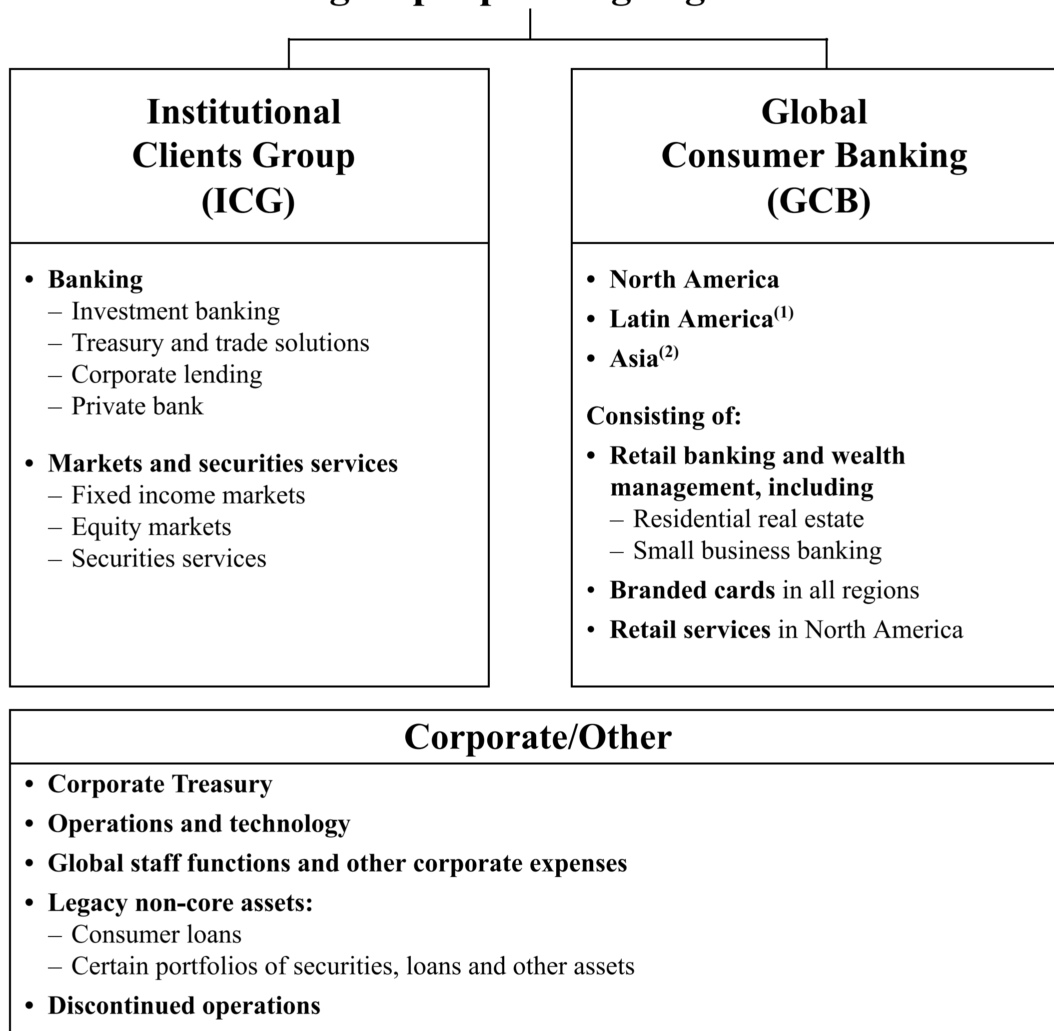
For a discussion of 2020 versus 2019 results of operations of *ICG*, *GCB* in *North America*, *Latin America* and *Asia*, and *Corporate/Other*, see each respective business's results of operations in Citi's 2020 Annual Report on Form 10-K.

Certain reclassifications have been made to the prior periods' financial statements and disclosures to conform to the current period's presentation.

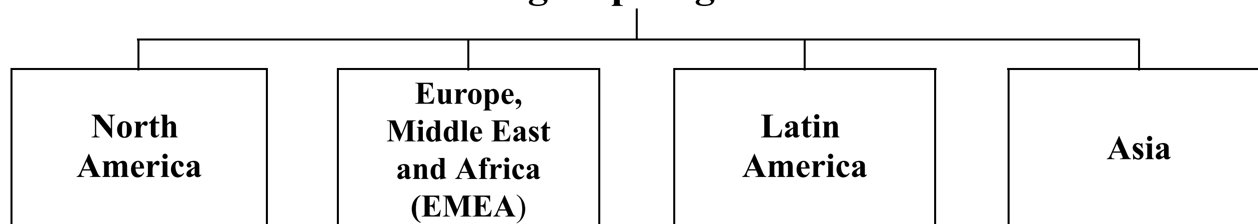
Please see "Risk Factors" below for a discussion of material risks and uncertainties that could impact Citi's businesses, results of operations and financial condition.

As of December 31, 2021, Citigroup was managed pursuant to two operating segments—*Institutional Clients Group* and *Global Consumer Banking*—with the remaining operations in *Corporate/Other*. (For information on Citi's planned revision to its reporting structure effective for the first quarter of 2022, see "Strategic Refresh—Market Exits and Planned Revision to Reporting Structure" below.)

For a further description of the operating segments and the products and services they provide, see "Management's Discussion and Analysis of Financial Condition and Results of Operations" and Note 3 to the Consolidated Financial Statements.



The following are the four regions in which Citigroup operates. The regional results are fully reflected in the segment and *Corporate/Other* results above.



(1) *Latin America GCB* consists of Citi's consumer banking business in Mexico.
(2) *Asia GCB* includes the results of operations of *GCB* activities in certain *EMEA* countries for all periods presented.
(3) *North America* includes the U.S., Canada and Puerto Rico, *Latin America* includes Mexico and *Asia* includes Japan.

Strategic Refresh—Market Exits and Planned Revision to Reporting Structure

As part of its strategic refresh, Citi is making management reporting changes to align with its vision and strategy, including to assist Citi in decisions about resources and capital allocation and to assess business performance. In the first quarter of 2022, Citi will revise its financial reporting structure to align with these management reporting changes to enable investors and others to better understand the performance of Citi's businesses (see the table below for additional information on the revised financial reporting structure):

- First, Citi is creating a *Personal Banking and Wealth Management* segment. It will consist of two distinct reporting units: *U.S. Personal Banking* businesses and a *Global Wealth Management* business, which will include the private bank.
- Second, with respect to *Institutional Clients Group (ICG)*, Citi will begin reporting under three reporting units: *Services*, *Banking* and *Markets*. *Services* will include treasury and trade solutions and securities services, reflecting the importance of these businesses to Citi's future.
- Finally, Citi is creating *Legacy Franchises*, a segment that will consist of all the businesses Citi intends to exit (see below), including its remaining Legacy Holdings assets.

In conjunction with the strategic refresh, in 2021 Citi announced that it will focus its consumer banking franchises in *Asia* and *EMEA* on four wealth centers: Singapore, Hong Kong, the United Arab Emirates (UAE) and London. As a result, Citi is pursuing exits of its consumer franchises in the remaining 13 markets across these two regions.

In 2021 and early 2022, Citi announced sale agreements for or exit of a majority of the 13 markets (for additional information, see "Executive Summary" and "*Asia GCB*" below). *ICG* will continue to serve clients, including its commercial banking clients, in all of these markets.

In addition, in January 2022, Citi announced that it intends to exit the consumer, small business and middle-market banking operations of Citibanamex. The businesses in the intended exit include the Mexico consumer and small business banking operations, reported as part of Citi's *GCB* segment, as well as the Mexico middle-market banking business, reported in Citi's *ICG* segment. These operations represent the entirety of the *Latin America GCB* unit. Citi will continue to operate a locally licensed banking business in Mexico through its global *ICG* (for additional information, see "Executive Summary" and "*Latin America GCB*" below).

For additional information regarding the exit markets, see Note 2 to the Consolidated Financial Statements. For information regarding risks related to the exit markets, see "Risk Factors" below.

The following table summarizes both Citi's reporting structure during 2021 and its planned 2022 financial reporting structure:

Current Reporting Structure as of 2021

Segment	Unit	Business
Institutional Clients Group	Markets	Equity Markets
		Fixed Income Markets
		Securities Services
	Banking	Treasury & Trade Solutions
		Investment Banking
		Corporate Lending
		Private Bank
Global Consumer Banking	North America	Branded Cards
		Retail Services
		Retail Banking
	Asia	Branded Cards
		Retail Banking
	Latin America	Branded Cards
		Retail Banking
Corporate/Other		

New Reporting Structure Effective in 2022

Segment	Unit	Business
Institutional Clients Group	Services	Treasury & Trade Solutions
		Securities Services
	Markets	Equity Markets
		Fixed Income Markets
	Banking	Investment Banking
		Corporate Lending
Personal Banking & Wealth Management	U.S. Personal Banking	Branded Cards
		Retail Services
		Retail Banking
	Global Wealth Management	Private Bank
		Wealth Management
Legacy Franchises	Asia Consumer	
	Mexico Consumer, Small Business & Middle-Market Banking	
	Legacy Holdings Assets	
Corporate/Other		

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 2021:

- Citi's earnings increased significantly versus the prior year, largely reflecting an allowance for credit loss (ACL) release of approximately $8.8 billion as a result of continued improvement in both the macroeconomic environment and portfolio credit quality.
- Citi's revenues declined 5% from the prior year. Excluding a pretax loss of approximately $0.7 billion (approximately $0.6 billion after-tax) related to Citi's agreement to sell its Australia consumer banking business in *Asia Global Consumer Banking (GCB)* (see "Citigroup" below), Citi's revenues declined 4%, as strength in investment banking, equity markets, the private bank and securities services in *Institutional Clients Group (ICG)* was more than offset by normalization in market activity in fixed income markets within *ICG*, as well as the impact of lower deposit spreads and card loans across *GCB*.
- Citi's expenses included pretax costs of approximately $1.2 billion ($1.1 billion after-tax) primarily related to charges incurred from the voluntary early retirement program (VERP) in connection with the wind-down of the Korea consumer banking business (for additional information, see "*Asia GCB*" below).
- Citi continued to invest in its transformation, including infrastructure supporting its risk and control environment, and make business-led investments.
- Citi had broad-based deposit growth across *ICG* and *GCB* (up 3% and 5%, respectively), reflecting continued engagement across both corporate and consumer clients.
- Citi returned approximately $11.8 billion of capital to its common shareholders in the form of $4.2 billion in dividends and $7.6 billion in common share repurchases, totaling approximately 105 million common shares, while maintaining robust regulatory capital ratios.
- In addition to the sale announcements related to *Asia GCB*, Citi also announced it intends to exit the consumer, small business and middle-market banking operations of Citibanamex in Mexico. Citi's planned divestitures of its consumer businesses across Mexico, *Asia* and *EMEA* are aligned with the repositioning of its consumer operations to focus on global wealth centers, as well as payments and lending and a targeted retail presence in the U.S. (For additional information on the exit markets and Citi's revised reporting structure effective for the first quarter of 2022, see "Strategic Refresh—Market Exits and Revised Reporting Strategy" above and "*Latin America GCB*" and "*Asia GCB*" below.)

Although economic growth and employment rates have continued to recover from pandemic-related lows, particularly in the U.S., various macroeconomic and other challenges and uncertainties related to, among other things, the duration and severity of the pandemic-related public health crisis, disruptions of global supply chains, inflationary pressures, increasing interest rates and geopolitical tensions involving Eastern Europe, will continue to create uncertainty around Citi's businesses and results.

For a discussion of trends, uncertainties and risks that will or could impact Citi's businesses, results of operations and financial condition during 2022, see "2021 Results Summary," "Risk Factors," each respective business's results of operations and "Managing Global Risk" below.

2021 Results Summary

Citigroup

Citigroup reported net income of $22.0 billion, or $10.14 per share, compared to net income of $11.0 billion, or $4.72 per share, in the prior year. The increase in net income was driven by lower cost of credit, partially offset by higher expenses and lower revenues. Citigroup's effective tax rate was 20%, up modestly from 19% in the prior year. Earnings per share increased significantly, primarily driven by net income.

Citigroup revenues of $71.9 billion decreased 5% from the prior year. Excluding the Australia loss on sale, Citigroup revenues decreased 4%, primarily driven by lower revenues in both *ICG* and *GCB*, partially offset by higher revenues in *Corporate/Other*.

As discussed above, Citi's 2021 results include the impacts of divestitures of Citi's consumer banking businesses in *Asia*. Reported revenues include the Australia loss on sale (approximately $0.7 billion pretax, $0.6 billion after-tax), primarily reflecting the impact of a currency translation adjustment (CTA) loss (net of hedges) already reflected in the *Accumulated other comprehensive income (AOCI)* component of equity. Upon closing, the CTA balance will be removed from the *AOCI* component of equity, resulting in a neutral impact to Citi's Common Equity Tier 1 Capital.

Reported expenses include the impact of the Korea VERP of approximately $1.1 billion (approximately $0.8 billion after-tax) and contract modification costs related to the *Asia* divestitures of approximately $119 million (approximately $98 million after-tax). (As used throughout this Form 10-K, Citi's results of operations and financial condition excluding the impact of the Australia loss on sale, Korea VERP and other *Asia* divestiture-related costs 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 *Asia GCB* businesses' results for investors, industry analysts and others.)

Citigroup's end-of-period loans decreased 1% from the prior year to $668 billion. Excluding the impact of foreign currency translation into U.S. dollars for reporting purposes (FX translation), Citigroup's end-of-period loans were largely unchanged, as growth in *ICG* was offset by lower loans in *GCB* and *Corporate/Other*. Citigroup's end-of-period deposits

increased 3% to $1.3 trillion. Excluding the impact of FX translation, Citigroup's end-of-period deposits increased 4%, reflecting growth in both *GCB* and *ICG*. (As used throughout this Form 10-K, Citi's results of operations excluding the impact of FX translation are non-GAAP financial measures. Citi believes the presentation of its results of operations and financial condition excluding the impact of FX translation provides a meaningful depiction of the underlying fundamentals of its businesses for investors, industry analysts and others.)

Expenses

Citigroup operating expenses of $48.2 billion increased 9% versus the prior year. Excluding the impact of the *Asia* divestitures, expenses of $47.0 billion increased 6%, primarily reflecting investments in Citi's transformation, including infrastructure supporting its risk and control environment, business-led investments and revenue- and transaction-related expenses, partially offset by productivity savings. Citi expects expenses in 2022 to continue to be impacted by its transformation-related and business-led investments.

Cost of Credit

Citi's total provisions for credit losses and for benefits and claims were a benefit of $3.8 billion, compared to a cost of $17.5 billion in the prior year primarily related to the pandemic. The decreased cost of credit was driven by a net ACL reserve release of $8.8 billion (versus a build of $9.8 billion in the prior year) as well as lower net credit losses. Citi's net ACL release primarily reflected improvement in Citi's macroeconomic outlook and portfolio credit quality. Citi could experience higher credit costs in 2022, as the level of ACL releases from 2021 are unlikely to continue, and Citi expects to build ACL reserves for new lending volumes.

For further information on the drivers of Citi's ACL, see "Significant Accounting Policies and Significant Estimates—Citi's Allowance for Credit Losses (ACL)" below.

Net credit losses of $4.9 billion declined 36% from the prior year. Consumer net credit losses of $4.5 billion decreased 32%, primarily reflecting lower loan volumes and improved delinquencies in the *North America* cards portfolios. Corporate net credit losses of $395 million decreased 60%, primarily reflecting improvements in portfolio credit quality.

For additional information on Citi's consumer and corporate credit costs and ACL, see each respective business's results of operations and "Credit Risk" below.

Capital

Citigroup's Common Equity Tier 1 Capital ratio was 12.2% as of December 31, 2021, based on the Basel III Standardized Approach framework for determining risk-weighted assets, compared to 11.5% as of December 31, 2020, based on the Basel III Advanced Approaches for determining risk-weighted assets. The increase in the ratio primarily reflected actions to reduce risk-weighted assets (RWA) and a temporary pause in common share repurchases in the fourth quarter of 2021, in preparation for the implementation of the Standardized Approach for Counterparty Credit Risk (SA-CCR) on January 1, 2022. Citi resumed common share repurchases in January 2022.

Citigroup's Supplementary Leverage ratio was 5.7% as of December 31, 2021, compared to 7.0% as of December 31, 2020. The decrease was primarily driven by the expiration of temporary relief granted by the Federal Reserve Board (FRB) as of the end of the first quarter of 2021. For additional information on SA-CCR and Citi's capital ratios, see "Capital Resources" below.

Institutional Clients Group

ICG net income of $15.7 billion increased 36%, reflecting lower cost of credit, partially offset by higher expenses and lower revenues. *ICG* operating expenses increased 8% to $26.5 billion, reflecting continued investments in Citi's transformation, business-led investments and revenue- and transaction-related expenses, partially offset by productivity savings.

ICG revenues of $43.9 billion decreased 3%, as a 7% increase in *Banking* revenues was more than offset by an 11% decline in *Markets and securities services* revenues. The increase in *Banking* revenues included the impact of $144 million of losses on loan hedges related to corporate lending and the private bank, compared to losses of $51 million in the prior year.

Banking revenues of $23.3 billion (excluding the impact of losses on loan hedges) increased 7%, as higher revenues in investment banking and the private bank were partially offset by lower revenues in treasury and trade solutions and corporate lending. Investment banking revenues of $7.5 billion increased 30%, reflecting growth across products, particularly in advisory and equity underwriting. Advisory revenues increased 78% to $1.8 billion, equity underwriting revenues increased 53% to $2.4 billion and debt underwriting revenues increased 3% to $3.3 billion.

Treasury and trade solutions revenues of $9.4 billion declined 4%, as higher fee revenues, including a recovery in commercial card revenues, as well as growth in trade were more than offset by the impact of lower deposit spreads. Private bank revenues increased 5%. Excluding the impact of gains on loan hedges, private bank revenues of $4.0 billion increased 6%, driven by higher loan volumes and spreads, as well as higher managed investments and deposits, partially offset by lower deposit spreads. Corporate lending revenues decreased 3%. Excluding the impact of losses on loan hedges, corporate lending revenues of $2.3 billion decreased 1%, as lower cost of funds was more than offset by lower loan volumes.

Markets and securities services revenues of $20.8 billion decreased 11%. Fixed income markets revenues of $13.7 billion decreased 22%, reflecting a normalization in market activity across rates and spread products. Equity markets revenues of $4.5 billion increased 25%, driven by growth across all products, reflecting solid client activity and favorable market conditions. Securities services revenues of $2.7 billion increased 6%, as strong fee revenues, driven by higher settlement volumes and higher assets under custody, were partially offset by lower deposit spreads. For additional information on the results of operations of *ICG* in 2021, see "*Institutional Clients Group*" below.

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Global Consumer Banking
GCB net income was $6.1 billion, compared to net income of $667 million in the prior year, reflecting lower cost of credit, partially offset by lower revenues and higher expenses. *GCB* operating expenses of $20.0 billion increased 12%. Excluding the impact of FX translation and the *Asia* divestitures, expenses increased 5%, reflecting continued investments in Citi's transformation, as well as business-led investments and volume-related expenses, partially offset by productivity savings.

GCB revenues of $27.3 billion decreased 10% from the prior year. Excluding the impact of FX translation and the Australia loss on sale, revenues decreased 9%, as continued solid deposit growth and growth in assets under management were more than offset by lower card loans and lower deposit spreads. For additional information on *GCB*'s results of operations, including the impact of FX translation, see "*Global Consumer Banking*" below.

North America GCB revenues of $17.5 billion decreased 9%, with lower revenues across branded cards, retail services and retail banking. Branded cards revenues of $8.2 billion decreased 7%, reflecting continued higher payment rates. Retail services revenues of $5.1 billion decreased 15%, reflecting continued higher payment rates and lower average loans as well as higher partner payments. Retail banking revenues of $4.2 billion decreased 7%, as the benefit of stronger deposit volumes was more than offset by lower deposit spreads and lower mortgage revenues.

North America GCB average deposits of $206 billion increased 17% year-over-year and average retail banking loans of $50 billion decreased 4% year-over-year, while assets under management of $87 billion increased 8%. Average branded cards loans of $81 billion decreased 4% and average retail services loans decreased 7%, reflecting higher payment rates. Branded cards spend volume of $411 billion increased 21% and retail services spend volume of $92 billion increased 18%, reflecting a recovery in sales activity from the pandemic-driven low levels in the prior year. For additional information on the results of operations of *North America GCB* in 2021, see "*Global Consumer Banking—North America GCB*" below.

International *GCB* revenues (consisting of *Latin America GCB* and *Asia GCB* (which includes the results of operations in certain *EMEA* countries)) of $9.8 billion declined 11% versus the prior year. Excluding the impact of FX translation and the Australia loss on sale, international *GCB* revenues declined 7%. Excluding the impact of FX translation, *Latin America GCB* revenues decreased 9%, driven by lower average loans and lower deposit spreads. Excluding the impact of FX translation and the Australia loss on sale, *Asia GCB* revenues decreased 6%, reflecting lower spreads, partially offset by higher investment revenues. For additional information on the results of operations of *Latin America GCB* and *Asia GCB* in 2021, including the impacts of FX translation, see "*Global Consumer Banking—Latin America GCB*" and "*Global Consumer Banking—Asia GCB*" below. For additional information on Citi's consumer banking business in Australia, see "*Global Consumer Banking—Asia GCB*" below.

Year-over-year, excluding the impact of FX translation, international *GCB* average deposits of $146 billion increased 5%, average retail banking loans of $72 billion decreased 3% and assets under management of $145 billion increased 5%. On this basis, international *GCB* average card loans of $20 billion decreased 13%, while credit card spend volumes of $100 billion increased 9%, reflecting a continued recovery in credit card spend activity from the pandemic-related low levels in the prior year.

Corporate/Other
Corporate/Other net income was $215 million, compared to a net loss of $1.1 billion in the prior year, reflecting higher revenues, lower expenses, lower cost of credit, and the release of a foreign tax credit (FTC) valuation allowance. Operating expenses of $1.6 billion decreased 14%, reflecting the absence of the prior year's civil money penalty and the wind-down of legacy assets, partially offset by increases related to Citi's transformation.

Corporate/Other revenues of $667 million compared to $71 million in the prior year, primarily driven by higher net revenue from the investment portfolio. For additional information on the results of operations of *Corporate/Other* in 2021, see "*Corporate/Other*" 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 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 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.

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.

RESULTS OF OPERATIONS

SUMMARY OF SELECTED FINANCIAL DATA

Citigroup Inc. and Consolidated Subsidiaries

In millions of dollars, except per share amounts	**2021**	2020	2019	2018	2017
Net interest income[1]	**$ 42,494**	$ 44,751	$ 48,128	$ 46,562	$ 45,061
Non-interest revenue	**29,390**	30,750	26,939	27,474	28,632
Revenues, net of interest expense	**$ 71,884**	$ 75,501	$ 75,067	$ 74,036	$ 73,693
Operating expenses[1]	**48,193**	44,374	42,783	43,023	43,481
Provisions for credit losses and for benefits and claims	**(3,778)**	17,495	8,383	7,568	7,451
Income from continuing operations before income taxes	**$ 27,469**	$ 13,632	$ 23,901	$ 23,445	$ 22,761
Income taxes[2]	**5,451**	2,525	4,430	5,357	29,388
Income (loss) from continuing operations	**$ 22,018**	$ 11,107	$ 19,471	$ 18,088	$ (6,627)
Income (loss) from discontinued operations, net of taxes	**7**	(20)	(4)	(8)	(111)
Net income (loss) before attribution of noncontrolling interests	**$ 22,025**	$ 11,087	$ 19,467	$ 18,080	$ (6,738)
Net income attributable to noncontrolling interests	**73**	40	66	35	60
Citigroup's net income (loss)[2]	**$ 21,952**	$ 11,047	$ 19,401	$ 18,045	$ (6,798)
Earnings per share					
Basic					
Income (loss) from continuing operations	**$ 10.21**	$ 4.75	$ 8.08	$ 6.69	$ (2.94)
Net income (loss)	**10.21**	4.74	8.08	6.69	(2.98)
Diluted					
Income (loss) from continuing operations	**$ 10.14**	$ 4.73	$ 8.04	$ 6.69	$ (2.94)
Net income (loss)	**10.14**	4.72	8.04	6.68	(2.98)
Dividends declared per common share	**2.04**	2.04	1.92	1.54	0.96
Common dividends	**$ 4,196**	$ 4,299	$ 4,403	$ 3,865	$ 2,595
Preferred dividends	**1,040**	1,095	1,109	1,174	1,213
Common share repurchases	**7,600**	2,925	17,875	14,545	14,538

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	**2021**	2020	2019	2018	2017
At December 31:					
Total assets	**$ 2,291,413**	$ 2,260,090	$ 1,951,158	$ 1,917,383	$ 1,842,465
Total deposits	**1,317,230**	1,280,671	1,070,590	1,013,170	959,822
Long-term debt	**254,374**	271,686	248,760	231,999	236,709
Citigroup common stockholders' equity(2)	**182,977**	179,962	175,262	177,760	181,487
Total Citigroup stockholders' equity(2)	**201,972**	199,442	193,242	196,220	200,740
Average assets	**2,347,709**	2,226,454	1,978,805	1,920,242	1,875,438
Direct staff *(in thousands)*	**223**	210	200	204	209
Performance metrics					
Return on average assets	**0.94 %**	0.50 %	0.98 %	0.94 %	(0.36)%
Return on average common stockholders' equity(2)(3)	**11.5**	5.7	10.3	9.4	(3.9)
Return on average total stockholders' equity(2)(3)	**10.9**	5.7	9.9	9.1	(3.0)
Return on tangible common equity (RoTCE)(2)(4)	**13.4**	6.6	12.1	11.0	8.1
Efficiency ratio (total operating expenses/total revenues, net)	**67.0**	58.8	57.0	58.1	59.0
Basel III ratios(2)(5)					
Common Equity Tier 1 Capital(6)	**12.25 %**	11.51 %	11.79 %	11.86 %	12.36 %
Tier 1 Capital(6)	**13.91**	13.06	13.33	13.43	14.06
Total Capital(6)	**16.04**	15.33	15.87	16.14	16.30
Supplementary Leverage ratio	**5.73**	6.99	6.20	6.40	6.68
Citigroup common stockholders' equity to assets(2)	**7.99 %**	7.96 %	8.98 %	9.27 %	9.85 %
Total Citigroup stockholders' equity to assets(2)	**8.81**	8.82	9.90	10.23	10.90
Dividend payout ratio(7)	**20**	43	24	23	NM
Total payout ratio(8)	**56**	73	122	109	NM
Book value per common share(2)	**$ 92.21**	$ 86.43	$ 82.90	$ 75.05	$ 70.62
Tangible book value (TBV) per share(2)(4)	**79.16**	73.67	70.39	63.79	60.16

(1) Revenue previously referred to as net interest revenue is now referred to as net interest income. During the fourth quarter of 2021, Citi reclassified deposit insurance expenses from *Interest expense* to *Other operating expenses* for all periods presented. Amounts reclassified for each year were $1,207 million for 2021, $1,203 million for 2020, $781 million for 2019, $1,182 million for 2018 and $1,249 million for 2017. See Note 1 to the Consolidated Financial Statements.

(2) 2017 includes the one-time impact related to enactment of the Tax Cuts and Jobs Act (Tax Reform). 2020, 2019 and 2018 reflect the tax rate structure post Tax Reform. RoTCE for 2017 excludes the one-time impact from Tax Reform and is a non-GAAP financial measure. For additional information, see "Significant Accounting Policies and Significant Estimates—Income Taxes" below.

(3) 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.

(4) 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.

(5) Citi's risk-based capital and leverage ratios for 2017 are non-GAAP financial measures, which reflect full implementation of regulatory capital adjustments and deductions prior to the effective date of January 1, 2018.

(6) Citi's reportable Common Equity Tier 1 Capital and Tier 1 Capital ratios were derived under the Basel III Standardized Approach, and the reportable Total Capital ratio was the lower derived under the Basel III Advanced Approaches framework as of December 31, 2021 and December 31, 2019 to 2017. Citi's reportable Common Equity Tier 1 Capital, Tier 1 Capital and Total Capital ratios were the lower derived under the Basel III Advanced Approaches framework as of December 31, 2020.

(7) Dividends declared per common share as a percentage of net income per diluted share.

(8) 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 to the Consolidated Financial Statements and "Equity Security Repurchases" below for the component details.

NM Not meaningful

SEGMENT AND BUSINESS—INCOME (LOSS) AND REVENUES

CITIGROUP INCOME

In millions of dollars	**2021**	2020	2019	**% Change 2021 vs. 2020**	% Change 2020 vs. 2019
Income (loss) from continuing operations					
Institutional Clients Group					
North America	**$ 5,781**	$ 3,310	$ 3,407	**75 %**	(3)%
EMEA	**4,347**	3,280	3,836	**33**	(14)
Latin America	**2,429**	1,390	2,101	**75**	(34)
Asia	**3,206**	3,573	3,432	**(10)**	4
Total	**$ 15,763**	$ 11,553	$ 12,776	**36 %**	(10)%
Global Consumer Banking					
North America	**$ 5,934**	$ (46)	$ 3,157	**NM**	NM
Latin America	**798**	241	885	**NM**	(73)%
Asia[(1)]	**(686)**	468	1,537	**NM**	(70)
Total	**$ 6,046**	$ 663	$ 5,579	**NM**	(88)%
Corporate/Other	**209**	(1,109)	1,116	**NM**	NM
Income from continuing operations	**$ 22,018**	$ 11,107	$ 19,471	**98 %**	(43)%
Discontinued operations	**$ 7**	$ (20)	$ (4)	**NM**	NM
Less: Net income attributable to noncontrolling interests	**73**	40	66	**83 %**	(39)%
Citigroup's net income	**$ 21,952**	$ 11,047	$ 19,401	**99 %**	(43)%

(1) *Asia GCB* includes the results of operations of *GCB* activities in certain *EMEA* countries.
NM Not meaningful

CITIGROUP REVENUES

In millions of dollars	**2021**	2020	2019	**% Change 2021 vs. 2020**	% Change 2020 vs. 2019
Institutional Clients Group					
North America	**$ 16,748**	$ 17,476	$ 13,603	**(4)%**	28 %
EMEA	**13,094**	13,041	12,157	**—**	7
Latin America	**4,946**	4,981	5,275	**(1)**	(6)
Asia	**9,099**	9,590	8,789	**(5)**	9
Total	**$ 43,887**	$ 45,088	$ 39,824	**(3)%**	13 %
Global Consumer Banking					
North America	**$ 17,481**	$ 19,284	$ 20,460	**(9)%**	(6)%
Latin America	**4,250**	4,466	5,334	**(5)**	(16)
Asia[(1)]	**5,599**	6,592	7,427	**(15)**	(11)
Total	**$ 27,330**	$ 30,342	$ 33,221	**(10)%**	(9)%
Corporate/Other	**667**	71	2,022	**NM**	(96)
Total Citigroup net revenues	**$ 71,884**	$ 75,501	$ 75,067	**(5)%**	1 %

(1) *Asia GCB* includes the results of operations of *GCB* activities in certain *EMEA* countries.
NM Not meaningful

SEGMENT BALANCE SHEET[1]—DECEMBER 31, 2021

In millions of dollars	Institutional Clients Group	Global Consumer Banking	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	$ 90,714	$ 7,953	$ 163,366	$ —	$ 262,033
Securities borrowed and purchased under agreements to resell, net of allowance	326,937	118	233	—	327,288
Trading account assets	318,495	1,186	12,264	—	331,945
Investments, net of allowance	132,357	1,218	379,247	—	512,822
Loans, net of unearned income and allowance for credit losses on loans	393,681	253,721	3,910	—	651,312
Other assets, net of allowance	112,901	51,480	41,632	—	206,013
Net inter-segment liquid assets[4]	386,448	116,728	(503,176)	—	—
Total assets	$ 1,761,533	$ 432,404	$ 97,476	$ —	$ 2,291,413
Liabilities and equity					
Total deposits	$ 949,522	$ 361,808	$ 5,900	$ —	$ 1,317,230
Securities loaned and sold under agreements to repurchase	188,784	2,498	3	—	191,285
Trading account liabilities	160,353	763	413	—	161,529
Short-term borrowings	27,309	109	555	—	27,973
Long-term debt[3]	89,720	482	(773)	164,945	254,374
Other liabilities, net of allowance	88,443	32,325	15,582	—	136,350
Net inter-segment funding (lending)[3]	257,402	34,419	75,096	(366,917)	—
Total liabilities	$ 1,761,533	$ 432,404	$ 96,776	$ (201,972)	$ 2,088,741
Total stockholders' equity[5]	—	—	700	201,972	202,672
Total liabilities and equity	$ 1,761,533	$ 432,404	$ 97,476	$ —	$ 2,291,413

(1) The supplemental information presented in the table above reflects Citigroup's consolidated GAAP balance sheet by reporting segment. 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. Citigroup allocates stockholders' equity and long-term debt to its businesses through inter-segment 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

As of December 31, 2021, *Institutional Clients Group (ICG)* included *Banking* and *Markets and securities services* (for additional information on these businesses, see “Citigroup Segments” above). *ICG* provided corporate, institutional, public sector and high-net-worth 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, private banking, cash management, trade finance and securities services. *ICG* transacted with clients in both cash instruments and derivatives, including fixed income, foreign currency, equity and commodity products.

For information on Citi’s planned revision to its reporting structure, including the reporting of the private bank as part of a new reporting segment, *Personal Banking and Wealth Management*, see “Strategic Refresh—Market Exits and Planned Revision to Reporting Structure” above.

ICG 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*. 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 to the Consolidated Financial Statements.

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 hedge the corporate loan portfolio) are also recorded in *Principal transactions* (for additional information on *Principal transactions* revenue, see Note 6 to the Consolidated Financial Statements). *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 and to customers on 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. At December 31, 2021, *ICG* had $1.8 trillion in assets and $950 billion in deposits. Securities services and issuer services managed $24.0 trillion in assets under custody and administration at December 31, 2021, of which Citi provides both custody and administrative services to certain clients related to $1.9 trillion of such assets. Managed assets under trust were $3.8 trillion at December 31, 2021. For additional information on these operations, see “Administration and Other Fiduciary Fees” in Note 5 to the Consolidated Financial Statements.

In millions of dollars, except as otherwise noted	2021	2020	2019	% Change 2021 vs. 2020	% Change 2020 vs. 2019
Commissions and fees	**$ 4,750**	$ 4,412	$ 4,462	**8 %**	(1)%
Administration and other fiduciary fees	**3,351**	2,877	2,756	**16**	4
Investment banking	**6,741**	5,009	4,440	**35**	13
Principal transactions	**10,064**	13,308	8,562	**(24)**	55
Other[1]	**1,384**	1,149	1,829	**20**	(37)
Total non-interest revenue	**$ 26,290**	$ 26,755	$ 22,049	**(2)%**	21 %
Net interest income (including dividends)	**17,597**	18,333	17,775	**(4)**	3
Total revenues, net of interest expense	**$ 43,887**	$ 45,088	$ 39,824	**(3)%**	13 %
Total operating expenses[2]	**$ 26,513**	$ 24,617	$ 22,961	**8 %**	7 %
Net credit losses on loans	**$ 396**	$ 987	$ 394	**(60)%**	NM
Credit reserve build (release) for loans	**(2,533)**	3,172	71	**NM**	NM
Provision for credit losses on unfunded lending commitments	**(777)**	1,435	98	**NM**	NM
Provisions for credit losses on HTM debt securities and other assets	**1**	21	—	**(95)**	100 %
Provisions for credit losses	**$ (2,913)**	$ 5,615	$ 563	**NM**	NM
Income from continuing operations before taxes	**$ 20,287**	$ 14,856	$ 16,300	**37 %**	(9)%
Income taxes	**4,524**	3,303	3,524	**37**	(6)
Income from continuing operations	**$ 15,763**	$ 11,553	$ 12,776	**36 %**	(10)%
Noncontrolling interests	**83**	50	40	**66**	25
Net income	**$ 15,680**	$ 11,503	$ 12,736	**36 %**	(10)%
Balance Sheet data and ratios					
EOP assets *(in billions of dollars)*	**$ 1,762**	$ 1,730	$ 1,447	**2 %**	20 %
Average assets *(in billions of dollars)*	**1,812**	1,706	1,493	**6**	14
Return on average assets	**0.87 %**	0.67 %	0.85 %		
Efficiency ratio	**60**	55	58		
Revenues by region					
North America	**$ 16,748**	$ 17,476	$ 13,603	**(4)%**	28 %
EMEA	**13,094**	13,041	12,157	**—**	7
Latin America	**4,946**	4,981	5,275	**(1)**	(6)
Asia	**9,099**	9,590	8,789	**(5)**	9
Total	**$ 43,887**	$ 45,088	$ 39,824	**(3)%**	13 %
Income from continuing operations by region					
North America	**$ 5,781**	$ 3,310	$ 3,407	**75 %**	(3)%
EMEA	**4,347**	3,280	3,836	**33**	(14)
Latin America	**2,429**	1,390	2,101	**75**	(34)
Asia	**3,206**	3,573	3,432	**(10)**	4
Total	**$ 15,763**	$ 11,553	$ 12,776	**36 %**	(10)%
Average loans by region *(in billions of dollars)*					
North America	**$ 202**	$ 201	$ 188	**— %**	7 %
EMEA	**89**	88	87	**1**	1
Latin America	**32**	39	40	**(18)**	(3)
Asia	**73**	71	73	**3**	(3)
Total	**$ 396**	$ 399	$ 388	**(1)%**	3 %
EOP deposits by business *(in billions of dollars)*					
Treasury and trade solutions	**$ 636**	$ 651	$ 536	**(2)%**	21 %
All other *ICG* businesses	**314**	273	232	**15**	18
Total	**$ 950**	$ 924	$ 768	**3 %**	20 %

(1) 2019 includes an approximate $350 million gain on Citi's investment in Tradeweb.
(2) 2020 includes an approximate $390 million operational loss related to certain legal matters.
NM Not meaningful

ICG Revenue Details

In millions of dollars	2021	2020	2019	% Change 2021 vs. 2020	% Change 2020 vs. 2019
Investment banking revenue details					
Advisory	**$ 1,796**	$ 1,010	$ 1,259	**78 %**	(20)%
Equity underwriting	**2,434**	1,593	973	**53**	64
Debt underwriting	**3,283**	3,184	2,984	**3**	7
Total investment banking	**$ 7,513**	$ 5,787	$ 5,216	**30 %**	11 %
Treasury and trade solutions	**9,444**	9,824	10,513	**(4)**	(7)
Corporate lending—excluding gains (losses) on loan hedges[1]	**2,291**	2,310	2,985	**(1)**	(23)
Private bank—excluding gains (losses) on loan hedges[1]	**4,005**	3,794	3,487	**6**	9
Total *Banking* revenues (ex-gains (losses) on loan hedges)[1]	**$ 23,253**	$ 21,715	$ 22,201	**7 %**	(2)%
Losses on loan hedges[1]	**$ (144)**	$ (51)	$ (432)	**NM**	88 %
Total *Banking* revenues (including gains (losses) on loan hedges), net of interest expense	**$ 23,109**	$ 21,664	$ 21,769	**7 %**	— %
Fixed income markets[2]	**$ 13,720**	$ 17,588	$ 13,074	**(22)%**	35 %
Equity markets	**4,545**	3,624	2,908	**25**	25
Securities services	**2,720**	2,562	2,642	**6**	(3)
Other	**(207)**	(352)	(569)	**41**	38
Total *Markets and securities services* revenues, net of interest expense	**$ 20,778**	$ 23,424	$ 18,055	**(11)%**	30 %
Total revenues, net of interest expense	**$ 43,887**	$ 45,088	$ 39,824	**(3)%**	13 %
Commissions and fees	**$ 793**	$ 677	$ 782	**17 %**	(13)%
Principal transactions[3]	**7,692**	11,518	7,661	**(33)**	50
Other[2]	**831**	579	1,117	**44**	(48)
Total non-interest revenue	**$ 9,316**	$ 12,774	$ 9,560	**(27)%**	34 %
Net interest income	**4,404**	4,814	3,514	**(9)**	37
Total fixed income markets[4]	**$ 13,720**	$ 17,588	$ 13,074	**(22)%**	35 %
Rates and currencies	**$ 8,903**	$ 12,162	$ 9,242	**(27)%**	32 %
Spread products/other fixed income	**4,817**	5,426	3,832	**(11)**	42
Total fixed income markets	**$ 13,720**	$ 17,588	$ 13,074	**(22)%**	35 %
Commissions and fees	**$ 1,231**	$ 1,245	$ 1,121	**(1)%**	11 %
Principal transactions[3]	**1,986**	1,281	775	**55**	65
Other	**191**	322	172	**(41)**	87
Total non-interest revenue	**$ 3,408**	$ 2,848	$ 2,068	**20 %**	38 %
Net interest income	**1,137**	776	840	**47**	(8)
Total equity markets[4]	**$ 4,545**	$ 3,624	$ 2,908	**25 %**	25 %

(1) Credit derivatives are used to economically hedge a portion of the private bank and corporate loan portfolio that includes both accrual loans and loans at fair value. Gains (losses) 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 private bank and corporate lending revenues to reflect the cost of credit protection. Gains (losses) on loan hedges include $(131) million and $(74) million related to the corporate loan portfolio and $(13) million and $23 million related to the private bank for the years ended December 31, 2021 and 2020, respectively. All of gains (losses) on loan hedges are related to the corporate loan portfolio for the year ended December 31, 2019. Citigroup's results of operations excluding the impact of gains (losses) on loan hedges are non-GAAP financial measures.
(2) 2019 includes an approximate $350 million gain on Citi's investment in Tradeweb.
(3) Excludes principal transactions revenues of *ICG* businesses other than *Markets*, primarily treasury and trade solutions and the private bank.
(4) 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. For a description of the composition of these revenue line items, see Notes 4, 5 and 6 to the Consolidated Financial Statements.

NM Not meaningful

The discussion of the results of operations for ICG below excludes (where noted) the impact of gains (losses) 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.

2021 vs. 2020

Net income of $15.7 billion increased 36% versus the prior year, primarily driven by lower cost of credit, partially offset by higher expenses and lower revenues.

Revenues decreased 3%, reflecting lower *Markets and securities services* revenues, partially offset by higher *Banking* revenues. *Banking* revenues were up 7% (both including and excluding the impact of losses on loan hedges), driven by higher revenues in investment banking and the private bank, partially offset by lower revenues in treasury and trade solutions and corporate lending. *Markets and securities services* revenues were down 11%, primarily reflecting a normalization in fixed income markets revenues, partially offset by growth in equity markets and securities services.

Citi expects that revenues in its markets and investment banking businesses will continue to reflect the overall market environment during 2022.

Within *Banking*:

- *Investment banking* revenues were up 30%, reflecting growth in the overall market wallet. Advisory revenues increased 78%, reflecting strength in *North America* and *EMEA*, driven by growth in the market wallet as well as wallet share gains. Equity underwriting revenues increased 53%, reflecting strength in *North America* and *EMEA*, driven by growth in the market wallet, as well as wallet share gains. Debt underwriting revenues increased 3%, reflecting strength in *EMEA*, as growth in the market wallet was partially offset by a decline in wallet share.
- *Treasury and trade solutions* revenues decreased 4% (both including and excluding the impact of FX translation), reflecting a decline in revenues in the cash business, partially offset by an increase in trade revenues. Cash revenues decreased, driven by the ongoing impact of lower deposit spreads. The decrease was partially offset by strong growth in fee revenues reflecting solid client engagement and growth in transaction volumes, including growth in USD clearing, commercial cards and cross-border solutions. The increase in trade revenues was driven by improved trade spreads and growth in loans, reflecting an increase in trade flows and originations, primarily in *Asia* and *EMEA*. Average trade loans increased 5% (both including and excluding the impact of FX translation).
- *Corporate lending* revenues decreased 3%, including the impact of losses on loan hedges. Excluding the impact of losses on loan hedges, revenues decreased 1%, as lower cost of funds was more than offset by lower loan volumes, reflecting muted demand given strong client liquidity positions. Average loans decreased 20% during the current year.
- *Private bank* revenues increased 5%. Excluding the impact of gains (losses) on loan hedges, revenues increased 6%, driven by strong performance in *North America* and *EMEA*. The higher revenues reflected continued momentum with new and existing clients, resulting in higher loan volumes and spreads, higher managed investments revenues and higher deposit volumes. The increase in revenues was partially offset by lower deposit spreads due to the ongoing low interest rate environment and lower capital markets revenue.

Within *Markets and securities services*:

- *Fixed income markets* revenues decreased 22%, reflecting lower revenues across all regions, largely driven by a comparison to a strong prior year, as well as a normalization in market activity, particularly in rates and currencies, and spread products. Non-interest revenues decreased, reflecting lower investor client activity across rates and currencies and spread products. Net interest income also decreased, largely reflecting a change in the mix of trading positions.

  Rates and currencies revenues decreased 27%, driven by the normalization in market activity, and a comparison to a strong prior year that included elevated levels of volatility related to the pandemic. Spread products and other fixed income revenues decreased 11%, driven by a comparison to a strong prior year and the normalization in market activity, particularly in flow trading and structured products, reflecting lower volatility and spreads, partially offset by strong securitization activity.
- *Equity markets* revenues increased 25%, driven by growth across all products. Equity derivatives revenues increased reflecting higher client activity, particularly in *EMEA* and *North America*. Prime finance revenues increased due to favorable market conditions as well as growth in client balances. Cash equities revenues increased modestly, reflecting higher client activity. Non-interest revenues increased, primarily due to higher principal transactions revenues, reflecting higher client activity.
- *Securities services* revenues increased 6%. Excluding the impact of FX translation, revenues increased 7%, as an increase in fee revenues with both new and existing clients, driven by growth in assets under custody and settlement volumes, was partially offset by lower deposit spreads.

Expenses were up 8%, primarily driven by continued investments in Citi's transformation, business-led investments and higher incentive compensation, as well as transactional related expenses, partially offset by productivity savings.

Provisions reflected a benefit of $2.9 billion compared to costs of $5.6 billion in the prior year, driven by an ACL release and lower net credit losses.

Net credit losses declined to $396 million from $987 million in the prior year, driven by improvements in portfolio credit quality.

The ACL release was $3.3 billion compared to a build of $4.6 billion in the prior year. The release was primarily driven by improvements in portfolio credit quality as well as Citi's improved macroeconomic outlook. For additional information

on Citi's ACL, see "Significant Accounting Policies and Significant Estimates" 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 on *ICG*'s corporate credit portfolio, see "Managing Global Risk—Credit Risk—Corporate Credit" below.

For additional information about trends, uncertainties and risks related to *ICG*'s future results, see "Managing Global Risk—Other Risks—Country Risk—Argentina" and "Risk Factors" below.

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GLOBAL CONSUMER BANKING

As of December 31, 2021, *Global Consumer Banking (GCB)* consisted of consumer banking businesses in *North America*, *Latin America* (consisting of Citi's consumer banking business in Mexico) and *Asia*. *GCB* provided traditional banking services to retail customers through retail banking, branded cards and, in the U.S., retail services (for information on consumer market exits related to *Latin America GCB* and *Asia GCB* as well as Citi's planned revision to its reporting structure, see "Strategic Refresh—Market Exits and Planned Revision to Reporting Structure" above).

GCB's markets in the U.S., Mexico and *Asia* had a combined 2,154 branches in 19 countries and jurisdictions as of December 31, 2021. At December 31, 2021, *GCB* had $267 billion in loans and $362 billion in retail banking deposits (excluding approximately $10 billion of loans and $8 billion of deposits reclassified to held-for-sale as a result of Citi's agreements to sell its consumer banking businesses in Australia and the Philippines).

In millions of dollars, except as otherwise noted	**2021**	2020	2019	**% Change 2021 vs. 2020**	% Change 2020 vs. 2019
Net interest income	**$ 24,238**	$ 26,551	$ 28,455	**(9)%**	(7)%
Non-interest revenue	**3,092**	3,791	4,766	**(18)**	(20)
Total revenues, net of interest expense	**$ 27,330**	$ 30,342	$ 33,221	**(10)%**	(9)%
Total operating expenses	**$ 20,035**	$ 17,834	$ 18,039	**12 %**	(1)%
Net credit losses on loans	**$ 4,582**	$ 6,646	$ 7,382	**(31)%**	(10)%
Credit reserve build (release) for loans	**(5,174)**	4,951	439	**NM**	NM
Provision for credit losses on unfunded lending commitments	**—**	—	1	**—**	100
Provisions for benefits and claims, and other assets	**96**	105	73	**(9)**	44
Provisions for credit losses and for benefits and claims (PBC)	**$ (496)**	$ 11,702	$ 7,895	**NM**	48 %
Income from continuing operations before taxes	**$ 7,791**	$ 806	$ 7,287	**NM**	(89)%
Income taxes	**1,745**	143	1,708	**NM**	(92)
Income from continuing operations	**$ 6,046**	$ 663	$ 5,579	**NM**	(88)%
Noncontrolling interests	**(11)**	(4)	6	**NM**	NM
Net income	**$ 6,057**	$ 667	$ 5,573	**NM**	(88)%
Balance Sheet data and ratios					
EOP assets *(in billions of dollars)*	**$ 432**	$ 434	$ 407	**— %**	7 %
Average assets *(in billions of dollars)*	**440**	426	389	**3**	10
Return on average assets	**1.38 %**	0.16 %	1.43 %		
Efficiency ratio	**73**	59	54		
Average retail banking deposits *(in billions of dollars)*	**$ 352**	$ 311	$ 277	**13**	12
Net credit losses as a percentage of average loans	**1.72 %**	2.39 %	2.60 %		
Revenue by business					
Retail banking	**$ 10,776**	$ 11,996	$ 12,758	**(10)%**	(6)%
Cards[1]	**16,554**	18,346	20,463	**(10)**	(10)
Total	**$ 27,330**	$ 30,342	$ 33,221	**(10)%**	(9)%
Income from continuing operations by business					
Retail banking	**$ (830)**	$ 557	$ 1,741	**NM**	(68)%
Cards[1]	**6,876**	106	3,838	**NM**	(97)
Total	**$ 6,046**	$ 663	$ 5,579	**NM**	(88)%

Table continues on the next page, including footnotes.

Foreign currency (FX) translation impact					
Total revenue—as reported	**$ 27,330**	$ 30,342	$ 33,221	**(10)%**	(9)%
Impact of FX translation[2]	**—**	323	(157)		
Total revenues—ex-FX[3]	**$ 27,330**	$ 30,665	$ 33,064	**(11)%**	(7)%
Total operating expenses—as reported	**$ 20,035**	$ 17,834	$ 18,039	**12 %**	(1)%
Impact of FX translation[2]	**—**	212	(80)		
Total operating expenses—ex-FX[3]	**$ 20,035**	$ 18,046	$ 17,959	**11 %**	— %
Total provisions for credit losses and PBC—as reported	**$ (496)**	$ 11,702	$ 7,895	**NM**	48 %
Impact of FX translation[2]	**—**	87	(51)		
Total provisions for credit losses and PBC—ex-FX[3]	**$ (496)**	$ 11,789	$ 7,844	**NM**	50 %
Net income—as reported	**$ 6,057**	$ 667	$ 5,573	**NM**	(88)%
Impact of FX translation[2]	**—**	12	(11)		
Net income—ex-FX[3]	**$ 6,057**	$ 679	$ 5,562	**NM**	(88)%

(1) Includes both branded cards and retail services.
(2) Reflects the impact of FX translation into U.S. dollars at the 2021 average exchange rates for all periods presented.
(3) Presentation of this metric excluding FX translation is a non-GAAP financial measure.
NM Not meaningful

NORTH AMERICA GCB

As of December 31, 2021, *North America GCB* provided traditional retail banking and branded and retail services card products to retail and small business customers in the U.S. *North America GCB*'s U.S. cards product portfolio included its proprietary portfolio (Double Cash, Custom Cash, ThankYou and Value cards) and co-branded cards (including, among others, American Airlines and Costco) within branded cards, as well as its co-brand and private label relationships (including, among others, The Home Depot, Sears, Best Buy and Macy's) within retail services. For information on Citi's planned revision to its reporting structure, including the reporting of *North America GCB*'s consumer banking businesses as part of a new reporting segment, *Personal Banking and Wealth Management*, see "Strategic Refresh—Market Exits and Planned Revision to Reporting Structure" above.

At December 31, 2021, *North America GCB* had 658 retail bank branches concentrated in the six key metropolitan areas of New York, Chicago, Miami, Washington, D.C., Los Angeles and San Francisco. Also, as of December 31, 2021, *North America GCB* had $48.1 billion in retail banking loans and $219.3 billion in retail banking deposits. In addition, *North America GCB* had $133.9 billion in outstanding card loan balances.

In millions of dollars, except as otherwise noted	**2021**	2020	2019	**% Change 2021 vs. 2020**	% Change 2020 vs. 2019
Net interest income	**$ 17,393**	$ 18,938	$ 19,931	**(8)%**	(5)%
Non-interest revenue	**88**	346	529	**(75)**	(35)
Total revenues, net of interest expense	**$ 17,481**	$ 19,284	$ 20,460	**(9)%**	(6)%
Total operating expenses	**$ 10,832**	$ 10,237	$ 10,305	**6 %**	(1)%
Net credit losses on loans	**$ 2,937**	$ 4,990	$ 5,583	**(41)%**	(11)%
Credit reserve build for loans	**(3,974)**	4,115	469	**NM**	NM
Provision for credit losses on unfunded lending commitments	**—**	—	1	**—**	100
Provisions for benefits and claims, and other assets	**19**	17	19	**12**	(11)
Provisions for credit losses and for benefits and claims	**$ (1,018)**	$ 9,122	$ 6,072	**NM**	50 %
Income from continuing operations before taxes	**$ 7,667**	$ (75)	$ 4,083	**NM**	NM
Income taxes	**1,733**	(29)	926	**NM**	NM
Income from continuing operations	**$ 5,934**	$ (46)	$ 3,157	**NM**	NM
Noncontrolling interests	**—**	—	—	**— %**	— %
Net income	**$ 5,934**	$ (46)	$ 3,157	**NM**	NM
Balance Sheet data and ratios					
Average assets *(in billions of dollars)*	**$ 266**	$ 266	$ 232	**— %**	15 %
Return on average assets	**2.23 %**	(0.02)%	1.36 %		
Efficiency ratio	**62**	53	50		
Average retail banking deposits *(in billions of dollars)*	**$ 206**	$ 176	$ 153	**17**	15
Net credit losses as a percentage of average loans	**1.69 %**	2.72 %	2.97 %		
Revenue by business					
Retail banking	**$ 4,211**	$ 4,519	$ 4,558	**(7)%**	(1)%
Branded cards	**8,189**	8,800	9,184	**(7)**	(4)
Retail services	**5,081**	5,965	6,718	**(15)**	(11)
Total	**$ 17,481**	$ 19,284	$ 20,460	**(9)%**	(6)%
Income (loss) from continuing operations by business					
Retail banking	**$ (453)**	$ (232)	$ 145	**(95)%**	NM
Branded cards	**3,903**	12	1,734	**NM**	(99)%
Retail services	**2,484**	174	1,278	**NM**	(86)
Total	**$ 5,934**	$ (46)	$ 3,157	**NM**	NM

NM Not meaningful

2021 vs. 2020

Net income was $5.9 billion, compared to a net loss of $46 million in the prior year, reflecting significantly lower cost of credit, partially offset by lower revenues and higher expenses.

Revenues decreased 9%, reflecting lower revenues in retail banking, branded cards and retail services.

Retail banking revenues decreased 7%, as the benefit of strong deposit growth and growth in assets under management (increase of 8%, reflecting favorable market conditions and strong client engagement) was more than offset by lower deposit spreads, as well as lower mortgage revenues. Average deposits increased 17%, driven by higher levels of consumer liquidity due to government stimulus, as well as continued strategic efforts to drive organic growth.

Cards revenues decreased 10%. Branded cards revenues decreased 7%, primarily driven by continued higher payment rates, reflecting increased customer liquidity from government stimulus and relief programs, partially offset by higher spending-related revenues. Credit card spend volume increased 21%, reflecting a continued recovery in sales activity from the pandemic-driven low levels in the prior year.

Retail services revenues decreased 15%, primarily driven by lower average loans (down 7%), reflecting higher payment rates from the increased customer liquidity from government stimulus and relief programs, as well as higher partner payments, reflecting higher income sharing as a result of lower net credit losses. For additional information on partner payments, see Note 5 to the Consolidated Financial Statements. Credit card spend volume increased 18%, reflecting a continued recovery in sales activity from the pandemic-driven low levels in the prior year.

Expenses increased 6%, primarily driven by continued investments in Citi's transformation, as well as business-led investments and higher volume-related expenses, partially offset by productivity savings.

Provisions reflected a benefit of $1.0 billion, compared to costs of $9.1 billion in the prior year, primarily driven by a net ACL release compared to a net ACL build in the prior year, as well as lower net credit losses. Net credit losses decreased 41%, consisting of lower net credit losses in both branded cards (down 39% to $1.7 billion) and retail services (down 46% to $1.2 billion), primarily driven by lower loan volumes and improved delinquencies, primarily as a result of the higher payment rates.

The net ACL release was $4.0 billion, compared to a net build of $4.1 billion in the prior year, reflecting improvement in portfolio credit quality and the continued improvement in the macroeconomic outlook. For additional information on Citi's ACL, see "Significant Accounting Policies and Significant Estimates" below.

For additional information on *North America GCB*'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 *North America GCB*'s future results, see "Executive Summary" above and "Risk Factors—Strategic Risks" below.

LATIN AMERICA GCB

As of December 31, 2021, *Latin America GCB* provided traditional retail banking and branded card products to consumer and small business customers in Mexico through Citibanamex.

As discussed above, Citi intends to exit its consumer, small business and middle-market banking operations in Mexico. For additional information, see Citi's Current Report on Form 8-K filed with the SEC on January 11, 2022. For information on Citi's planned revision to its reporting structure, including the reporting of the Mexico consumer, small business and middle-market banking operations as part of a new reporting segment, *Legacy Franchises*, see "Strategic Refresh—Market Exits and Planned Revision to Reporting Structure" above.

At December 31, 2021, *Latin America GCB* had 1,276 retail branches in Mexico, with $8.6 billion in retail banking loans and $24.8 billion in deposits. In addition, the business had $4.7 billion in outstanding card loan balances.

In millions of dollars, except as otherwise noted	2021	2020	2019	% Change 2021 vs. 2020	% Change 2020 vs. 2019
Net interest income	$ 2,874	$ 3,172	$ 3,735	(9)%	(15)%
Non-interest revenue	1,376	1,294	1,599	6	(19)
Total revenues, net of interest expense	$ 4,250	$ 4,466	$ 5,334	(5)%	(16)%
Total operating expenses	$ 2,949	$ 2,871	$ 3,001	3 %	(4)%
Net credit losses on loans	$ 920	$ 866	$ 1,109	6 %	(22)%
Credit reserve build (release) for loans	(825)	316	(38)	NM	NM
Provision for credit losses on unfunded lending commitments	—	—	—	—	—
Provisions for benefits and claims, and other assets	80	87	54	(8)	61
Provisions for credit losses and for benefits and claims (PBC)	$ 175	$ 1,269	$ 1,125	(86)%	13 %
Income from continuing operations before taxes	$ 1,126	$ 326	$ 1,208	NM	(73)%
Income taxes	328	85	323	NM	(74)
Income from continuing operations	$ 798	$ 241	$ 885	NM	(73)%
Noncontrolling interests	—	—	—	— %	—
Net income	$ 798	$ 241	$ 885	NM	(73)%
Balance Sheet data and ratios					
Average assets *(in billions of dollars)*	$ 35	$ 32	$ 35	9 %	(9)%
Return on average assets	2.28 %	0.75 %	2.53 %		
Efficiency ratio	69	64	56		
Average deposits *(in billions of dollars)*	$ 24	$ 23	$ 23	4	—
Net credit losses as a percentage of average loans	6.87 %	5.97 %	6.45 %		
Revenue by business					
Retail banking	$ 3,119	$ 3,103	$ 3,681	1 %	(16)%
Branded cards	1,131	1,363	1,653	(17)	(18)
Total	$ 4,250	$ 4,466	$ 5,334	(5)%	(16)%
Income from continuing operations by business					
Retail banking	$ 435	$ 120	$ 586	NM	(80)%
Branded cards	363	121	299	NM	(60)
Total	$ 798	$ 241	$ 885	NM	(73)%
FX translation impact					
Total revenues—as reported	$ 4,250	$ 4,466	$ 5,334	(5)%	(16)%
Impact of FX translation[1]	—	211	(246)		
Total revenues—ex-FX[2]	$ 4,250	$ 4,677	$ 5,088	(9)%	(8)%
Total operating expenses—as reported	$ 2,949	$ 2,871	$ 3,001	3 %	(4)%
Impact of FX translation[1]	—	129	(132)		
Total operating expenses—ex-FX[2]	$ 2,949	$ 3,000	$ 2,869	(2)%	5 %
Provisions for credit losses and PBC—as reported	$ 175	$ 1,269	$ 1,125	(86)%	13 %
Impact of FX translation[1]	—	66	(58)		
Provisions for credit losses and PBC—ex-FX[2]	$ 175	$ 1,335	$ 1,067	(87)%	25 %
Net income—as reported	$ 798	$ 241	$ 885	NM	(73)%
Impact of FX translation[1]	—	9	(37)		
Net income—ex-FX[2]	$ 798	$ 250	$ 848	NM	(71)%

(1) Reflects the impact of FX translation into U.S. dollars at the 2021 average exchange rates for all periods presented.

(2) Presentation of this metric excluding FX translation is a non-GAAP financial measure.
NM Not meaningful

The discussion of the results of operations for Latin America GCB below excludes the impact of FX translation for all periods presented. Presentations of the results of operations, excluding the impact of FX translation, are non-GAAP financial measures. For a reconciliation of certain of these metrics to the reported results, see the table above.

2021 vs. 2020

Net income was $798 million, compared to $250 million in the prior year, reflecting significantly lower cost of credit and modestly lower expenses, partially offset by lower revenues.

Revenues decreased 9%, reflecting lower cards and retail banking revenues, largely due to the continued impact of the pandemic.

Retail banking revenues decreased 4%, primarily driven by lower loan volumes and deposit spreads, partially offset by growth in assets under management. Average loans decreased 13%, reflecting the impact of the pandemic on customer activity. Assets under management increased 8%, reflecting favorable market conditions, as well as strong client engagement.

Cards revenues decreased 21%, primarily driven by lower average loans (down 11%), reflecting higher payment rates. Credit card spend volume increased 16%, reflecting a continued recovery in sales activity from the pandemic-driven low levels in the prior year.

Expenses decreased 2%, as productivity savings more than offset continued investments in Citi’s transformation.

Provisions of $174 million decreased 87%, primarily driven by a net ACL release compared to a net ACL build in the prior year, partially offset by higher net credit losses resulting from pandemic-related charge-offs.

The net ACL release was $826 million, compared to a build of $329 million in the prior year. The release reflected an improvement in portfolio credit quality, as well as continued improvement in the macroeconomic outlook and lower loan volumes. For additional information on Citi’s ACL, see “Significant Accounting Policies and Significant Estimates” below.

For additional information on *Latin America GCB*’s retail banking and its branded cards portfolios, see “Credit Risk—Consumer Credit” below.

For additional information about trends, uncertainties and risks related to *Latin America GCB*’s future results, see “Executive Summary” above and “Risk Factors—Strategic Risks” below.

ASIA GCB

As of December 31, 2021, *Asia GCB* provided traditional retail banking and branded card products to retail and small business customers. Included within *Asia GCB* were traditional retail banking and branded card products provided to retail customers in certain *EMEA* countries, primarily the UAE, Poland and Russia.

As discussed above, Citi is pursuing exits of its consumer franchises in 13 markets across *Asia* and *EMEA* and will focus its consumer banking franchise in the two regions on four wealth centers: Singapore, Hong Kong, the UAE and London. In 2021, Citi entered into agreements to sell its consumer banking businesses in Australia and the Philippines, and made a decision to wind down and close its Korea consumer banking business (for additional information, see Note 2 to the Consolidated Financial Statements).

In addition, in January 2022, Citi entered into agreements to sell its consumer banking businesses in Indonesia, Malaysia, Taiwan, Thailand and Vietnam. For information on Citi's planned revision to its reporting structure, including the reporting of the 13 exit markets as part of a new reporting segment, *Legacy Franchises*, see "Strategic Refresh—Market Exits and Planned Revision to Reporting Structure" above.

At December 31, 2021, on a combined basis, the businesses had 220 retail branches, $58.9 billion in retail banking loans and $117.7 billion in deposits. In addition, the businesses had $13.1 billion in outstanding card loan balances. These amounts exclude approximately $10 billion of loans ($7 billion of retail banking loans and $3 billion of credit card loan balances) and $8 billion of deposits reclassified to held-for-sale (HFS) as a result of Citi's agreements to sell its consumer banking businesses in Australia and the Philippines. Australia and the Philippines are the only consumer businesses reclassified as HFS at December 31, 2021. For additional information, see Note 2 to the Consolidated Financial Statements.

In millions of dollars, except as otherwise noted[1]		**2021**		2020		2019	**% Change 2021 vs. 2020**	% Change 2020 vs. 2019
Net interest income	**$**	**3,971**	$	4,441	$	4,789	**(11)%**	(7)%
Non-interest revenue		**1,628**		2,151		2,638	**(24)**	(18)
Total revenues, net of interest expense	**$**	**5,599**	$	6,592	$	7,427	**(15)%**	(11)%
Total operating expenses	**$**	**6,254**	$	4,726	$	4,733	**32 %**	— %
Net credit losses on loans	**$**	**725**	$	790	$	690	**(8)%**	14 %
Credit reserve build for loans		**(375)**		520		8	**NM**	NM
Provisions for other assets		**(3)**		1		—	**NM**	—
Provisions for credit losses	**$**	**347**	$	1,311	$	698	**(74)%**	88 %
Income (loss) from continuing operations before taxes	**$**	**(1,002)**	$	555	$	1,996	**NM**	(72)%
Income taxes (benefits)		**(316)**		87		459	**NM**	(81)
Income (loss) from continuing operations	**$**	**(686)**	$	468	$	1,537	**NM**	(70)%
Noncontrolling interests		**(11)**		(4)		6	**NM**	NM
Net income (loss)	**$**	**(675)**	$	472	$	1,531	**NM**	(69)%
Balance Sheet data and ratios								
Average assets *(in billions of dollars)*	**$**	**139**	$	129	$	122	**8 %**	6 %
Return on average assets		**(0.49)%**		0.37 %		1.25 %		
Efficiency ratio		**112**		72		64		
Average deposits *(in billions of dollars)*	**$**	**122**	$	113	$	101	**8**	12
Net credit losses as a percentage of average loans		**0.92 %**		0.99 %		0.88 %		
Revenue by business								
Retail banking	**$**	**3,446**	$	4,374	$	4,519	**(21)%**	(3)%
Branded cards		**2,153**		2,218		2,908	**(3)**	(24)
Total	**$**	**5,599**	$	6,592	$	7,427	**(15)%**	(11)%
Income (loss) from continuing operations by business								
Retail banking	**$**	**(812)**	$	669	$	1,010	**NM**	(34)%
Branded cards		**126**		(201)		527	**NM**	NM
Total	**$**	**(686)**	$	468	$	1,537	**NM**	(70)%
FX translation impact								
Total revenues—as reported	**$**	**5,599**	$	6,592	$	7,427	**(15)%**	(11)%
Impact of FX translation[2]		**—**		112		89		
Total revenues—ex-FX[3]	**$**	**5,599**	$	6,704	$	7,516	**(16)%**	(11)%

Total operating expenses—as reported	**$ 6,254**	$ 4,726	$ 4,733	**32 %**	— %
Impact of FX translation[2]	**—**	83	52		
Total operating expenses—ex-FX[3]	**$ 6,254**	$ 4,809	$ 4,785	**30 %**	1 %
Provisions for credit losses—as reported	**$ 347**	$ 1,311	$ 698	**(74)%**	88 %
Impact of FX translation[2]	**—**	21	7		
Provisions for credit losses—ex-FX[3]	**$ 347**	$ 1,332	$ 705	**(74)%**	89 %
Net income (loss)—as reported	**$ (675)**	$ 472	$ 1,531	**NM**	(69)%
Impact of FX translation[2]	**—**	3	26		
Net income (loss)—ex-FX[3]	**$ (675)**	$ 475	$ 1,557	**NM**	(69)%

(1) *Asia GCB* includes the results of operations of *GCB* activities in certain *EMEA* countries for all periods presented.
(2) Reflects the impact of FX translation into U.S. dollars at the 2021 average exchange rates for all periods presented.
(3) Presentation of this metric excluding FX translation is a non-GAAP financial measure.
NM Not meaningful

The discussion of the results of operations for Asia GCB below excludes the impact of FX translation for all periods presented. Presentations of the results of operations, excluding the impact of FX translation, are non-GAAP financial measures. For a reconciliation of certain of these metrics to the reported results, see the table above.

2021 vs. 2020

Net loss was $675 million, compared to net income of $475 million in the prior year. The net loss included the following items related to the 13 exit markets: (i) approximately $1.1 billion (approximately $0.8 billion after-tax) related to charges incurred from the voluntary early retirement program (VERP) in connection with the wind-down of the Korea consumer banking business; (ii) an approximate $0.7 billion pretax loss ($0.6 billion after-tax) related to the agreement to sell the Australia consumer banking business, largely reflecting the impact of a CTA loss (net of hedges); and (iii) contract modification costs related to the *Asia* divestitures of $119 million ($98 million after-tax).

Excluding the above items, *net income* was $807 million compared to net income of $475 million in the prior year, reflecting significantly lower cost of credit, partially offset by higher expenses and lower revenues.

Revenues decreased 16%, including the Australia loss on sale. Excluding the Australia loss on sale, revenues declined 6%, reflecting lower retail banking and cards revenues, largely due to the continued impact of the pandemic, including lower interest rates.

Retail banking revenues decreased 22%, including the Australia loss on sale. Excluding the Australia loss on sale, revenues decreased 7%, as growth in both investment revenues and deposits was more than offset by lower deposit spreads due to lower interest rates and lower FX and insurance revenues. Assets under management increased 3%, reflecting the impact of improved market conditions, as well as client engagement. Average deposits increased 6% and average loans decreased 2%. The decline in retail banking revenues was also impacted by a 3% decrease in retail lending revenues, reflecting a decline in personal loans driven by spread compression.

Cards revenues decreased 5%, as lower average loans (down 14%, including the reclassification to held-for-sale related to Australia and the Philippines and higher payment rates) were partially offset by higher spending-related revenues (credit card spend volume up 8%), reflecting a continued recovery in sales activity from the pandemic-driven low levels in the prior year.

Expenses increased 30%, including approximately $1.2 billion of costs related to the *Asia* divestitures. Excluding the costs related to the *Asia* divestitures, expenses increased 6%, primarily driven by continued investments in Citi's transformation, as well as business-led investments, partially offset by productivity savings.

Provisions decreased 74%, primarily driven by a net ACL release compared to a net ACL build in the prior year, as well as lower net credit losses. Net credit losses decreased 10%, primarily reflecting lower cards loan volumes and improved delinquencies.

The net ACL release was $376 million, compared to a build of $528 million in the prior year. The release reflected an improvement in portfolio credit quality. For additional information on Citi's ACL, see "Significant Accounting Policies and Significant Estimates" below.

For additional information on *Asia GCB*'s retail banking portfolios and its branded cards portfolios, see "Credit Risk—Consumer Credit" below.

For additional information about trends, uncertainties and risks related to *Asia GCB*'s future results, see "Executive Summary" above and "Risk Factors—Strategic Risks" and "Significant Accounting Policies and Significant Estimates" below.

CORPORATE/OTHER

Activities not assigned to the operating segments (*ICG* and *GCB*) are included in *Corporate/Other.* As of December 31, 2021, *Corporate/Other* included certain unallocated costs of global staff functions (including certain finance, risk, human resources, legal and compliance), other corporate expenses and unallocated global operations and technology expenses and income taxes, as well as results of Corporate Treasury, certain *North America* legacy consumer loan portfolios, discontinued operations and other legacy assets. For information on Citi's planned revision to its reporting structure, including the reporting of the *North America* legacy consumer loan portfolios, discontinued operations and other legacy assets as part of a new reporting segment, *Legacy Franchises*, see "Strategic Refresh —Market Exits and Planned Revision to Reporting Structure" above. At December 31, 2021, *Corporate/Other* had $97 billion in assets.

In millions of dollars	**2021**	2020	2019	**% Change 2021 vs. 2020**	% Change 2020 vs. 2019
Net interest income	**$ 659**	$ (133)	$ 1,898	**NM**	NM
Non-interest revenue	**8**	204	124	**(96)%**	65 %
Total revenues, net of interest expense	**$ 667**	$ 71	$ 2,022	**NM**	(96)%
Total operating expenses	**$ 1,645**	$ 1,923	$ 1,783	**(14)%**	8 %
Net credit losses (recoveries) on loans	**$ (83)**	$ (22)	$ (8)	**NM**	NM
Credit reserve build (release) for loans	**(291)**	188	(60)	**NM**	NM
Provision (release) for credit losses on unfunded lending commitments	**(11)**	11	(7)	**NM**	NM
Provisions (releases) for benefits and claims, HTM debt securities and other assets	**16**	1	—	**100 %**	— %
Provisions (releases) for credit losses and for benefits and claims	**$ (369)**	$ 178	$ (75)	**NM**	NM
Income (loss) from continuing operations before taxes	**$ (609)**	$ (2,030)	$ 314	**70 %**	NM
Income taxes (benefits)	**(818)**	(921)	(802)	**11**	(15)%
Income (loss) from continuing operations	**$ 209**	$ (1,109)	$ 1,116	**NM**	NM
(Loss) from discontinued operations, net of taxes	**7**	(20)	(4)	**NM**	NM
Net income (loss) before attribution of noncontrolling interests	**$ 216**	$ (1,129)	$ 1,112	**NM**	NM
Noncontrolling interests	**1**	(6)	20	**NM**	NM
Net income (loss)	**$ 215**	$ (1,123)	$ 1,092	**NM**	NM

NM Not meaningful

2021 vs. 2020

Net income was $215 million, compared to a net loss of $1.1 billion in the prior year, reflecting higher revenues, lower expenses and lower cost of credit.

Revenues of $667 million compared to $71 million in the prior year, primarily driven by higher net revenue from the investment portfolio.

Expenses decreased 14%, reflecting the absence of a civil money penalty in the prior year and the wind-down of legacy assets, partially offset by increases related to Citi's transformation.

Provisions reflected a net benefit of $369 million, compared to costs of $178 million in the prior year, primarily driven by a net ACL release in the current year ($286 million compared to a net build of $200 million in the prior year). The release reflected the continued improvement in the macroeconomic outlook.

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 *Corporate/Other*'s future results, see "Executive Summary" above and "Risk Factors—Strategic Risks" below.

CAPITAL RESOURCES

Overview

Capital is used principally to support assets in Citi's businesses and to absorb 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 U.S. corporate tax laws and the impact of future events on Citi's business results, such as changes in interest and foreign exchange rates, as well as business and asset dispositions. For additional information on capital-related trends, uncertainties and risks related to Citi's legacy and exit businesses, including the impact of CTA losses, see "Executive Summary" above and "Risk Factors—Strategic Risks" and "—Operational Risks" below.

During 2021, Citi returned a total of $11.8 billion of capital to common shareholders in the form of $4.2 billion in dividends and $7.6 billion in share repurchases totaling approximately 105 million common shares.

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's 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 standards issued by the Federal Reserve Board, which constitute the U.S. Basel III rules. 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 Advanced Approaches, which are primarily models based, include credit, market and operational risk-weighted assets. The Standardized Approach generally applies prescribed supervisory risk weights to broad categories of credit risk exposures. 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 approaches. The Standardized Approach excludes operational risk-weighted assets.

Under the U.S. Basel III rules, both Citi and Citibank, N.A. (Citibank) are required to maintain stated minimum Common Equity Tier 1 Capital, Tier 1 Capital and Total Capital ratios of 4.5%, 6.0% and 8.0%, respectively. Further, the U.S. Basel III rules implement the "capital floor provision" of the so-called "Collins Amendment" of the Dodd-Frank Act, which requires Advanced Approaches banking organizations to calculate each of the three risk-based capital ratios (Common Equity Tier 1 Capital, Tier 1 Capital and Total Capital) under both the U.S. Basel III 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, Citi is also required to maintain a minimum Tier 1 Leverage ratio of 4.0%. 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, which differs from the Tier 1 Leverage ratio by also including certain off-balance sheet exposures within the denominator of the ratio (Total Leverage Exposure). The Supplementary Leverage ratio represents end-of-period Tier 1 Capital to Total Leverage Exposure, with the latter defined as the sum of the daily average of on-balance sheet assets for the quarter and 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 Supplementary Leverage ratio of 3.0%.

Further, U.S. GSIBs, including Citi, are subject to enhanced Supplementary Leverage ratio standards. These enhanced standards establish a 2.0% leverage buffer in addition to the stated 3.0% minimum Supplementary Leverage ratio requirement, for a total effective minimum Supplementary Leverage ratio requirement of 5.0%. If a U.S. GSIB fails to exceed this requirement, it will be subject to increasingly onerous restrictions (depending upon the extent of the shortfall) regarding capital distributions and discretionary executive bonus payments.

Temporary Supplementary Leverage Ratio Relief

In April 2020, the Federal Reserve Board issued an interim final rule that temporarily changed the calculation of the Supplementary Leverage ratio for bank holding companies, including Citigroup, by excluding U.S. Treasuries and deposits at Federal Reserve Banks from Total Leverage Exposure.

The interim final rule was effective for Citigroup's Supplementary Leverage ratio, as well as for Citigroup's leverage-based total loss absorbing capacity (TLAC) and long-term debt (LTD) requirements, and expired as scheduled on March 31, 2021. Citigroup's reported Supplementary Leverage ratio of 7.0% during the fourth quarter of 2020 benefited 109 basis points, as a result of the temporary relief.

Regulatory Capital Treatment—Modified Transition of the Current Expected Credit Losses Methodology

In September 2020, the U.S. banking agencies issued a final rule (substantially unchanged from a March 2020 interim final rule) that modified the regulatory capital transition provision related to the current expected credit losses (CECL) methodology. The September 2020 final rule does not have any impact on U.S. GAAP accounting.

The final 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 Common Equity Tier 1 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 will 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 beginning with the quarter ended March 31, 2020. 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, 2021, Citigroup's reported Common Equity Tier 1 Capital ratio of 12.2% benefited from the deferrals of the CECL transition provision by 24 basis points (bps), which resulted in an approximate 6 bps decrease to Citigroup's Common Equity Tier 1 Capital ratio upon commencement of the phase-in on January 1, 2022. In addition, this phase-in is expected to result in an additional 6 bps decrease to Citigroup's Common Equity Tier 1 Capital ratio on January 1 of each year through January 1, 2025. 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.

TLAC Holdings

As previously disclosed, in January 2021, the U.S. banking agencies issued a final rule that created a new regulatory capital deduction applicable to Advanced Approaches banking organizations for certain investments in covered debt instruments issued by GSIBs. The final rule became effective for Citigroup and Citibank on April 1, 2021, and did not have a significant impact on either Citigroup's or Citibank's regulatory capital.

Regulatory Capital Buffers

Citi and Citibank are required to maintain several regulatory capital buffers above 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, 2021, Citi's regulatory capital ratios exceeded effective regulatory minimum requirements. Accordingly, Citi is not subject to payout limitations as a result of Basel III requirements.

Stress Capital Buffer

Citigroup is subject to the Federal Reserve Board'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 Common Equity Tier 1 Capital ratio decline under the Supervisory Severely Adverse scenario 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 minimum capital requirements will be reviewed and updated annually by the Federal Reserve Board 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 (for additional information, see below) will continue to apply under the Advanced Approaches.

In August 2021, the Federal Reserve Board finalized and announced Citi's SCB requirement of 3.0%. Accordingly, effective October 1, 2021, Citigroup is required to maintain a 10.5% effective minimum Common Equity Tier 1 Capital ratio under the Standardized Approach. Previously, from October 1, 2020 through September 30, 2021, Citi had been subject to a 2.5% SCB, and a 10.0% effective minimum Common Equity Tier 1 Capital ratio under the Standardized Approach.

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 Federal Reserve Board last voted to affirm the Countercyclical Capital Buffer amount at the current level of 0% in December 2020.

GSIB Surcharge

The Federal Reserve Board imposes a risk-based capital surcharge upon U.S. bank holding companies that are identified as global systemically important bank holding companies (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 2021 will be based on 2020 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 increase for more than one year, such that it becomes subject to a higher GSIB surcharge, the higher surcharge would not become effective for a full year after the second consecutive higher score (e.g., a higher surcharge calculated using data as of December 31, 2020 and December 30, 2021 would not become effective until January 1, 2023). However, if after two consecutive years of a higher score, 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 in the calendar year commencing one year later (e.g., a lower surcharge calculated using data as of December 31, 2022 would become effective January 1, 2024).

The following table sets forth Citi's effective GSIB surcharge as determined under method 1 and method 2 during 2021 and 2020:

	2021	2020
Method 1	**2.0 %**	2.0 %
Method 2	**3.0**	3.0

Citi's GSIB surcharge effective during both 2021 and 2020 was 3.0%, as derived under the higher method 2 result. Citi's GSIB surcharge effective for 2022 will remain unchanged at 3.0%, 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, 2020, and its estimated method 2 result as of December 31, 2021, Citi's GSIB surcharge is expected to increase to 3.5% effective January 1, 2023. Citi's GSIB surcharge effective for 2024 will likely be based on the lower of its method 2 scores for year-end 2021 and 2022, 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 Common Equity Tier 1 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, 2021.

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 Federal Reserve Board directive to maintain higher capital levels.

Stress Testing Component of Capital Planning

Citi is subject to an annual assessment by the Federal Reserve Board 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 Federal Reserve Board evaluates firms' capital planning practices, focusing on six areas of capital planning—namely, 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 Federal Reserve Board evaluates Citi's capital adequacy, capital adequacy process and its planned capital distributions, such as dividend payments and common share repurchases. The Federal Reserve Board 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 Federal Reserve Board 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 Federal Reserve Board. In addition to the annual supervisory stress test conducted by the Federal Reserve Board, Citi is required to conduct annual company-run stress tests under the same adverse economic conditions designed by the Federal Reserve Board.

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.

Temporary Federal Reserve Board Limitations on Capital Distributions

From the third quarter of 2020 to the second quarter of 2021, the Federal Reserve Board placed temporary limitations on capital distributions for Citi and other large banking organizations, to ensure that large banks maintained a high level of capital resilience throughout the COVID-19 pandemic. Commencing July 1, 2021, Citi's common stock dividends and share repurchases were no longer subject to limitations based on the average of Citi's net income for the four preceding calendar quarters.

All large banks, including Citi, remain 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 "Regulatory Capital Buffers" above, and "Risk Factors—Strategic Risks" below.

Citigroup's Capital Resources

The following table sets forth Citi's effective minimum risk-based capital requirements as of December 31, 2021, September 30, 2021 and December 31, 2020:

	Advanced Approaches			Standardized Approach		
	December 31, 2021	September 30, 2021	December 31, 2020	**December 31, 2021**	September 30, 2021	December 31, 2020
Common Equity Tier 1 Capital ratio[1]	**10.0 %**	10.0 %	10.0 %	**10.5 %**	10.0 %	10.0 %
Tier 1 Capital ratio[1]	**11.5**	11.5	11.5	**12.0**	11.5	11.5
Total Capital ratio[1]	**13.5**	13.5	13.5	**14.0**	13.5	13.5

(1) Beginning October 1, 2021, Citi's effective minimum risk-based capital requirements include 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 (all of which must be composed of Common Equity Tier 1 Capital). For prior periods presented, Citi's effective minimum risk-based capital requirements included a 2.5% 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.

The following tables set forth Citi's capital components and ratios as of December 31, 2021, September 30, 2021 and December 31, 2020:

	Advanced Approaches[5]			Standardized Approach[5]		
In millions of dollars, except ratios	**December 31, 2021**	September 30, 2021	December 31, 2020	**December 31, 2021**	September 30, 2021	December 31, 2020
Common Equity Tier 1 Capital[1]	**$ 149,305**	$ 149,631	$ 147,274	**$ 149,305**	$ 149,631	$ 147,274
Tier 1 Capital	**169,568**	168,902	167,053	**169,568**	168,902	167,053
Total Capital (Tier 1 Capital + Tier 2 Capital)[1]	**194,006**	194,423	196,051	**203,838**	204,288	205,002
Total Risk-Weighted Assets	**1,209,374**	1,265,297	1,278,977	**1,219,175**	1,284,316	1,242,381
Credit Risk[1]	**$ 840,483**	$ 871,668	$ 859,698	**$ 1,135,906**	$ 1,187,516	$ 1,121,871
Market Risk	**78,634**	93,376	116,181	**83,269**	96,800	120,510
Operational Risk	**290,257**	300,253	303,098	**—**	—	—
Common Equity Tier 1 Capital ratio[2]	**12.35 %**	11.83 %	11.51 %	**12.25 %**	11.65 %	11.85 %
Tier 1 Capital ratio[2]	**14.02**	13.35	13.06	**13.91**	13.15	13.45
Total Capital ratio[2]	**16.04**	15.37	15.33	**16.72**	15.91	16.50

In millions of dollars, except ratios	**Effective Minimum Requirement**	**December 31, 2021**	September 30, 2021	December 31, 2020
Quarterly Adjusted Average Total Assets[1][3]		**$ 2,351,434**	$ 2,311,830	$ 2,265,615
Total Leverage Exposure[1][4]		**2,957,764**	2,911,050	2,391,033
Tier 1 Leverage ratio	**4.0%**	**7.21 %**	7.31 %	7.37 %
Supplementary Leverage ratio	**5.0**	**5.73**	5.80	6.99

(1) Citi has elected to apply the modified transition provision related to the impact of the CECL accounting standard on regulatory capital, as provided by the U.S. banking agencies' September 2020 final rule. Under the modified CECL transition provision, the changes in retained earnings (after-tax), deferred tax assets (DTAs) arising from temporary differences, and the ACL upon the January 1, 2020 CECL adoption date were deferred and have commenced phase-in to regulatory capital at 25% per year beginning January 1, 2022. For the ongoing impact of CECL, Citigroup was allowed to adjust retained earnings and the ACL in an amount equal to 25% of the change in the ACL (pretax) for each period between January 1, 2020 and December 31, 2021. The cumulative adjustments to retained earnings and the ACL between January 1, 2020 and December 31, 2021 commenced phase-in to regulatory capital at 25% per year beginning January 1, 2022, along with the deferred impacts related to the January 1, 2020 CECL adoption date. Corresponding adjustments to average on-balance sheet assets are reflected in quarterly adjusted average total assets and Total Leverage Exposure. Additionally, the increase in DTAs arising from temporary differences upon the January 1, 2020 adoption date were deducted from risk-weighted assets (RWA) and commenced phase-in to RWA at 25% per year beginning January 1, 2022.

(2) Citi's reportable Common Equity Tier 1 Capital and Tier 1 Capital ratios were derived under the Basel III Standardized Approach as of December 31, 2021 and September 30, 2021, and under the Basel III Advanced Approaches framework as of December 31, 2020, whereas Citi's reportable Total Capital ratio was the lower 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. Commencing with the second quarter of 2020 and continuing through the first quarter of 2021, Citigroup's Total Leverage Exposure temporarily excluded U.S. Treasuries and deposits at Federal Reserve Banks. For additional information, see "Temporary Supplementary Leverage Ratio Relief" above.

(5) Certain of the above prior-period amounts have been revised to conform with enhancements made in the current period.

Common Equity Tier 1 Capital Ratio

As set forth in the table above, Citi's Common Equity Tier 1 Capital ratio at December 31, 2021 increased from September 30, 2021, primarily due to a decrease in risk-weighted assets and a temporary pause in common share repurchases in the fourth quarter of 2021 in preparation for the implementation of the Standardized Approach for Counterparty Credit Risk (SA-CCR) on January 1, 2022. Citi's Common Equity Tier 1 Capital ratio increased from year-end 2020, largely driven by net income of $22.0 billion, a net decrease in risk-weighted assets and a temporary pause in common share repurchases in the fourth quarter of 2021 in preparation for the implementation of SA-CCR, partially offset by the return of $11.8 billion of capital to common shareholders in the form of share repurchases and dividends, as well as adverse net movements in *AOCI*.

Components of Citigroup Capital

In millions of dollars		**December 31, 2021**		December 31, 2020
Common Equity Tier 1 Capital				
Citigroup common stockholders' equity[1]	$	**183,108**	$	180,118
Add: Qualifying noncontrolling interests		**143**		141
Regulatory capital adjustments and deductions:				
Add: CECL transition and 25% provision deferral[2]		**3,028**		5,348
Less: Accumulated net unrealized gains (losses) on cash flow hedges, net of tax		**101**		1,593
Less: Cumulative unrealized net gain (loss) related to changes in fair value of financial liabilities attributable to own creditworthiness, net of tax		**(896)**		(1,109)
Less: Intangible assets:				
Goodwill, net of related DTLs[3]		**20,619**		21,124
Identifiable intangible assets other than MSRs, net of related DTLs		**3,800**		4,166
Less: Defined benefit pension plan net assets; other		**2,080**		921
Less: DTAs arising from net operating loss, foreign tax credit and general business credit carry-forwards[4]		**11,270**		11,638
Total Common Equity Tier 1 Capital (Standardized Approach and Advanced Approaches)	$	**149,305**	$	147,274
Additional Tier 1 Capital				
Qualifying noncumulative perpetual preferred stock[1]	$	**18,864**	$	19,324
Qualifying trust preferred securities[5]		**1,399**		1,393
Qualifying noncontrolling interests		**34**		35
Regulatory capital deductions:				
Less: Permitted ownership interests in covered funds[6]		**—**		917
Less: Other		**34**		56
Total Additional Tier 1 Capital (Standardized Approach and Advanced Approaches)	$	**20,263**	$	19,779
Total Tier 1 Capital (Common Equity Tier 1 Capital + Additional Tier 1 Capital) (Standardized Approach and Advanced Approaches)	$	**169,568**	$	167,053
Tier 2 Capital				
Qualifying subordinated debt	$	**20,064**	$	23,481
Qualifying trust preferred securities[7]		**248**		331
Qualifying noncontrolling interests		**42**		41
Eligible allowance for credit losses[2][8]		**14,209**		14,127
Regulatory capital deduction:				
Less: Other		**293**		31
Total Tier 2 Capital (Standardized Approach)	$	**34,270**	$	37,949
Total Capital (Tier 1 Capital + Tier 2 Capital) (Standardized Approach)	$	**203,838**	$	205,002
Adjustment for excess of eligible credit reserves over expected credit losses[2][8]	$	**(9,832)**	$	(8,951)
Total Tier 2 Capital (Advanced Approaches)	$	**24,438**	$	28,998
Total Capital (Tier 1 Capital + Tier 2 Capital) (Advanced Approaches)	$	**194,006**	$	196,051

Footnotes continue on the following page.

(1) Issuance costs of $131 million and $156 million related to noncumulative perpetual preferred stock outstanding at December 31, 2021 and 2020, respectively, are 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 has elected to apply the modified transition provision related to the impact of the CECL accounting standard on regulatory capital, as provided by the U.S. banking agencies’ September 2020 final rule. Under the modified CECL transition provision, the changes in retained earnings (after-tax) and the ACL upon the January 1, 2020 CECL adoption date were deferred and commenced phase-in to regulatory capital at 25% per year beginning January 1, 2022. For the ongoing impact of CECL, Citigroup was allowed to adjust retained earnings and the ACL in an amount equal to 25% of the change in the ACL (pretax) for each period between January 1, 2020 and December 31, 2021. The cumulative adjustments to retained earnings and the ACL between January 1, 2020 and December 31, 2021 have also commenced phase in to regulatory capital at 25% per year beginning January 1, 2022, along with the deferred impacts related to the January 1, 2020 CECL adoption date.
(3) Includes goodwill “embedded” in the valuation of significant common stock investments in unconsolidated financial institutions.
(4) Of Citi's $24.8 billion of net DTAs at December 31, 2021, $15.3 billion was included in Common Equity Tier 1 Capital pursuant to the U.S. Basel III rules, while $9.5 billion was excluded. Excluded from Citi's Common Equity Tier 1 Capital as of December 31, 2021 was $11.3 billion of net DTAs arising from net operating loss, foreign tax credit and general business credit tax carry-forwards. The amount excluded was reduced by $1.8 billion of net DTLs primarily associated with goodwill and certain other intangible assets that are separately deducted from capital. DTAs arising from tax carry-forwards are required to be entirely deducted from Common Equity Tier 1 Capital under the U.S. Basel III rules. DTAs arising from temporary differences are required to be deducted from capital only if these DTAs exceed 10%/15% limitation under the U.S. Basel III rules. Citi’s DTAs do not currently exceed this limitation and, therefore, are not subject to deduction from Common Equity Tier 1 Capital, but are subject to risk weighting at 250%.
(5) Represents Citigroup Capital XIII trust preferred securities, which are permanently grandfathered as Tier 1 Capital under the U.S. Basel III rules.
(6) Banking entities are required to be in compliance with the Volcker Rule of the Dodd-Frank Act, which prohibits conducting certain proprietary investment activities and limits their ownership of, and relationships with, covered funds. Commencing January 1, 2021, Citi no longer deducts permitted market-making positions in third-party covered funds from Tier 1 Capital, in accordance with the revised Volcker Rule 2.0 issued by the U.S. agencies in November 2019. Upon the removal of the capital deduction, permitted market-making positions in third-party covered funds are included in risk-weighted assets.
(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 was $4.4 billion and $5.2 billion at December 30, 2021 and December 31, 2020, respectively.

Citigroup Capital Rollforward

In millions of dollars	Three months ended December 31, 2021	Twelve months ended December 31, 2021
Common Equity Tier 1 Capital, beginning of period	**$ 149,631**	**$ 147,274**
Net income	**3,173**	**21,952**
Common and preferred dividends declared	**(1,249)**	**(5,236)**
Net change in treasury stock	**6**	**(7,111)**
Net increase in common stock and additional paid-in capital	**87**	**132**
Net change in foreign currency translation adjustment net of hedges, net of tax	**(462)**	**(2,525)**
Net change in unrealized gains (losses) on debt securities AFS, net of tax	**(1,396)**	**(3,934)**
Net decrease in defined benefit plans liability adjustment, net of tax	**76**	**1,012**
Net change in adjustment related to change in fair value of financial liabilities attributable to own creditworthiness, net of tax	**(3)**	**19**
Net decrease in excluded component of fair value hedges	**12**	**—**
Net decrease in goodwill, net of related DTLs	**70**	**505**
Net decrease in identifiable intangible assets other than MSRs, net of related DTLs	**99**	**366**
Net increase in defined benefit pension plan net assets	**(133)**	**(936)**
Net change in DTAs arising from net operating loss, foreign tax credit and general business credit carry-forwards	**(373)**	**368**
Net decrease in CECL 25% provision deferral	**(361)**	**(2,320)**
Other	**128**	**(261)**
Net change in Common Equity Tier 1 Capital	**$ (326)**	**$ 2,031**
Common Equity Tier 1 Capital, end of period (Standardized Approach and Advanced Approaches)	**$ 149,305**	**$ 149,305**
Additional Tier 1 Capital, beginning of period	**$ 19,271**	**$ 19,779**
Net change in qualifying perpetual preferred stock	**994**	**(460)**
Net increase in qualifying trust preferred securities	**1**	**6**
Net decrease in permitted ownership interests in covered funds	**—**	**917**
Other	**(3)**	**21**
Net increase in Additional Tier 1 Capital	**$ 992**	**$ 484**
Tier 1 Capital, end of period (Standardized Approach and Advanced Approaches)	**$ 169,568**	**$ 169,568**
Tier 2 Capital, beginning of period (Standardized Approach)	**$ 35,386**	**$ 37,949**
Net decrease in qualifying subordinated debt	**(392)**	**(3,417)**
Net change in eligible allowance for credit losses	**(651)**	**82**
Other	**(73)**	**(344)**
Net decrease in Tier 2 Capital (Standardized Approach)	**$ (1,116)**	**$ (3,679)**
Tier 2 Capital, end of period (Standardized Approach)	**$ 34,270**	**$ 34,270**
Total Capital, end of period (Standardized Approach)	**$ 203,838**	**$ 203,838**
Tier 2 Capital, beginning of period (Advanced Approaches)	**$ 25,521**	**$ 28,998**
Net decrease in qualifying subordinated debt	**(392)**	**(3,417)**
Net decrease in excess of eligible credit reserves over expected credit losses	**(618)**	**(799)**
Other	**(73)**	**(344)**
Net decrease in Tier 2 Capital (Advanced Approaches)	**$ (1,083)**	**$ (4,560)**
Tier 2 Capital, end of period (Advanced Approaches)	**$ 24,438**	**$ 24,438**
Total Capital, end of period (Advanced Approaches)	**$ 194,006**	**$ 194,006**

Citigroup Risk-Weighted Assets Rollforward (Basel III Standardized Approach)

In millions of dollars	Three months ended December 31, 2021	Twelve months ended December 31, 2021
Total Risk-Weighted Assets, beginning of period	**$ 1,284,316**	**$ 1,242,381**
Changes in Credit Risk-Weighted Assets		
General credit risk exposures	**(1,475)**	**(1,775)**
Repo-style transactions[1]	**(15,160)**	**(9,737)**
Securitization exposures[2]	**(1,306)**	**3,593**
Equity exposures	**(340)**	**494**
Over-the-counter (OTC) derivatives[3]	**(22,954)**	**3,224**
Other exposures[4]	**(7,167)**	**15,112**
Off-balance sheet exposures	**(3,208)**	**3,124**
Net change in Credit Risk-Weighted Assets	**$ (51,610)**	**$ 14,035**
Changes in Market Risk-Weighted Assets		
Risk levels	**$ (4,108)**	**$ (21,499)**
Model and methodology updates	**(9,423)**	**(15,742)**
Net decrease in Market Risk-Weighted Assets[5]	**$ (13,531)**	**$ (37,241)**
Total Risk-Weighted Assets, end of period	**$ 1,219,175**	**$ 1,219,175**

(1) Repo-style transactions include repurchase and reverse repurchase transactions as well as securities borrowing and securities lending transactions. Repo-style transactions decreased during the three months and 12 months ended December 31, 2021, primarily due to exposure-driven decreases.
(2) Securitization exposures increased during the 12 months ended December 31, 2021, primarily due to increases in new deals.
(3) OTC derivatives decreased during the three months ended December 31, 2021, primarily due to decreases in mark-to-market and notional movement. OTC derivatives increased during the 12 months ended December 31, 2021, primarily due to increases in mark-to-market for bilateral derivatives.
(4) Other exposures include cleared transactions, unsettled transactions, and other assets. Other exposures decreased during the three months ended December 31, 2021 primarily due to decreases in cleared transactions. Other exposures increased during the 12 months ended December 31, 2021 primarily due to increases in various other assets.
(5) Market risk-weighted assets decreased during the three months and 12 months ended December 31, 2021, primarily due to exposure changes.

Citigroup Risk-Weighted Assets Rollforward (Basel III Advanced Approaches)

In millions of dollars	Three months ended December 31, 2021	Twelve months ended December 31, 2021
Total Risk-Weighted Assets, beginning of period	**$ 1,265,297**	**$ 1,278,977**
Changes in Credit Risk-Weighted Assets		
Retail exposures[1]	**(8,043)**	**(13,426)**
Wholesale exposures[2]	**(8,408)**	**(10,630)**
Repo-style transactions	**2,516**	**(3,861)**
Securitization exposures[3]	**528**	**5,816**
Equity exposures	**(253)**	**206**
Over-the-counter (OTC) derivatives[4]	**(8,465)**	**(510)**
Derivatives CVA[5]	**(5,988)**	**(2,715)**
Other exposures[6]	**(1,646)**	**7,003**
Supervisory 6% multiplier	**(1,426)**	**(1,098)**
Net decrease in Credit Risk-Weighted Assets	**$ (31,185)**	**$ (19,215)**
Changes in Market Risk-Weighted Assets		
Risk levels	**$ (5,320)**	**$ (21,805)**
Model and methodology updates	**(9,422)**	**(15,742)**
Net decrease in Market Risk-Weighted Assets[7]	**$ (14,742)**	**$ (37,547)**
Net decrease in Operational Risk-Weighted Assets[8]	**$ (9,996)**	**$ (12,841)**
Total Risk-Weighted Assets, end of period	**$ 1,209,374**	**$ 1,209,374**

(1) Retail exposures decreased during the three months ended December 31, 2021, primarily driven by model recalibrations. Retail exposures decreased during the 12 months ended December 31, 2021, primarily driven by seasonal holiday spending repayments, less spending on qualifying revolving (card) exposures and model recalibrations.
(2) Wholesale exposures decreased during the three months and 12 months ended December 31, 2021, primarily due to reductions in commercial loans and wholesale loan commitments.
(3) Securitization exposures increased during the 12 months ended December 31, 2021, primarily due to increases in new deals.
(4) OTC derivatives decreased during the three months ended December 31,2021, primarily due to decreases in mark-to-market and notional movement.
(5) Derivatives CVA decreased during the three months ended December 31, 2021, primarily due to decreases in exposure and volatility, as well as lower credit spreads and sensitivity.
(6) Other exposures increased during the 12 months ended December 31, 2021, primarily due to increases in various other assets.
(7) Market risk-weighted assets decreased during the three months and 12 months ended December 31, 2021, primarily due to exposure changes.
(8) Operational risk-weighted assets decreased during the three months and 12 months ended December 31, 2021, primarily due to changes in operational loss severity and frequency.

Supplementary Leverage Ratio

The following table sets forth Citi's Supplementary Leverage ratio and related components as of December 31, 2021, September 30, 2021 and December 31, 2020:

In millions of dollars, except ratios	**December 31, 2021**	September 30, 2021	December 31, 2020
Tier 1 Capital	**$ 169,568**	$ 168,902	$ 167,053
Total Leverage Exposure			
On-balance sheet assets[1][2][3]	**$2,389,237**	$2,349,414	$1,864,374
Certain off-balance sheet exposures:[4]			
Potential future exposure on derivative contracts	**222,241**	222,157	186,959
Effective notional of sold credit derivatives, net[5]	**23,788**	21,987	32,640
Counterparty credit risk for repo-style transactions[6]	**25,775**	21,174	20,965
Unconditionally cancelable commitments	**70,196**	70,541	71,163
Other off-balance sheet exposures	**264,330**	263,361	253,754
Total of certain off-balance sheet exposures	**$ 606,330**	$ 599,220	$ 565,481
Less: Tier 1 Capital deductions	**37,803**	37,584	38,822
Total Leverage Exposure[3]	**$2,957,764**	$2,911,050	$2,391,033
Supplementary Leverage ratio	**5.73 %**	5.80 %	6.99 %

(1) Represents the daily average of on-balance sheet assets for the quarter.

(2) Citi has elected to apply the modified transition provision related to the impact of the CECL accounting standard on regulatory capital, as provided by the U.S. banking agencies' September 2020 final rule. Under the modified CECL transition provision, the changes in DTAs arising from temporary differences and the ACL upon the January 1, 2020 CECL adoption date were deferred and commenced phase-in to regulatory capital at 25% per year beginning January 1, 2022. For the ongoing impact of CECL, Citigroup was allowed to adjust the ACL in an amount equal to 25% of the change in the ACL (pretax) for each period between January 1, 2020 and December 31, 2021. The cumulative adjustments to the ACL between January 1, 2020 and December 31, 2021 have also commenced phase in to regulatory capital at 25% per year beginning January 1, 2022, along with the deferred impacts related to the January 1, 2020 CECL adoption date. Corresponding adjustments to average on-balance sheet assets are reflected in Total Leverage Exposure.

(3) Commencing with the second quarter of 2020 and continuing through the first quarter of 2021, Citigroup's Total Leverage Exposure temporarily excluded U.S. Treasuries and deposits at Federal Reserve Banks. For additional information, see "Temporary Supplementary Leverage Ratio Relief" above.

(4) Represents the average of certain off-balance sheet exposures calculated as of the last day of each month in the quarter.

(5) 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.

(6) Repo-style transactions include repurchase or reverse repurchase transactions as well as securities borrowing or securities lending transactions.

As set forth in the table above, Citigroup's Supplementary Leverage ratio was 5.7% at December 31, 2021, compared to 5.8% at September 30, 2021 and 7.0% at December 31, 2020. The quarter-over-quarter decrease was primarily driven by an increase in Total Leverage Exposure, primarily driven by an increase in average on-balance sheet assets, as well as adverse net movements in *AOCI*, partially offset by net income in the quarter. The year-over-year decrease was primarily driven by an increase in Total Leverage Exposure, largely due to an approximate 100 basis point impact from the expiration of the Federal Reserve Board's temporary Supplementary Leverage ratio relief. For additional information, see "Temporary Supplementary Leverage Ratio Relief" above.

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 set forth the capital components and ratios for Citibank, Citi's primary subsidiary U.S. depository institution, as of December 31, 2021, September 30, 2021 and December 31, 2020:

In millions of dollars, except ratios	**Effective Minimum Requirement**[1]	**Advanced Approaches**[8] **December 31, 2021**	Advanced Approaches[8] September 30, 2021	Advanced Approaches[8] December 31, 2020	**Standardized Approach**[8] **December 31, 2021**	Standardized Approach[8] September 30, 2021	Standardized Approach[8] December 31, 2020
Common Equity Tier 1 Capital[2]		**$ 148,548**	$ 147,459	$ 142,854	**$ 148,548**	$ 147,459	$ 142,854
Tier 1 Capital		**150,679**	149,588	144,962	**150,679**	149,588	144,962
Total Capital (Tier 1 Capital + Tier 2 Capital)[2][3]		**166,921**	166,196	161,447	**175,427**	174,745	169,449
Total Risk-Weighted Assets		**1,017,774**	1,067,406	1,047,088	**1,066,015**	1,107,021	1,054,056
Credit Risk[2]		**$ 737,802**	$ 761,259	$ 737,953	**$ 1,016,293**	$ 1,048,581	$ 989,222
Market Risk		**48,089**	55,566	63,984	**49,722**	58,440	64,834
Operational Risk		**231,883**	250,581	245,151	**—**	—	—
Common Equity Tier 1 Capital ratio[4][5]	**7.0 %**	**14.60 %**	13.81 %	13.64 %	**13.93 %**	13.32 %	13.55 %
Tier 1 Capital ratio[4][5]	**8.5**	**14.80**	14.01	13.84	**14.13**	13.51	13.75
Total Capital ratio[4][5]	**10.5**	**16.40**	15.57	15.42	**16.46**	15.79	16.08

In millions of dollars, except ratios	**Effective Minimum Requirement**	**December 31, 2021**	September 30, 2021	December 31, 2020
Quarterly Adjusted Average Total Assets[2][6]		**$ 1,716,596**	$ 1,682,993	$ 1,667,105
Total Leverage Exposure[2][7]		**2,236,839**	2,205,471	2,172,052
Tier 1 Leverage ratio[5]	**5.0%**	**8.78 %**	8.89 %	8.70 %
Supplementary Leverage ratio[5]	**6.0**	**6.74**	6.78	6.67

(1) For all periods presented, Citibank's effective minimum risk-based capital requirements are inclusive of the 2.5% Capital Conservation Buffer (all of which must be composed of Common Equity Tier 1 Capital).

(2) Citibank has elected to apply the modified transition provision related to the impact of the CECL accounting standard on regulatory capital, as provided by the U.S. banking agencies' September 2020 final rule. Under the modified CECL transition provision, the changes in retained earnings (after-tax), deferred tax assets (DTAs) arising from temporary differences, and the ACL upon the January 1, 2020 CECL adoption date were deferred and have commenced phase-in to regulatory capital at 25% per year beginning on January 1, 2022. For the ongoing impact of CECL, Citibank was allowed to adjust retained earnings and the ACL in an amount equal to 25% of the change in the ACL (pretax) for each period between January 1, 2020 and December 31, 2021. The cumulative adjustments to retained earnings and the ACL between January 1, 2020 and December 31, 2021 have also commenced phase-in to regulatory capital at 25% per year beginning January 1, 2022, along with the deferred impacts related to the January 1, 2020 CECL adoption date. Corresponding adjustments to average on-balance sheet assets are reflected in quarterly adjusted average total assets and Total Leverage Exposure. Additionally, the increase in DTAs arising from temporary differences upon the January 1, 2020 adoption date were deducted from risk-weighted assets (RWA) and commenced phase-in to RWA at 25% per year beginning January 1, 2022.

(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 reportable Common Equity Tier 1 Capital and Tier 1 Capital ratios were the lower derived under the Basel III Standardized Approach, whereas Total Capital ratio was derived under the Basel III Advanced Approaches framework for all periods presented.

(5) Citibank must maintain minimum Common Equity Tier 1 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 minimum 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.

(8) Certain of the above prior-period amounts have been revised to conform with enhancements made in the current period.

As indicated in the table above, Citibank's capital ratios at December 31, 2021 were in excess of the stated and effective minimum requirements under the U.S. Basel III rules. In addition, Citibank was also "well capitalized" as of December 31, 2021.

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 Common Equity Tier 1 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, 2021. 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	**0.8**	**1.0**	**0.8**	**1.1**	**0.8**	**1.4**
Citibank						
Advanced Approaches	**1.0**	**1.4**	**1.0**	**1.5**	**1.0**	**1.6**
Standardized Approach	**0.9**	**1.3**	**0.9**	**1.3**	**0.9**	**1.5**

	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**	**0.4**	**0.3**

Citigroup Broker-Dealer Subsidiaries

At December 31, 2021, 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 capital of $28 billion at December 31, 2021, 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 operate, 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, 2021.

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 2021). Accordingly, Citi's total current minimum TLAC requirement was 22.5% of RWA for 2021.

Minimum 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 2021), 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 effective minimum TLAC and LTD ratio requirement, as well as the surplus amount in dollars in excess of each requirement.

	December 31, 2021	
In billions of dollars, except ratios	**External TLAC**	**LTD**
Total eligible amount	**$ 318**	**$ 143**
% of Standardized Approach risk-weighted assets	**26.1 %**	**11.7 %**
Effective minimum requirement[1][2]	**22.5**	**9.0**
Surplus amount	**$ 44**	**$ 33**
% of Total Leverage Exposure	**10.8 %**	**4.8 %**
Effective minimum requirement	**9.5**	**4.5**
Surplus amount	**$ 37**	**$ 10**

(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, 2021, Citi exceeded each of the minimum TLAC and LTD requirements, resulting in a $10 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 "Risk Factors—Compliance Risks" and "Liquidity Risk—Total Loss-Absorbing Capacity (TLAC)" below.

Capital Resources (Full Adoption of CECL)[1]
The following tables set forth Citigroup's and Citibank's capital components and ratios had the full impact of CECL been adopted as of December 31, 2021:

	Citigroup				Citibank		
	Effective Minimum Requirement, Advanced Approaches	**Effective Minimum Requirement, Standardized Approach[2]**	**Advanced Approaches**	**Standardized Approach**	**Effective Minimum Requirement[3]**	**Advanced Approaches**	**Standardized Approach**
Common Equity Tier 1 Capital ratio	**10.0 %**	**10.5 %**	**12.10 %**	**12.01 %**	**7.0 %**	**14.32 %**	**13.68 %**
Tier 1 Capital ratio	**11.5**	**12.0**	**13.78**	**13.68**	**8.5**	**14.53**	**13.88**
Total Capital ratio	**13.5**	**14.0**	**15.86**	**16.49**	**10.5**	**16.15**	**16.21**

	Effective Minimum Requirement	**Citigroup**	**Effective Minimum Requirement**	**Citibank**
Tier 1 Leverage ratio	**4.0 %**	**7.09 %**	**5.0 %**	**8.62 %**
Supplementary Leverage ratio	**5.0**	**5.64**	**6.0**	**6.61**

(1) See footnote 2 on the "Components of Citigroup Capital" table above.
(2) The effective minimum requirements were applicable as of December 31, 2021. See "Stress Capital Buffer" above for additional information.
(3) Citibank's effective minimum requirements were the same under the Standardized Approach and the Advanced Approaches Framework.

Adoption of the Standardized Approach for Counterparty Credit Risk

In January 2020, the U.S. banking agencies issued a final rule to introduce the Standardized Approach for Counterparty Credit Risk (SA-CCR). SA-CCR replaced the Current Exposure Method (CEM), which was the previous methodology used to calculate exposure for all derivative contracts under the Standardized Approach, as well as RWA for derivative contracts under the Advanced Approaches in cases where internal models are not used. In addition, SA-CCR replaced CEM 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.

Under SA-CCR, a banking organization calculates the exposure amount of its derivative contracts at the netting set level. Multiple derivative contracts are generally considered to be under the same netting set as long as each derivative contract is subject to the same qualifying master netting agreement. SA-CCR also introduced the concept of hedging sets, which allows a banking organization to fully or partially net derivative contracts within the same netting set that share similar risk factors. Moreover, SA-CCR incorporated updated supervisory and maturity factors to calculate the potential future exposure of a derivative contract, and provides for improved recognition of collateral. Under the final rule, the exposure amount of a netting set is equal to an alpha factor of 1.4 multiplied by the sum of the replacement cost and potential future exposure of the netting set.

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 bps decrease to Citigroup’s Common Equity Tier 1 Capital ratio under the Standardized Approaches on January 1, 2022. Citigroup’s reported CET1 Capital ratio under the Standardized Approach as of December 31, 2021 was 12.25%, 75 bps above its 11.5% CET1 Capital target, and 175 bps above its 10.5% effective regulatory minimum CET1 Capital requirement under the Standardized Approach.

Adoption of SA-CCR also increased Citigroup’s Advanced RWA by approximately $29 billion, which resulted in a 29 bps decrease to Citigroup’s Common Equity Tier 1 Capital ratio under the Advanced Approaches on January 1, 2022. Citigroup’s reported CET1 Capital ratio under the Advanced Approaches as of December 31, 2021 was 12.35%, 85 bps above its 11.5% CET1 Capital target, and 235 bps above its 10.0% effective regulatory minimum CET1 Capital requirement under the Advanced Approaches.

Citigroup voluntarily suspended share repurchases during the fourth quarter of 2021, in anticipation of the adverse impact resulting from SA-CCR adoption. Citi resumed common share repurchases in January 2022.

Regulatory Capital Standards Developments

Basel III Revisions

As previously disclosed, the Basel Committee on Banking Supervision (Basel Committee) has finalized certain Basel III post-crisis regulatory reforms. The reforms relate 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 Basel III post-crisis regulatory 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) represents common stockholders' equity less goodwill and identifiable intangible assets (other than mortgage servicing rights (MSRs)). RoTCE represents net income available to common shareholders as a percentage of average TCE. Tangible book value (TBV) per share represents TCE divided by common shares outstanding. These measures are non-GAAP financial measures. Other companies may calculate these measures in a different manner. Citi believes TCE, TBV and RoTCE provide alternate 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	**2021**	2020	2019	2018	2017
Total Citigroup stockholders' equity	**$201,972**	$199,442	$193,242	$196,220	$200,740
Less: Preferred stock	**18,995**	19,480	17,980	18,460	19,253
Common stockholders' equity	**$182,977**	$179,962	$175,262	$177,760	$181,487
Less:					
Goodwill	**21,299**	22,162	22,126	22,046	22,256
Identifiable intangible assets (other than MSRs)	**4,091**	4,411	4,327	4,636	4,588
Goodwill and identifiable intangible assets (other than MSRs) related to assets held-for-sale (HFS)	**510**	—	—	—	32
Tangible common equity (TCE)	**$157,077**	$153,389	$148,809	$151,078	$154,611
Common shares outstanding (CSO)	**1,984.4**	2,082.1	2,114.1	2,368.5	2,569.9
Book value per share (common stockholders' equity/CSO)	**$ 92.21**	$ 86.43	$ 82.90	$ 75.05	$ 70.62
Tangible book value per share (TCE/CSO)	**79.16**	73.67	70.39	63.79	60.16

	For the year ended December 31,				
In millions of dollars	**2021**	2020	2019	2018	2017[1]
Net income					

available to common shareholders	**$ 20,912**	$ 9,952	$ 18,292	$ 16,871	$ 14,583
Average common stockholders' equity	**182,421**	175,508	177,363	179,497	207,747
Average TCE	**156,253**	149,892	150,994	153,343	180,458
Return on average common stockholders' equity	**11.5 %**	5.7 %	10.3 %	9.4 %	7.0 %
Return on average TCE (RoTCE)	**13.4**	6.6	12.1	11.0	8.1

(1) Year ended December 31, 2017 excludes the one-time impact of Tax Reform. For a reconciliation of these amounts, see "Significant Accounting Policies and Significant Estimates—Income Taxes" below.

RISK FACTORS

The following discussion sets forth 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 Globally Could Have a Negative Impact on Citi's Businesses and Results of Operations.

In addition to the significant macroeconomic challenges posed by the pandemic (see the pandemic-related risk factor below), Citi has experienced, and could experience in the future, negative impacts to its businesses and results of operations as a result of other macroeconomic, geopolitical and other challenges, uncertainties and volatility.

For example, the recent action of Russian military forces and support personnel in Ukraine has escalated tensions between Russia and the U.S., NATO, the EU and the U.K. The U.S. has imposed, and is likely to impose material additional, financial and economic sanctions and export controls against certain Russian organizations and/or individuals, with similar actions either implemented or planned by the EU and the U.K. and other jurisdictions. During the week of February 21, 2022, the U.S., the U.K., and the EU each imposed packages of financial and economic sanctions that, in various ways, constrain transactions with numerous Russian entities and individuals; transactions in Russian sovereign debt; and investment, trade, and financing to, from, or in certain regions of Ukraine. Citi's ability to engage in activity with certain consumer and institutional businesses in Russia and Ukraine or involving certain Russian or Ukrainian businesses and customers is dependent in part upon whether such engagement is restricted under any current or expected U.S., EU and other countries or U.K. sanctions and laws. Sanctions and export controls, as well as any actions by Russia, could adversely affect Citi's business activities and customers in and from Russia and Ukraine. Moreover, actions by Russia, and any further measures taken by the U.S. or its allies, could have negative impacts on regional and global financial markets and economic conditions. For additional information about these and other related risks, see the operational processes and systems, cybersecurity and emerging markets risk factors below. For additional information about Citi's exposures in Russia, see "Managing Global Risk—Other Risks—Country Risk—Russia" below.

Additionally, governmental fiscal and monetary actions, or expected actions, such as changes in interest rate policies and any program implemented by a central bank to change the size of its balance sheet, could significantly impact interest rates, economic growth rates, the volatility of global financial markets, foreign exchange rates and global capital flows. Further, it remains uncertain to what extent central banks may keep interest rates low or whether central banks might raise interest rates or reduce the size of their balance sheets, particularly as inflationary pressures continue and the U.S. and global economies continue to improve. While earlier in the pandemic the Federal Reserve Board (FRB) and other central banks took actions to support the global economy, including by further reducing their benchmark interest rates, mismatches between supply and demand of goods and services contributed to a rise in inflation in 2021, prompting the FRB to announce the approaching end of the period of extraordinarily low interest rates.

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 the interest rates at which Citi pays depositors are already low and unlikely to decline much further, declining or continued low interest rates for loans could further compress Citi's net interest income. Citi's net interest income could also be adversely affected due to a flattening of the interest rate yield curve (e.g., a lower spread between shorter-term versus longer-term interest rates), 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.

In contrast, an abrupt and sustained increase in interest rates could interfere with the global macroeconomic recovery, whether due to continued or increased inflationary pressures or otherwise. And while Citi estimates its overall net interest income would generally increase due to higher interest rates, higher rates could adversely affect Citi's funding costs, levels of deposits in its consumer and institutional businesses and certain business or product revenues. For additional information on Citi's interest rate risk, see "Managing Global Risk—Market Risk—Net Interest Income at Risk" below.

Additional areas of uncertainty include, among others, an elevated level of inflation resulting in adverse spill-over effects; the ability of Congress to raise the federal debt ceiling; slowing of the Chinese economy, including negative economic impacts associated with such slowdown or any policy actions; significant disruptions and volatility in financial markets; other geopolitical tensions and conflicts; protracted or widespread trade tensions; financial market, other economic and political disruption driven by anti-establishment movements; natural disasters; other pandemics; and election outcomes. For example, Citi's market-making businesses can suffer losses resulting from the widening of credit spreads due to unanticipated changes in financial markets. In addition, 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.

These and additional global macroeconomic, geopolitical and other challenges, uncertainties and volatilities have negatively impacted, and could continue to negatively impact, Citi's businesses, results of operations and financial condition, including its credit costs, revenues across *ICG* and *GCB* and *AOCI* (which would in turn negatively impact Citi's book and tangible book value).

STRATEGIC RISKS

Rapidly Evolving Challenges and Uncertainties Related to the COVID-19 Pandemic in the U.S. and Globally Will Likely Continue to Have Negative Impacts on Citi's Businesses and Results of Operations and Financial Condition.

The COVID-19 pandemic has affected all of the countries and jurisdictions in which Citi operates, including severely impacting global health, financial markets, consumer and business spending and economic conditions. The extent of the future pandemic impacts remain uncertain and will likely evolve by region, country or state, largely depending on the duration and severity of the public health consequences, including the duration and further spread of the coronavirus as well as any variants becoming more prevalent and impactful; further production, distribution, acceptance and effectiveness of vaccines; availability and efficiency of testing; the public response; and government actions. The future impacts to global economic conditions may include, among others:

- further disruption of global supply chains;
- higher inflation;
- higher interest rates;
- significant disruption and volatility in financial markets;
- additional closures, reduced activity and failures of many businesses, leading to loss of revenues and net losses;
- further institution of social distancing and restrictions on businesses and the movement of the public in and among the U.S. and other countries; and
- reduced U.S. and global economic output.

The pandemic has had, and may continue to have, negative impacts on Citi's businesses and overall results of operations and financial condition, which could be material. The extent of the impact on Citi's operations and financial performance, including its ability to execute its business strategies and initiatives, will continue to depend significantly on future developments in the U.S. and globally. Such developments are uncertain and cannot be predicted, including the course of the coronavirus, as well as any weakness or slowing in the economic recovery or a further economic downturn, whether due to further supply chain disruptions, inflation trends, higher interest rates or otherwise.

The pandemic may not be sufficiently contained for an extended period of time. A prolonged health crisis could reduce economic activity in the U.S. and other countries, resulting in additional declines or weakness in employment trends and business and consumer confidence. These factors could negatively impact global economic activity and markets; cause a continued decline in the demand for Citi's products and services and in its revenues; further increase Citi's credit and other costs; and may result in impairment of long-lived assets or goodwill. These factors could also cause an increase in Citi's balance sheet, risk-weighted assets and ACL, resulting in a decline in regulatory capital ratios or liquidity measures, as well as regulatory demands for higher capital levels and/or limitations or reductions in capital distributions (such as common share repurchases and dividends). Moreover, any disruption or failure of Citi's performance of, or its ability to perform, key business functions, as a result of the continued spread of COVID-19 or otherwise, could adversely affect Citi's operations.

The impact of the pandemic on Citi's consumer and corporate borrowers will vary by sector or industry, with some borrowers experiencing greater stress levels, particularly as credit and customer assistance support further winds down, which could lead to increased pressure on their results of operations and financial condition, increased borrowings or credit ratings downgrades, thus likely leading to higher credit costs for Citi. These borrowers include, among others, businesses that are more directly impacted by the institution of social distancing, the movement of the public and store closures. In addition, stress levels ultimately experienced by Citi's borrowers may be different from and more intense than assumptions made in prior estimates or models used by Citi, resulting in an increase in Citi's ACL or net credit losses, particularly as the benefits of fiscal stimulus and government support programs diminish.

Ongoing legislative and regulatory changes in the U.S. and globally to address the economic impact from the pandemic could further affect Citi's businesses, operations and financial performance. Citi could also face challenges, including legal and reputational, and scrutiny in its efforts to provide relief measures. Such efforts have resulted in, and may continue to result in, litigation, including class actions, and regulatory and government actions and proceedings. Such actions may result in judgments, settlements, penalties and fines adverse to Citi. In addition, the different types of government actions could vary in scale and duration across jurisdictions and regions with varying degrees of effectiveness.

Citi has taken measures to maintain the health and safety of its colleagues; however, these measures could result in additional expenses, and illness of employees could negatively affect staffing for a period of time. In addition, Citi's ability to recruit, hire and onboard colleagues in key areas could be negatively impacted by pandemic restrictions as well as Citi's COVID-19 vaccination requirement (see the qualified colleagues risk factor below).

Further, it is unclear how the macroeconomic or business environment or societal norms may be impacted after the pandemic. The post-pandemic environment may undergo unexpected developments or changes in financial markets, fiscal, monetary, tax and regulatory environments and consumer customer and corporate client behavior. These developments and changes could have an adverse impact on Citi's results of operations and financial condition. Ongoing business and regulatory uncertainties and changes may make Citi's longer-term business, balance sheet and strategic and budget planning more difficult or costly. Citi and its management and businesses may also experience increased or different competitive and other challenges in this environment.

To the extent that it is not able to adapt or compete effectively, Citi could experience loss of business and its results of operations and financial condition could suffer (see the competitive challenges risk factor below).

Citi's Ability to Return Capital to Common Shareholders Consistent with Its Capital Planning Efforts and Targets Substantially Depends on Regulatory Capital Requirements, Including the Results of the CCAR Process and 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 Stress Capital Buffer (SCB), which is based upon the results of the CCAR process required by the FRB as well as the supervisory stress tests required under the Dodd- Frank Act (as described in more detail below).

Citi's ability to return capital also depends on its results of operations and financial condition, the capital impact related to divestitures, forecasts of macroeconomic conditions, its implementation and maintenance of an effective capital planning process and management framework, and 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 global systemically important bank holding company (GSIB) surcharge, which has been made more challenging due to elevated levels of liquidity in the financial system related to the pandemic (see the macroeconomic challenges and uncertainties risk factor above).

Changes in regulatory capital rules, requirements or interpretations could have a material impact on Citi's regulatory capital, both as a result of changes in Citi's reported regulatory capital and integration into the CCAR process and regulatory stress tests. For example, Citi was required to adopt the Standardized Approach for Counterparty Credit Risk (SA-CCR) as of January 1, 2022, which resulted in an approximate $51 billion increase in Citi's risk-weighted assets under the Standardized Approach. Citi voluntarily suspended common share repurchases during the fourth quarter of 2021, in anticipation of the adverse impact resulting from the adoption of SA-CCR. Citi will be required to adopt SA-CCR for purposes of the supervisory stress test during the 2023 cycle and SA-CCR may be considered by management during the 2022 cycle for purposes of management's own capital adequacy assessment. In addition, the U.S. banking agencies may potentially consider 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, recalibration of the GSIB surcharge and SLR, and enactment of the 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 CCAR firms, including Citi, will continue to be subject to a rigorous regulatory evaluation of capital planning practices, including, but not limited to, governance, risk management and internal controls. Citi's ability to return capital may be adversely impacted if such an evaluation of Citi resulted in negative findings. In addition, Citi's ability to accurately predict, interpret or explain to stakeholders the results of the CCAR process, and thus to address any market or investor perceptions, may be limited as the FRB's assessment of Citi's capital adequacy is conducted using the FRB's proprietary stress test models. For additional 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.

The FRB has stated that it expects leading capital adequacy practices to continue to evolve and to likely be determined by the FRB each year as a result of its 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 (PPNR) and stress losses, and the addition of components deemed important by the FRB.

Beginning January 1, 2022, Citi was required to phase into regulatory capital at 25% per year the changes in retained earnings, deferred tax assets and ACL determined upon the January 1, 2020 CECL adoption date, as well as subsequent changes in the ACL between January 1, 2020 and 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 in 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 to the Consolidated Financial Statements.

In addition, the FRB has integrated the annual stress testing requirements with ongoing regulatory capital requirements. For Citigroup, the SCB equals the maximum decline in Citi's Common Equity Tier 1 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%. Effective October 1, 2021, Citi's SCB was 3.0%. 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, or possibly more frequently, based on the supervisory stress test results, thus potentially resulting in volatility in the calculation of the SCB. Similar to the other regulatory capital buffers, a breach of the SCB would result in graduated limitations on capital distributions. For additional

information on the SCB, including its calculation, 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, Its Management and Its Businesses Must Continually Review, Analyze and Successfully Adapt to Ongoing Regulatory and Legislative Uncertainties and Changes in the U.S. and Globally.

Despite the adoption of final regulations and laws in numerous areas impacting Citi and its businesses over the past several years, Citi, its management and its businesses continually 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, various examples include, but are not limited to (i) potential fiscal, monetary, regulatory, tax and other changes arising from the U.S. federal government and other governments, including as a result of the differing priorities of the current U.S. presidential administration, changes in regulatory leadership or focus and actions of Congress or in response to the pandemic; (ii) potential changes to various aspects of the regulatory capital framework and requirements applicable to Citi (see the capital return risk factor and "Capital Resources—Regulatory Capital Standards Developments" above); and (iii) future legislative and regulatory requirements in the U.S. and globally related to climate change, including any new disclosure requirements (see the climate change risk factor below). When referring to "regulatory," Citi is including both formal regulation and the views and expectations of its regulators in their supervisory roles.

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 the scope, interpretation, timing, structure or approach, leading to inconsistent or even conflicting requirements, including within a single jurisdiction. For example, in May 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.

Moreover, 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. 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 post-crisis 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 initiatives, Citi continues to make significant investments to improve its infrastructure, risk management and controls and further enhance safety and soundness (for additional information, see the legal and regulatory proceedings risk factor below). Citi also continues to execute on its strategic refresh that includes, among other things, its exit of certain consumer banking businesses (see below) and its investments to deepen client relationships and enhance client offerings and capabilities in order to simplify the Company and enhance its allocation of resources.

For example, Citi continues to invest in its technology and digital capabilities across the franchise, including digital platforms and mobile and cloud-based solutions. In addition, Citi has been making other investments across the Company, such as in Citi's wealth management business, commercial banking business, treasury and trade solutions, securities services and other businesses, including implementing new capabilities and partnerships. Citi has also been pursuing productivity improvements through various technology and digital initiatives, organizational simplification and location strategies. Failure to properly invest in and upgrade Citi's technology and processes could result in an inability to be sufficiently competitive, serve clients effectively and avoid operational errors (for additional information, see the operational processes and systems risk factor below). There is no guarantee that these or other initiatives Citi may pursue will be as productive or effective as Citi expects, or at all.

Furthermore, Citi's strategic refresh necessitates further changes in and exits of certain businesses, which involve significant execution complexity, and could result in additional losses, charges or other negative financial impacts. For example, Citi may not be able to achieve its objectives related to its exits of 13 consumer markets in *Asia* and *EMEA* or exit of the consumer, small business and middle-market banking operations in Mexico. These exits may not be as productive, effective or timely as Citi expects and may result

in additional foreign currency translation adjustments (CTA) or other losses, charges or other negative financial or strategic impacts, which could be material. For additional information on CTA losses, see 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. Moreover, Citi's ability to achieve expected returns on its investments and costs savings depends, in part, on factors that it cannot control, including, among others, interest rates; inflation; impacts related to the pandemic; customer, client and competitor actions; and ongoing regulatory changes.

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, 2021, Citi's net DTAs were $24.8 billion, net of a valuation allowance of $4.2 billion, of which $9.5 billion was deducted from Citi's Common Equity Tier 1 Capital under the U.S. Basel III rules, primarily relating to net operating losses, foreign tax credit and general business credit carry-forwards (for additional information, see "Capital Resources—Components of Citigroup Capital" above).

Of the net DTAs at December 31, 2021, $2.8 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, 2021 expire over the period of 2022–2029. 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, the continued impact of the pandemic and other 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 to the Consolidated Financial Statements.

Citi's Interpretation or Application of the Complex Tax Laws to Which It Is Subject Could Differ from Those of the Relevant 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, including the Tax Cuts and Jobs Act (Tax Reform), to its entities, operations and businesses. In addition, Citi is subject to litigation or examinations with U.S. and non-U.S. tax authorities regarding non-income-based tax matters. Citi's interpretations or application of the tax laws, including with respect to Tax Reform, 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. For additional information on the litigation and examinations involving non-U.S. tax authorities, see Note 27 to the Consolidated Financial Statements.

A Deterioration in or Failure to Maintain Citi's Co-Branding or Private Label Credit Card Relationships, Including as a Result of Early Termination, Bankruptcy or Liquidation, Could Have a Negative Impact on Citi's Results of Operations or Financial Condition.

Citi has co-branding and private label relationships through its branded cards and retail services credit card businesses with various retailers and merchants globally, 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 *North America GCB* constituted an aggregate of approximately 9% of Citi's revenues in 2021 (for additional information, see "*Global Consumer Banking—North America GCB*" above). Citi's co-branding and private label agreements provide for shared economics between the parties and generally have a fixed term.

Over the last several years, a number of U.S. retailers have continued to experience declining sales due to the pandemic or otherwise, which has resulted in significant numbers of store closures and, in a number of cases, bankruptcies, as retailers attempt to cut costs and reorganize. In addition, as has been widely reported, competition among card issuers, including Citi, for these relationships is significant, and it has become increasingly difficult in recent years to maintain such relationships on the same terms or at all.

Citi's co-branding and private label relationships could be negatively impacted by, 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, government

imposed restrictions, reduced 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 ongoing impact of the pandemic or otherwise (see the pandemic-related risk factor above).

While various mitigating factors could be available to Citi if any of the above events were to occur—such as by replacing the retailer or merchant or offering other card products—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 (for information on Citi's credit card related intangibles generally, see Note 16 to the Consolidated Financial Statements).

Citi's Inability in Its Resolution Plan Submissions to Address Any Shortcomings or Deficiencies Identified or Guidance Provided by the FRB and FDIC 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. The eight U.S. GSIBs, including Citi, filed their most recent resolution plans with the FRB and FDIC on July 1, 2021. 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 the Performance of Its Individual Businesses Could Be Negatively Impacted if Citi Is Not Able to Effectively Compete for, Retain and Motivate Highly Qualified Colleagues.

Recent employment conditions have made the competition to hire and retain qualified employees significantly more challenging. 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 global strategy 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 strategy 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 because of economic conditions associated with the pandemic. 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 that are not subject to such regulation. Citi often competes for talent with such businesses, including, among others, technology companies. Further, Citi's vaccination requirement for its U.S.-based employees could make it more difficult to compete for or retain colleagues. 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 opportunities it offers and its reputation. For information on Citi's colleagues and workforce management, see "Human Capital Resources and Management" below.

Financial Services Companies and Others as well as Emerging Technologies Pose Increasingly Competitive Challenges to Citi.

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, placing Citi at a competitive disadvantage.

Citi competes with financial services companies in the U.S. and globally that continue to develop and introduce new products and services. In recent years, non-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.

Moreover, emerging technologies have the potential to intensify competition and accelerate disruption in the financial services industry. For example, there is increasing interest

from clients and investors in digital assets such as cryptocurrencies. Financial services firms and other market participants have begun to offer services related to those assets such as custody and trading. However, Citi may not be able to provide the same or similar services for legal or regulatory reasons and such services increase compliance risk. 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.

In addition, as discussed above, it is unclear how the macroeconomic business environment or societal norms may be impacted as a result of the pandemic. Citi may experience increased or different competitive and other challenges in a post-pandemic environment. 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.

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 Citi's 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. For example, 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, 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. These risks have been exacerbated during the pandemic, when a substantial portion of Citi's colleagues have worked remotely and customers and clients have increased their use of online banking and other platforms (for additional information, see the pandemic-related risk factor above and 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; fraud or malice on the part of employees or third parties; 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 below). For example, Citi has experienced and could experience further losses associated with manual transaction processing errors (for additional information, see "Revlon-Related Wire Transfer Litigation" in Note 27 to the Consolidated Financial Statements).

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 loss.

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 cyber attacks.

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 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 Have Been, and Will Continue to Be, Susceptible to an Increasing Risk of Continually Evolving, Sophisticated Cybersecurity Activities 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, unavailability of service, computer viruses or other malicious code, cyber attacks and other similar events. These threats can arise from external parties, including cyber criminals, cyber terrorists, hacktivists and nation-state actors, as well as insiders who knowingly or unknowingly engage in or enable malicious cyber activities.

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 cyber attacks 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 the provisions to adequately offset any losses Citi may incur from third-party cyber incidents.

Citi has been subject to attempted and sometimes successful cyber attacks 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 an attempt 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 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 methods used to cause cyber attacks change frequently or, in some cases, are not recognized until launched or even later, Citi may be unable to implement effective preventive measures or proactively address these methods until they are discovered. 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 cyber attacks or data breaches.

Cyber incidents can result in the disclosure of personal, confidential or proprietary customer or client 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. 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 could also result from cyber incidents (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 cost of which could be immeasurable.

For additional information about Citi's management of cybersecurity risk, see "Managing Global Risk—Operational Risk—Cybersecurity Risk" below.

Changes to or the Application of Incorrect Assumptions, Judgments or Estimates in Citi's Financial Statements Could Cause Significant Unexpected Losses or Impacts in the Future.

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 exposures; valuation of DTAs; the fair values of certain assets and liabilities; and the assessment of goodwill or other assets for impairment. 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.

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, U.S. unemployment rate and U.S. Real GDP, and the credit indicators, composition and other characteristics of Citi's loan and other applicable financial assets. These model assumptions and forecasted macroeconomic conditions will change over time, whether due to the pandemic or otherwise, resulting in greater variability in Citi's ACL compared to its provision for loan losses under the previous GAAP methodology, and, thus, impact its results of operations and financial condition, as well as regulatory capital due to the CECL phase-in beginning January 1, 2022.

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 any other deconsolidation event of any foreign operations, such as those related to Citi's legacy or exit 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, Citi incurred a pretax loss of approximately $680 million ($580 million after-tax) in the third quarter of 2021 related to the sale of Citi's Australia consumer banking business in *Asia GCB*, primarily reflecting the impact of a CTA loss. For additional information on Citi's accounting policy for foreign currency translation and its foreign CTA components of *AOCI*, see Notes 1 and 19 to the Consolidated Financial Statements. For additional information on the key areas for which assumptions and estimates are used in preparing Citi's financial statements, including those related to Citi's ACL, see "Significant Accounting Policies and Significant Estimates" below and Notes 1 and 27 to the Consolidated Financial Statements.

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 or other regulators, 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. 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, see Note 1 to the Consolidated Financial Statements.

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 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 even 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.

In addition, 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. 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. 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.

Credit risk primarily arises from Citi's lending and other businesses in both *ICG* and *GCB*. 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 $271 billion and end-of-period corporate loans of $397 billion at year-end 2021.

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 pandemic-related, 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, including higher unemployment levels, can adversely affect borrowers' ability to repay their obligations. In addition, weakening economic conditions may result in Citi being unable to liquidate its collateral, as well as disputes with counterparties regarding the valuation of collateral Citi holds and Citi being unable to realize the fair value of such collateral.

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, rather than incurred 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. In addition, Citi's future allowance may be affected by seasonality of its cards portfolio balances based on historical evidence showing that (i) credit card balances typically decrease during the first and second quarters, as borrowers use tax refunds to pay down balances; and (ii) balances increase during the third and fourth quarters each year as payments are no longer impacted by tax refunds and the holiday season approaches. However, these seasonal trends could be affected in 2022 due to the impacts of the pandemic, government stimulus and expiration of consumer and small business relief programs. 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 to the Consolidated Financial Statements. 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 to the Consolidated Financial Statements.

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. As of year-end 2021, Citi's most significant concentration of credit risk was with the U.S. government and its agencies, which primarily results from trading assets and investments issued by the U.S. government and its agencies (for additional information, including concentrations of credit risk to other public sector entities, see Note 23 to the Consolidated Financial Statements). In addition, 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 26 to the Consolidated Financial Statements). 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 cause Citi to incur significant losses.

LIQUIDITY RISKS

The Maintenance of Adequate Liquidity and Funding Depends on Numerous Factors, Including Those Outside of Citi's Control, Such as Market Disruptions and Increases in Citi's Credit Spreads.

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 inability to monetize available liquidity resources, whether due to the pandemic or otherwise. 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, among others, as a result of online banks and digital banking. Furthermore, although Citi has had robust deposit growth since the onset of the pandemic, it remains unclear how "sticky" (likely to remain at Citi) those deposits may be, particularly in a less monetarily accommodative environment.

Moreover, Citi's costs to obtain and access secured funding and long-term unsecured funding are directly related to its credit spreads and changes in interest and currency exchange rates. Changes in 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 increase if other market participants are seeking to access the markets at the same time, or if market appetite declines, as is likely to occur in a liquidity stress event or other market crisis. A sudden drop in market liquidity could

also cause a temporary or lengthier 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 based on their perceptions or the market conditions, which could further impair Citi's access to and cost of funding.

In addition, as a holding company, Citi 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. Citi'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 Citi 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 Citi to commit resources to its subsidiary banks even if doing so is not otherwise in the interests of Citi or its shareholders or creditors, reducing the amount of funds available to meet its obligations. In addition, in the event of a subsidiary's liquidation or reorganization, Citi's right to participate in a distribution of such subsidiary's assets is subject to the prior claims of the subsidiary's creditors.

The Credit Rating Agencies Continuously Review the Credit Ratings of Citi and Certain of Its Subsidiaries, and a Ratings Downgrade Could Have a Negative Impact on Citi's Funding and Liquidity Due to Reduced Funding Capacity and Increased Funding Costs, Including Derivatives Triggers That Could Require Cash Obligations or Collateral Requirements.

The credit rating agencies, such as Fitch, Moody's and S&P Global Ratings, continuously evaluate Citi and certain of its subsidiaries. Their ratings of Citi and its more significant subsidiaries' long-term/ senior debt and short-term/commercial paper are based on a number of factors, including standalone financial strength, 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. A ratings downgrade could negatively impact Citi's ability to access the capital markets and other sources of funds as well as the costs of those funds, and its ability to maintain certain deposits. A ratings downgrade could also have a negative impact on Citi's funding and liquidity due to reduced funding capacity and the impact from derivative triggers, which could require Citi 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. Some entities could have ratings limitations on their permissible counterparties, of which Citi may or may not be aware.

Furthermore, a credit ratings downgrade could have impacts that may not be currently known to Citi or are not possible to quantify. 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, 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 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 sanctions. A failure to comply with these requirements and expectations or resolve any identified deficiencies could result in increased regulatory oversight and restrictions, enforcement proceedings, penalties and fines (for additional information, 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 across all of 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. Moreover, in some cases, there have been entirely new regulatory or legislative requirements or regimes, resulting in large volumes of regulation and potential uncertainty regarding regulatory expectations for compliance.

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; (ii) the FRB's "total loss absorbing capacity" (TLAC) requirements; and (iii) 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, the U.S. banking agencies 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.

Increased and ongoing compliance and regulatory requirements, uncertainties, scrutiny and expectations have resulted in higher compliance costs for Citi, in part due to an increase in risk, regulatory and compliance staff over the last several years. Extensive and changing compliance requirements can also result in increased reputational and legal risks for Citi, as failure to comply with regulations and requirements, or failure to comply with regulatory expectations, can result in enforcement and/or regulatory proceedings, penalties and fines.

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, investigations, consent orders and related compliance efforts, and other inquiries. Citi can 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.

The October 2020 FRB and OCC consent orders require Citigroup and Citibank to implement targeted action plans and 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 2022 and beyond, as an essential part of Citi's broader transformation efforts to enhance its infrastructure, governance, processes and risk and controls.

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, including where the OCC determines Citibank has not made sufficient and sustainable progress to address the required improvements. 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. 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 different jurisdictions, as well as multiple civil litigation claims in multiple jurisdictions.

U.S. and non-U.S. regulators have been increasingly focused on "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. Banking regulators have also focused on the overall culture of financial services firms, including Citi.

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. Furthermore, 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 corporate 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.

Further, 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.

OTHER RISKS

Citi's Presence in the Emerging Markets Subjects It to Various Risks as well as Increased Compliance and Regulatory Risks and Costs.

During 2021, emerging markets revenues accounted for approximately 35% 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*).

Although Citi continues to pursue its target client strategy, 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, sovereign volatility, election outcomes, regulatory changes and political events; foreign exchange controls, including inability to access indirect foreign exchange mechanisms; macroeconomic volatility and disruptions, including with respect to commodity prices; 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; and confiscation of assets, whether related to geopolitical conflicts or otherwise; 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 and currency controls, such as Argentina, that limit its ability to convert local currency into U.S. dollars and/or transfer funds outside of those countries. Among other things, Citi faces a risk of devaluation on its unhedged Argentine peso-denominated assets, which continue to increase (for further information on this and other risks, see "Managing Global Risk—Other Risks—Country Risk—Argentina" below).

Moreover, if the economic situation in an emerging markets country in which Citi operates were to deteriorate below a certain level, U.S. regulators may impose mandatory loan loss or other reserve requirements on Citi, which would increase its credit costs and decrease its earnings (for further information, see "Managing Global Risk—Other Risks—Country Risk—Argentina" below).

In addition, political turmoil and instability 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 markets economies as well as impacting Citi's businesses and results of operations in affected countries).

Climate Change Could Have a Negative Impact on Citi's Results of Operations and Financial Condition.

Citi operates in countries, states and regions in which many of its businesses, and the activities of many of its customers and clients, are exposed to the adverse impacts of climate change, as well as uncertainties related to the transition to a low-carbon economy. 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, compliance, technological, stakeholder and legal changes from a transition to a low-carbon economy). The physical and transition risks can manifest themselves differently across Citi's risk categories in the short, medium and long terms.

The physical risk from climate change could result from increased frequency and/or severity of adverse weather events. For example, adverse weather events could damage or destroy Citi's or its counterparties' properties and other assets and disrupt operations, making it more difficult for counterparties to repay their obligations, whether due to reduced profitability, asset devaluations or otherwise. These events could also increase the volatility in financial markets affecting Citi's trading businesses and increase its counterparty exposures and other financial risks, which may result in lower revenues and higher cost of credit.

Transition risks may arise from changes in regulations or market preferences toward a low-carbon economy, 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. 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. As an example, on December 16, 2021, the OCC requested feedback on draft principles designed to support the identification and management of climate-related financial risks at institutions with more than $100 billion in total consolidated assets.

Even as regulators begin to mandate additional disclosure of climate-related information by companies across sectors, there may continue to be a lack of information for more robust climate-related risk analyses. Third party exposures to climate-related risks and other data generally are limited in availability and variable in quality. Modeling capabilities to analyze climate-related risks and interconnections are improving but

remain incomplete. Legislative or regulatory uncertainties and changes regarding climate-related risk management and disclosures are likely to result in higher regulatory, compliance, credit, reputational and other risks and costs (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.

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—Other Risks—Climate Risk" below.

The Transition Away from and Discontinuance of the London Inter-Bank Offered Rate (LIBOR) and Any Other Interest Rate Benchmark Could Have Adverse Consequences for Market Participants, Including Citi.

For decades, LIBOR and other rates or indices deemed to be benchmarks have been widely used across financial products and markets globally. These benchmarks have been the subject of ongoing national and international regulatory scrutiny and reform, resulting in regulators generally expecting or requiring banks, including Citi, to cease entering into new contracts that reference USD LIBOR as a benchmark by December 31, 2021. The LIBOR administrator ceased publication of non-USD LIBOR and one-week and two-month USD LIBOR on a representative basis on December 31, 2021, with plans to cease publication of all other USD LIBOR tenors on June 30, 2023. As a result, Citi ceased entering into new contracts referencing USD LIBOR as of January 1, 2022, other than for limited purposes as permitted by regulatory guidance.

LIBOR and other benchmarks have been used in a substantial number of Citi's outstanding securities and products, including, among others, derivatives, corporate loans, commercial and residential mortgages, credit cards, securitized products and other structured securities. Despite ongoing actions to prepare for the transition away from LIBOR (see "Managing Global Risk—Other Risks—LIBOR Transition Risk" below), market participants, including Citi, may not be adequately prepared for uncertainties associated with these benchmarks' discontinuance or, as necessary, be able to successfully modify their outstanding contracts or products that reference these benchmarks. For example, the transition away from and discontinuance of LIBOR or any other benchmark rate presents various uncertainties and operational, legal, reputational or compliance, financial and other risks and challenges to holders of these contracts and products, as well as financial markets and institutions, including Citi. These include, among others, the pricing, liquidity, observability, value of, return on and market for financial instruments and contracts that reference LIBOR or any other benchmark rate.

While Citi has adopted alternative reference rates for new contracts to replace these outgoing benchmarks, in some instances, it is possible that the characteristics of these new rates may not be sufficiently similar to, or produce the economic equivalent of, the benchmark rates that they are intended to replace. 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.

Further, investors, counterparties and other market participants may not consider the new alternative rates to be a suitable substitute or successor for all of the purposes for which these benchmarks have historically been used (including, without limitation, as a representation of the unsecured short-term funding costs of banks), which may, in turn, reduce their market acceptance. Any failure of the alternative rates to gain broad market acceptance could adversely affect market demand for Citi's products or securities linked to such alternative rates and thus market prices of such instruments. As part of its transition, Citi is relying or has relied on guidance provided by the accounting standard setters related to the transition away from LIBOR. In the event that such guidance is insufficient or otherwise unable to be implemented as intended, LIBOR transition could disrupt Citi's hedge accounting relationships and/or lead to increased costs in connection with determining whether contract amendments result in a modification or an extinguishment from an accounting perspective. Changes in observability of the alternative reference rates could impact the fair value hierarchy classification of financial instruments and contracts.

Moreover, the LIBOR transition presents challenges related to contractual mechanics of existing financial instruments and contracts that reference such benchmarks that mature after discontinuance of the relevant benchmark. Certain of these legacy instruments and contracts 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 not be able 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.

Even if the instruments and contracts provide for a transition to an alternative reference rate, the new rate may, particularly in times of financial stress, significantly differ from the prior rates. As a result, Citi may need to consider proactively addressing any contractual uncertainties or rate differences in such instruments and contracts, which would likely be both time consuming and costly, and may not ultimately be successful. While statutory solutions have been enacted in certain jurisdictions to address these contractual concerns (for example, the State of New York and the EU), the availability and effectiveness of these statutory mechanisms to cover all impacted financial instruments and products to which Citi is a party is uncertain.

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. Citi may also need to further invest in and develop internal systems and infrastructure to transition to alternative benchmark rates to manage its businesses and support its clients.

SUSTAINABILITY AND OTHER ESG MATTERS

Introduction

Citi has progressively developed its understanding of 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 and net zero and Action for Racial Equity commitments.

In January 2022, Citi published its 2021 Task Force on Climate-Related Financial Disclosures (TCFD) Report to provide its stakeholders with information on Citi's continued progress to address climate risk and to fulfill its commitment to publish an initial net zero plan within one year of announcing the net zero commitment. This represents Citi's fourth TCFD Report.

For information regarding Citi's management of climate risk, see "Managing Global Risk—Other Risks—Climate Risk" below.

ESG and Climate-Related Governance

ESG Governance

Citi's Board of Directors (Board) provides oversight of Citi's management activities to ensure responsible business practices (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 advising on 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.

In 2021, Citi formed a Global ESG Council consisting of senior members of its management in order to provide enhanced oversight of Citi's ESG goals and activities. In addition, a number of teams and senior managers contribute to the oversight of different areas such as sustainability; community investing; talent and diversity; ethics and business practices; and remuneration.

Climate Change Governance

Citi's oversight of climate risk has continued to evolve with its expanding climate commitments. In 2021, Citi established its ESG Council, expanded its Climate Risk team and enhanced its climate risk and net zero-related governance through creation of a Net Zero Task Force. The Task Force, led by Citi's Chief Sustainability Officer and including leaders from various business units, was established to support the development and launch of Citi's net zero plan.

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 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 all countries in which Citi operates.

Net Zero Emissions by 2050

In March 2021, Citi announced its commitment to achieving net zero greenhouse gas (GHG) emissions associated with its financing by 2050, and net zero GHG emissions for its operations by 2030; both are significant targets given the size and breadth of Citi's lending portfolios and businesses. Citi made this commitment as part of its ongoing work to reduce its climate impact 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 on a global scale. Citi believes that an orderly, responsible and equitable transition, which accounts for the immediate economic needs of communities, workers, environmental justice and broader economic development concerns, is essential for the retention of political and social support to move to a low-carbon economy.

Citi's 2021 TCFD Report discusses its initial 2050 net zero plan, including 2030 emissions targets for its Energy and Power loan portfolios that were developed in line with the Net Zero Banking Alliance Guidelines for Climate Target Setting for Banks. Citi's net zero plan incorporates a twofold approach: (i) assessment of climate-related factors affecting its clients, and (ii) engagement to understand their transition opportunities.

Citi's net zero approach includes the following areas of activity:

- *Client Transition Assessment, Advisory and Finance*: Seek to understand clients' GHG emissions and work with them to develop their transition plans and advise on capacity building
- *Clean Tech Finance*: Support clients and expedite the commercialization and adoption of climate technology globally through transition and environmental finance as well as public-private partnerships
- *Public Policy Engagement*: Support enabling public policy and regulation in the U.S. and other countries, including through trade associations and other industry groups
- *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 ESRM Policy as needed
- *Portfolio Management*: Active portfolio management to align with net zero targets, including considerations of transition measures taken by clients

The 2050 net zero commitment includes the following framework, delineating the key areas required to achieve its commitment:

- *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

In 2021, Citi continued to expand its participation in the financial industry's net zero leadership initiatives. Citi is a member of key industry initiatives that enhance its understanding of climate-related issues, improve its access to data and promote efficient communication and coordination across various climate efforts. These initiatives include the Partnership for Carbon Accounting Financials, the Net Zero Banking Alliance and the Glasgow Financial Alliance for Net Zero.

Action for Racial Equity

Effectively responding to the needs of communities of color in the U.S. represents a strategic imperative for the private sector. A wide range of data and studies have found that many major gaps in economic opportunity, education, income, housing and wealth run along racial lines, particularly between Black and white households. These gaps have not only had implications for Black Americans and other people of color but the broader economy as well.

Accordingly, in September 2020, Citi and the Citi Foundation announced Action for Racial Equity to help provide greater access to banking and credit in communities of color, increase investment in Black-owned businesses, expand affordable housing and homeownership among Black Americans and advance anti-racist practices within Citi and across the financial services industry. As part of Action for Racial Equity, Citi and the Citi Foundation have invested more than $1 billion in strategic initiatives to help close the racial wealth gap and increase economic mobility in the U.S. Action for Racial Equity builds on Citi's longstanding focus on advancing financial inclusion and economic opportunity for communities of color in the U.S. and accelerates its efforts in a time of increased calls for racial equity and shifting population demographics in a changing economy.

In line with Citi's continued commitment to expand access to banking products and services that can help advance economic progress—especially for underbanked and unbanked communities—on February 24, 2022, Citi announced plans to eliminate overdraft fees, returned item fees and overdraft protection fees by mid 2022. In addition to eliminating these fees, Citi will continue to offer a robust suite of free overdraft protection services for its consumers. See Note 5 to the Consolidated Financial Statements for details of Citi's *Commissions and fees* revenues.

Additional Information

For additional information on Citi's environmental and social policies and priorities, see Citi's website at www.citigroup.com. Click on "About Us" and then "Environmental, Social and Governance." For information on Citi's ESG and Sustainability (including climate change) governance, see Citi's 2021 Annual Meeting Proxy Statement available at www.citigroup.com. Click on "Investors" and then "Annual Reports & Proxy Statements."

The 2021 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 2021 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:

- Continuous innovation in recruiting, 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.

Workforce Size and Distribution

As of December 31, 2021, Citi employed approximately 223,400 colleagues in nearly 100 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 2021, Citi welcomed 46,907 new colleagues in addition to the roles filled by colleagues through internal mobility. The following table shows the geographic distribution of those colleagues by segment, region and gender:

Segment or business(1)	North America	EMEA	Latin America	Asia	Total(2)	Women	Men	Unspecified
Institutional Clients Group	**19,029**	**18,096**	**7,909**	**25,458**	**70,492**	**44.1**	**55.9**	**—**
Global Consumer Banking	**33,898**	**—**	**33,453**	**32,950**	**100,301**	**57.4 %**	**42.5 %**	**0.1 %**
Corporate/Other	**23,218**	**10,364**	**7,012**	**12,057**	**52,651**	**46.3**	**53.6**	**0.1**
Total	**76,145**	**28,460**	**48,374**	**70,465**	**223,444**	**50.6 %**	**49.3 %**	**0.1 %**

(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.

Board Oversight

Citi devotes substantial resources to managing its workforce, guided by a culture of accountability and excellence. Citigroup's Board of Directors (the Board) provides strategic oversight and direction to management regarding workforce policies and includes many members with experience in overseeing workforce issues.

In addition, the Board's Personnel and Compensation Committee regularly reviews management's achievements against human capital management goals, such as addressing representation of women and U.S. minorities in assistant vice president (AVP) to managing director (MD) levels, as well as talent recruitment and development initiatives.

The Board works with the Nomination, Governance and Public Affairs Committee to evaluate potential successors to the Chief Executive Officer (CEO). With respect to regular succession of the CEO and senior management, Citi's Board evaluates internal, and, when appropriate, external candidates. To find external candidates, Citi seeks input from members of the Board, senior management and recruiting firms. To develop internal candidates, Citi engages in a number of practices, formal and informal, designed to familiarize the Board with Citi's talent pool. The formal process involves an annual talent review conducted by senior management at which the Board studies the most promising members of senior management. The Board learns about each person's experience, skills, areas of expertise, accomplishments, goals and risk and control assessments. This review is conducted at a regularly scheduled Board meeting on an annual basis.

Diversity, Equity and Inclusion

Citigroup's Board is committed to ensuring that the Board and Citi's Executive Management Team (see "Managing Global Risk—Risk Governance" below) are composed of individuals whose backgrounds reflect the diversity represented by Citi's employees, customers and stakeholders. In addition, over the past several years, Citi has increased efforts to diversify its workforce, including, among other things, taking actions with respect to pay equity, representation goals and use of diverse slates in recruiting.

Pay Equity

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 men and 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.
- Citi's 2021 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. In addition, the review determined there was no statistically significant difference in adjusted compensation between U.S. minorities and non-minorities. Following the review,

appropriate pay adjustments were made as part of Citi's 2021 compensation cycle.

- Citi's 2021 raw gap analysis showed that the median pay for women globally is 74% of the median for men, similar to 2020, and up from 73% in 2019 and 71% in 2018. The median pay for U.S. minorities is more than 96% of the median for non-minorities, which is up from just under 94% in 2020, 94% in 2019 and 93% in 2018.

Representation Goals

Increasing the number of women globally and U.S. Black employees into senior AVP to MD levels will position Citi to further close the raw pay gap and increase the diversity of the Company. At the AVP to MD levels, Citi established representation goals of 40% for women globally and 8% for U.S. Black employees by the end of 2021. As of December 31, 2021, Citi exceeded its goals for AVP to MD levels for women globally (at 40.6%) and U.S. Black employees (at 8.1%).

Citi is the first major Wall Street bank to participate in Management Leadership for Tomorrow's Black Equity at Work Certification, to help measure internal progress toward Black equity in the workplace.

In addition, consistent with its ongoing support of measurement and transparency, Citi will conduct a third-party racial equity audit to help assess the true impact of Citi's Action for Racial Equity initiatives (for additional information, see "Sustainability and Other ESG Matters—Action for Racial Equity" above).

Diverse Slates in Recruitment

In 2021, Citi expanded the use of diverse slates in its recruiting efforts to have at least two women or U.S. minorities interview for U.S.-based roles and at least two women interview for global hire roles at the AVP to MD levels.

Since implementation, Citi has increased the share of diverse candidates on slates by 26% and more than doubled the total number of diverse slates between March and December 2021. Candidate slates were as follows:

- 74.4% of roles included a diverse slate with at least two women globally and/or U.S. underrepresented minorities for U.S. hires; and
- 92.2% of roles included a diverse slate with at least one woman globally and/or U.S. underrepresented minority for U.S. hires compared to 86% in 2020.

In 2021, women representation in Citi's full-time global campus programs surpassed its goal of 50%, increasing to 51% from 49% in 2020. In addition, Black and Hispanic/Latino representation within Citi's full-time U.S. campus programs increased to 28% from 24% in 2020.

Workforce Development

Citi highly values a workplace environment where colleagues can bring their authentic selves to work and where diverse perspectives and ideas are embraced. Citi encourages career growth and development by offering broad and diverse opportunities to colleagues. Highlights of these opportunities include the following:

- Citi provides a range of internal development and rotational programs to colleagues at all levels, including various training programs and events to assist high-performing colleagues in building the skills needed to transition to manager and supervisory roles.
- Citi has a focus on internal talent development and aims to provide colleagues with career growth opportunities, with 37% of open positions filled internally in 2021. 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.

Moreover, in 2021, a diverse group of human resources and business stakeholders collaborated to provide input on the current state and target future state for promotions at Citi. Their analysis resulted in the identification of opportunities for improvement to create greater transparency and alignment of the promotion process across Citi's businesses, functions and regions.

Wellness

During the past two years, the pandemic's impact has been substantial on the mental and physical health of Citi colleagues and their families. As the Company transforms and the future of work evolves, colleague wellness is a central component of Citi's focus. Coming out of the pandemic, Citi has announced three working models: colleagues will be designated as hybrid, resident or remote, based on job-specific requirements.

As colleagues pivoted to remote work during their respective country lockdowns, Citi's health plans also expanded to keep colleagues at home and safe. In the U.S., Citi offered free virtual care visits, home delivery of prescriptions, enhanced bereavement leave and no-cost COVID testing.

In addition to providing access to COVID vaccinations, which included several onsite locations in Asia and the U.S., Citi organized drive-through flu vaccination programs in the U.S. for thousands of colleagues and their family members. All colleagues globally were provided time off for vaccinations and boosters and to recover from any side effects, if needed.

To support the ongoing health of its workforce, on October 28, 2021 Citi announced a COVID-19 vaccination policy requiring all U.S. colleagues and new hires to be fully vaccinated or receive an approved accommodation or state-permitted exemption, as a condition of employment. As of the January 14, 2022 deadline, over 99% of U.S. colleagues were in compliance with the vaccine policy.

Citi also took actions to support the emotional well-being of its colleagues. Citi significantly enhanced free mental well-being programs in our largest region by doubling the number of free counseling sessions for colleagues and their family members and adding real-time text, video and message-based counseling. Citi also debuted a new online tool so that all colleagues around the globe could easily find their local Employee Assistance programs and resources. Citi also expanded live, town hall-style mental well-being programming to include targeted events with subject matter experts aimed at parents, caregivers and other at-risk groups.

Citi's wellness vision is not simply a reaction to its external environment. It has consistently been about nurturing colleagues and their families, however their families are grown. Citi continues to broaden gender affirmation medical coverage and incorporate it in its basic medical plan coverage around the world. Citi also enhanced its fertility coverage and support. In North America, Citi's new Adoption and Surrogacy Assistance Program provides reimbursement to help with certain expenses in the adoption of a child or surrogacy parenting arrangement.

In early 2020, Citi expanded its Paid Parental Leave Policy to include Citi colleagues around the world. At a minimum, all Citi colleagues are eligible for 16 weeks of paid pregnancy leave or four weeks of paid parental bonding leave. Colleagues working in countries that require leave policies above the global minimum continue to maintain even longer periods of paid time off.

For information about Citi's reliance on a highly qualified and motivated workforce, see "Risk Factors" above. For additional information about Citi's human capital management initiatives and goals, see Citi's upcoming 2022 proxy statement to be filed with the SEC in March 2022, as well as its 2020 ESG report available at www.citigroup.com. The 2020 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 2021 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'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 principles that guide it, as well as Citi's risk appetite. As discussed above, Citi is continuing 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).

Risk management must be built on a foundation of ethical culture. 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' interests, create economic value and are always systemically responsible. In addition, Citi evaluates colleagues' performance against behavioral expectations set out in Citi's Leadership Principles, which were designed in part to effectuate Citi's Mission and Value Proposition. Other culture-related efforts in connection with conduct risk, ethics and leadership, escalation and treating customers fairly help Citi to execute its Mission and Value Proposition.

Citi has established an Enterprise Risk Management (ERM) Framework to ensure that all of Citi's risks are managed appropriately and consistently across Citi and at an aggregate, enterprise-wide level. The ERM Framework details the principles used to support effective enterprise-wide risk management across the end-to-end risk management lifecycle. The ERM Framework also provides clarity on the expected activities in relation to risk management 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 emerging, growing, idiosyncratic or otherwise material 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. Risk appetite is the aggregate type and level of risk Citi is willing to take in order to meet its strategic objectives and business plan. Citi's Risk Appetite Framework sets boundaries for risk-taking and consists of a set of risk appetite statements as well as the governance processes through which the risk appetite is established, communicated, cascaded and monitored.

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 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 and 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 the failure of Citi to comply with laws, regulations, prudent ethical standards and 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 arising from negative public opinion.
- *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. 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, Citi has enterprise support functions that support safety and soundness across Citi. Each of the lines of defense and enterprise support functions, along with the Board, 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 inherent in or arising from their business 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 and Country 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 activities—see "Enterprise Support Functions" below.

Second Line of Defense: Independent Risk Management

Independent risk management units are independent of front line units. 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 their 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 comprised of Independent Risk Management (IRM) and Independent Compliance Risk Management (ICRM) and are led by chief risk executives (i.e., Chief Risk Officer (CRO) and Chief Compliance Officer (CCO)) who have unrestricted access to the Citigroup Board of Directors and its Risk Management Committee to facilitate the ability to execute their specific responsibilities pertaining to escalation to the Citigroup Board of Directors.

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 (i.e., foundational areas). There are teams that report to an independent CRO for various risk categories and legal entities/regions. In addition, there are foundational teams that report to Foundational Risk Management heads. The Risk Category, Legal Entity/Regional CROs and Foundational Risk Management Heads report 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.

Third Line of Defense: Internal Audit

Internal Audit is independent of front line units and independent risk management units. The role of Internal Audit is to provide independent, objective, reliable, valued and timely assurance to the Citigroup Board of Directors, 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. Internal Audit reports to a chief audit executive (i.e., Citi's Chief Auditor) who has unrestricted access to the Board and the board of directors of certain subsidiaries or their respective audit committees to facilitate the ability to execute specific responsibilities pertaining to escalation of risks and issues. The Internal Audit function has designated Chief Auditors responsible for assessing the design and effectiveness of controls within the various business units, functions, geographies and legal entities in which Citi operates.

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 comprised of Human Resources, International Franchise Management, Legal (including Citi Security and Investigative Services).

Enterprise support functions, units and activities are subject to the relevant Company-wide independent oversight processes specific to the risk category that they generate (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 risk management and holds the Executive Management Team accountable for implementing the ERM Framework and 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 strategy and risk appetite.

Board and Executive Management Committees
The Board executes its responsibilities either directly or through its committees. The Board has delegated authorities 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.
- *Personnel and Compensation Committee*: provides oversight of incentive compensation plans and risk related to compensation.
- *Ethics, Conduct and Culture Committee*: provides oversight of Citi's Conduct Risk Management Program.
- *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.

In addition to the above, the Board has established the following ad hoc committee:

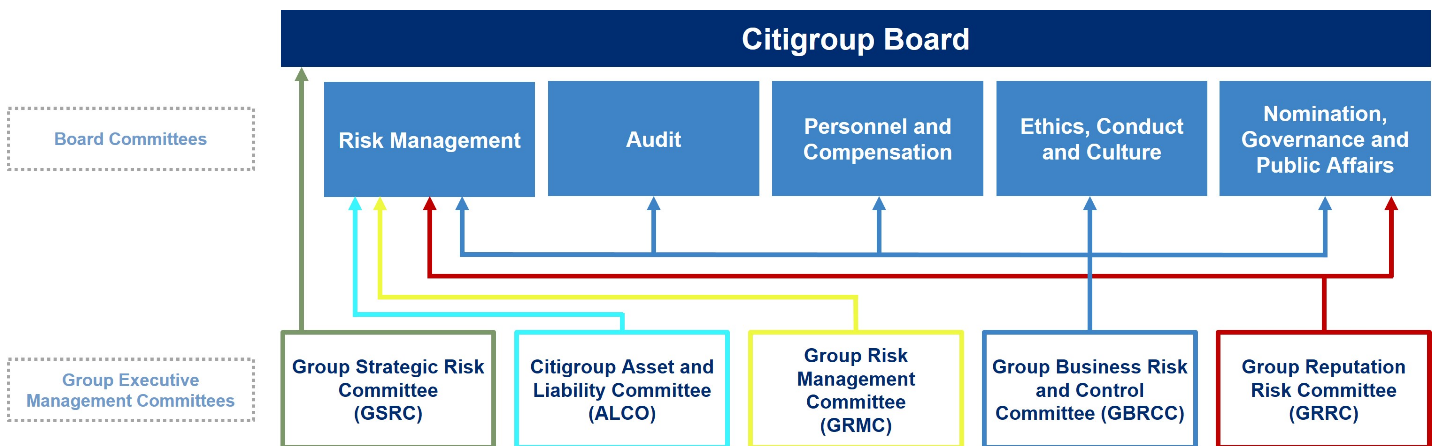
- *Transformation Oversight Committee*: provides oversight of the actions of Citi's management to develop and execute a transformation of Citi's risk and control environment pursuant to the recent regulatory consent orders (for additional information see "Citi's Consent Order Compliance" above).

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)*: provides governance oversight of Credit Risk and Market Risk (trading) management in the Trading Book.
- *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, the Board may establish ad-hoc committees in response to regulatory feedback or to manage additional activities where 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 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.

Credit risk is one of the most significant risks Citi faces as an institution. For additional information, see "Risk Factors—Credit Risk" above. As a result, 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 also includes processes and policies with respect to problem recognition, including "watch lists," portfolio reviews, stress tests, updated risk ratings and classification triggers.

With respect to Citi's clearing and settlement activities, intraday client usage of clearing lines is monitored against limits, as well as against usage patterns with settlement activity monitored daily and intraday for select products. To the extent that a problem develops, Citi typically moves the client to a secured (collateralized) operating model. Generally, Citi's intraday clearing and settlement lines are uncommitted and cancelable at any time.

To manage concentration of risk within credit risk, Citi has in place a framework consisting of industry limits, an idiosyncratic framework consisting of single name concentrations for each business and across Citigroup and a specialized framework consisting of product limits.

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 these 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 to the Consolidated Financial Statements), 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. For additional information on Citi's credit risk management, see Note 14 to the Consolidated Financial Statements.

CONSUMER CREDIT

Citi fulfills a broad spectrum of customers' financial needs with activities spanning retail banking, wealth management, credit card, personal loan, mortgage and small business banking through *North America GCB*. During 2021, Citi also provided such activities in 18 countries in *Latin America GCB* and *Asia GCB* (for information on Citi's consumer market exits in *Latin America GCB* and *Asia GCB*, see "Strategic Refresh—Market Exits and Planned Revision to Reporting Structure" above). The retail banking products include consumer mortgages, home equity, personal and small business loans and lines of credit and similar related products building a generally prime portfolio through well-defined lending parameters. Citi uses its risk appetite framework to define its lending parameters.

Consumer Credit Portfolio

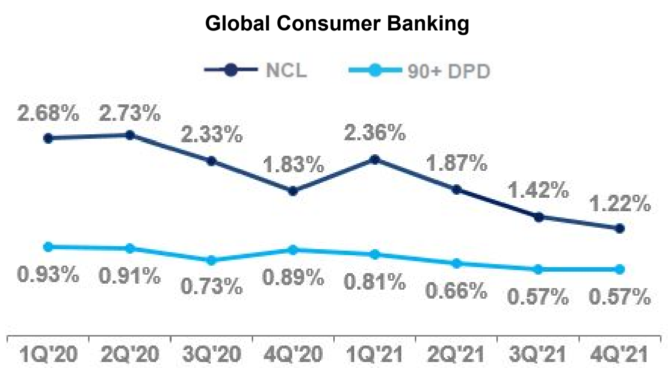
The following table shows Citi's quarterly end-of-period consumer loans:[1]

In billions of dollars	4Q'20	1Q'21	2Q'21	3Q'21[2]	**4Q'21[2]**
Retail banking:					
Mortgages	$ 88.9	$ 86.7	$ 86.3	$ 79.8	**$ 79.5**
Personal, small business and other	40.1	39.1	39.0	37.0	**36.1**
Total retail banking	$ 129.0	$ 125.8	$ 125.3	$ 116.8	**$ 115.6**
Cards:					
Branded cards	$ 106.7	$ 99.6	$ 102.9	$ 100.6	**$ 105.7**
Retail services	46.4	42.5	42.7	42.7	**46.0**
Total cards	$ 153.1	$ 142.1	$ 145.6	$ 143.3	**$ 151.7**
Total *GCB*	$ 282.1	$ 267.9	$ 270.9	$ 260.1	**$ 267.3**
***GCB* regional distribution:**					
North America	65 %	64 %	64 %	67 %	**68 %**
Latin America	5	5	5	5	**5**
Asia[3]	30	31	31	28	**27**
Total *GCB*	100 %	100 %	100 %	100 %	**100 %**
***Corporate/Other*[4]**	$ 6.7	$ 6.1	$ 5.0	$ 4.2	**$ 3.9**
Total consumer loans	$ 288.8	$ 274.0	$ 275.9	$ 264.3	**$ 271.2**

(1) End-of-period loans include interest and fees on credit cards.
(2) As a result of Citi's entry into agreements to sell its consumer banking businesses in Australia and the Philippines, the businesses were reclassified as held-for-sale and their assets and liabilities were included in *Other assets* and *Other liabilities*, respectively, on Citi's Consolidated Balance Sheet and excluded from loans and related credit measures, of *GCB* and *Asia GCB* beginning in the third quarter of 2021 for Australia and the fourth quarter of 2021 for the Philippines. For additional information, see Note 2 to the Consolidated Financial Statements.
(3) *Asia* includes loans and leases in certain *EMEA* countries for all periods presented.
(4) Primarily consists of legacy assets, principally *North America* consumer mortgages.

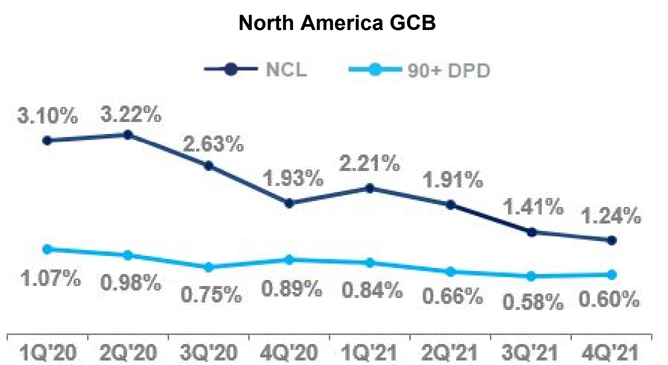
For information on changes to Citi's consumer loans, see "Liquidity Risk—Loans" below.

Overall Consumer Credit Trends



As shown in the chart above, *GCB*'s net credit loss rate decreased quarter-over-quarter and year-over-year for the fourth quarter of 2021, primarily reflecting the continued impact of government stimulus, unemployment benefits and consumer relief programs in *North America GCB*, and a decline following the peak charge-offs in *Asia GCB* and *Latin America GCB* in recent quarters.

GCB's 90+ days past due delinquency rate remained unchanged quarter-over-quarter. The 90+days past due delinquency rate decreased year-over-year, primarily due to the continued impacts of government stimulus, unemployment benefits and consumer relief programs in *North America GCB*, as well as lower delinquencies in *Asia GCB* and *Latin America GCB*, following the charge-off of peak delinquencies in recent quarters.



North America GCB provides mortgage, home equity, small business and personal loans through Citi's retail banking network and card products through branded cards and retail services businesses. The retail bank is concentrated in six major metropolitan cities in the U.S. (for additional information on the U.S. retail bank, see "*North America GCB*" above).

As of December 31, 2021, approximately 74% of *North America GCB* consumer loans consisted of branded and retail services cards, which generally drives the overall credit performance of *North America GCB* (for additional information on *North America GCB*'s cards portfolios, including delinquency and net credit loss rates, see "Credit Card Trends" below).

As shown in the chart above, the net credit loss rate in *North America GCB* for the fourth quarter of 2021 decreased quarter-over-quarter and year-over-year, primarily reflecting the continued impact of high payment rates in cards, driven by government stimulus.

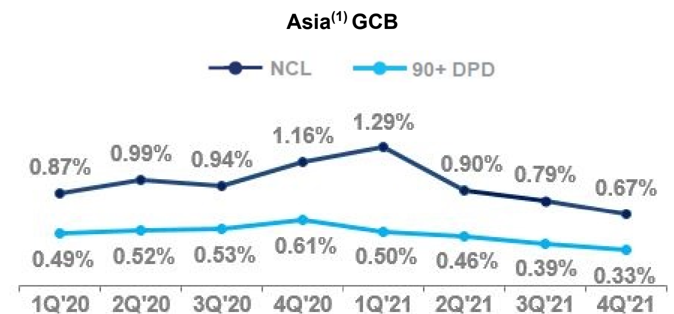
Year-over-year, the payment rates were also impacted by unemployment benefits and consumer relief programs.

The 90+ days past due delinquency rate in *North America GCB* increased modestly quarter-over-quarter, primarily due to seasonality in cards, while the 90+ days past due delinquency rate decreased year-over-year, primarily reflecting the continued impact of high payment rates in cards, driven by government stimulus.

Latin America GCB operates in Mexico through Citibanamex and provides credit cards, consumer mortgages and small business and personal loans. *Latin America GCB* 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 *Latin America GCB* for the fourth quarter of 2021 decreased quarter-over-quarter and year-over-year. The impact of charge-offs of delinquent loans in prior quarters resulted in lower delinquencies that led to lower net credit losses in the current quarter.

The 90+ days past due delinquency rate decreased quarter-over-quarter and year-over-year. The impact of charge-offs of delinquent loans in prior quarters and higher payment rates resulted in a lower 90+ days past due delinquency rate in the current quarter.



(1) *Asia* includes *GCB* activities in certain *EMEA* countries for all periods presented.

During 2021, *Asia GCB* operated in 17 countries and jurisdictions in *Asia* and *EMEA* and provided credit cards, consumer mortgages and small business and personal loans.

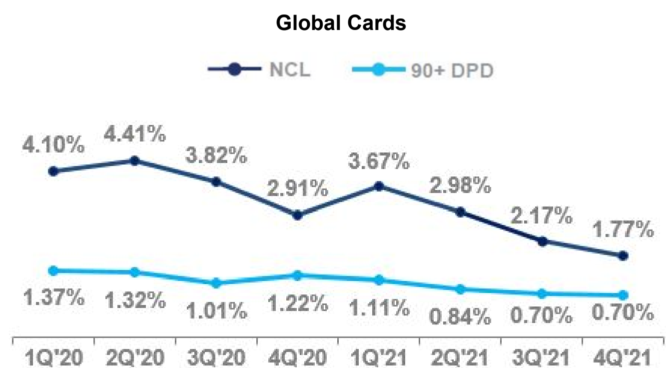
As shown in the chart above, the fourth quarter of 2021 net credit loss rate in *Asia GCB* decreased quarter-over-quarter, driven by the charge-off of peak delinquencies in recent quarters. Year-over-year, the net credit loss rate decreased, as elevated losses during the prior year returned to pre-pandemic levels. The decrease was also driven by the reclassification of approximately $10 billion of loans to held-for-sale as a result of Citi's entry into agreements to sell its consumer banking businesses in Australia and the Philippines (*Asia* HFS reclass).

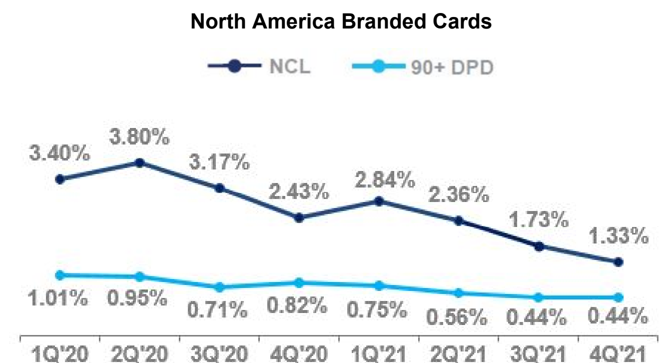
The 90+ days past due delinquency rate decreased quarter-over-quarter and year-over-year, driven by the charge-off of peak delinquencies in recent quarters, as elevated losses returned to pre-pandemic levels, as well as the impact of the *Asia* HFS reclass.

The performance of *Asia GCB*'s portfolios continues to reflect the strong credit profiles in the region's target customer segments. Regulatory changes in many markets in *Asia* over the past few years have also resulted in improved credit quality.

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 Notes 13 and 14 to the Consolidated Financial Statements.

Credit Card Trends





North America GCB's branded cards portfolio includes proprietary and co-branded cards.

As shown in the chart above, the net credit loss rate in *North America* branded cards for the fourth quarter of 2021 decreased quarter-over-quarter and year-over-year, primarily reflecting the continued impact of high payment rates, driven by government stimulus. Year-over-year, the payment rates were also impacted by unemployment benefits and consumer relief programs.

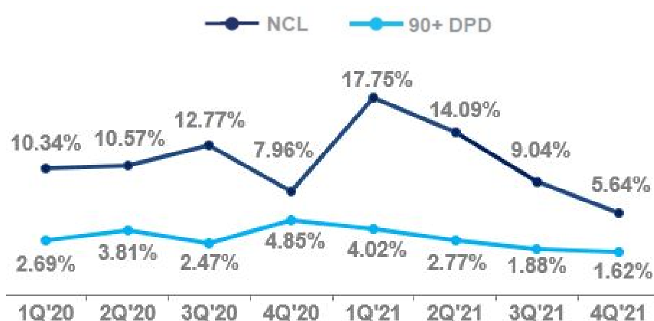
The 90+ days past due delinquency rate remained unchanged quarter-over-quarter and decreased year-over-year, primarily reflecting the continued impact of high payment rates, driven by government stimulus. Year-over-year, the payment rates were also impacted by unemployment benefits and consumer relief programs.

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 net credit loss rate in retail services for the fourth quarter of 2021 decreased quarter-over-quarter and year-over-year, primarily reflecting the continued impact of high payment rates, driven by government stimulus. Year-over-year, the payment rates were also impacted by unemployment benefits and consumer relief programs.

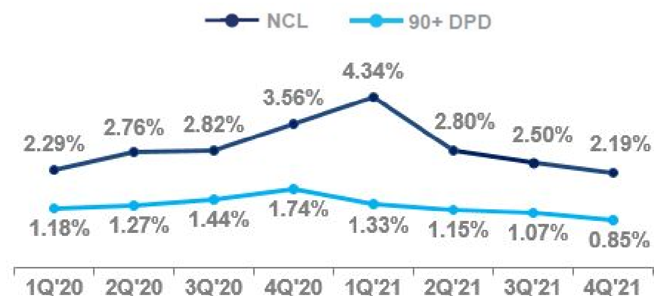
The 90+ days past due delinquency rate increased quarter-over-quarter due to seasonality, and decreased year-over-year, primarily reflecting the continued impact of high payment rates, driven by government stimulus. Year-over-year, the payment rates were also impacted by unemployment benefits and consumer relief programs.



Latin America GCB issues proprietary and co-branded cards.

As shown in the chart above, the fourth quarter of 2021 net credit loss rate in *Latin America* branded cards decreased quarter-over-quarter and year-over-year. The impact of charge-offs of delinquent loans in prior quarters resulted in lower delinquencies that led to lower net credit losses in the current quarter.

The 90+ days past due delinquency rate decreased quarter-over-quarter and year-over-year. The impact of charge-offs of delinquent loans in prior quarters and higher payment rates resulted in a lower 90+ days past due delinquency rate.



(1) *Asia* 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* branded cards for the fourth quarter of 2021 decreased quarter-over-quarter and year-over-year, driven by the charge-off of peak delinquencies in recent quarters, as elevated losses returned to pre-pandemic levels, as well as the impact of the *Asia* HFS reclass.

The 90+ days past due delinquency rate decreased quarter-over-quarter and year-over-year, driven by the charge-off of peak delinquencies in recent quarters, as elevated losses returned to pre-pandemic levels, as well as the *Asia* HFS reclass.

For additional information on cost of credit, delinquency and other information for Citi's cards portfolios, see each respective business's results of operations above and Note 14 to the Consolidated Financial Statements.

North America Cards FICO Distribution

The following tables show the current FICO score distributions for Citi's *North America* cards portfolios based on end-of-period receivables. FICO scores are updated monthly for a substantial share of the portfolio and quarterly for the remaining portfolio.

Branded Cards

FICO distribution[(1)]	Dec. 31, 2021	Sept. 30, 2021	Dec. 31, 2020
> 760	**49 %**	48 %	46 %
680–760	**38**	39	39
< 680	**13**	13	15
Total	**100 %**	100 %	100 %

Retail Services

FICO distribution[(1)]	Dec. 31, 2021	Sept. 30, 2021	Dec. 31, 2020
> 760	**28 %**	27 %	27 %
680–760	**44**	45	44
< 680	**28**	28	29
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 remained largely stable compared to the prior quarter and improved compared to the prior year, demonstrating strong underlying credit quality and a benefit from the impacts of government stimulus, unemployment benefits and customer relief programs, as well as lower credit utilization. For additional information on FICO scores, see Note 14 to the Consolidated Financial Statements.

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, 2021	90+ days past due[2] December 31, 2021	2020	2019	30–89 days past due[2] December 31, 2021	2020	2019
Global Consumer Banking[3][4]							
Total	**$ 267.3**	**$ 1,521**	$ 2,507	$ 2,737	**$ 1,661**	$ 2,517	$ 3,001
Ratio		**0.57 %**	0.89 %	0.91 %	**0.62 %**	0.89 %	1.00 %
Retail banking							
Total	**$ 115.6**	**$ 462**	$ 632	$ 438	**$ 522**	$ 860	$ 816
Ratio		**0.40 %**	0.49 %	0.35 %	**0.45 %**	0.67 %	0.66 %
North America	**48.1**	**228**	299	146	**219**	328	334
Ratio		**0.49 %**	0.58 %	0.29 %	**0.47 %**	0.63 %	0.67 %
Latin America	**8.6**	**107**	130	106	**106**	220	180
Ratio		**1.24 %**	1.33 %	0.91 %	**1.23 %**	2.24 %	1.54 %
Asia[5][6]	**58.9**	**127**	203	186	**197**	312	302
Ratio		**0.22 %**	0.31 %	0.30 %	**0.33 %**	0.47 %	0.48 %
Cards							
Total	**$ 151.7**	**$ 1,059**	$ 1,875	$ 2,299	**$ 1,139**	$ 1,657	$ 2,185
Ratio		**0.70 %**	1.22 %	1.31 %	**0.75 %**	1.08 %	1.25 %
North America—branded	**87.9**	**389**	686	915	**408**	589	814
Ratio		**0.44 %**	0.82 %	0.95 %	**0.46 %**	0.70 %	0.85 %
North America—retail services	**46.0**	**482**	644	1,012	**539**	639	945
Ratio		**1.05 %**	1.39 %	1.91 %	**1.17 %**	1.38 %	1.79 %
Latin America	**4.7**	**76**	233	165	**67**	170	159
Ratio		**1.62 %**	4.85 %	2.75 %	**1.43 %**	3.54 %	2.65 %
Asia[5][6]	**13.1**	**112**	312	207	**125**	259	267
Ratio		**0.85 %**	1.74 %	1.04 %	**0.95 %**	1.45 %	1.34 %
***Corporate/Other*—Consumer**[7]							
Total	**$ 3.9**	**$ 221**	$ 313	$ 278	**$ 88**	$ 179	$ 295
Ratio		**6.14 %**	5.13 %	3.02 %	**2.44 %**	2.93 %	3.21 %
Total Citigroup	**$ 271.2**	**$ 1,742**	$ 2,820	$ 3,015	**$ 1,749**	$ 2,696	$ 3,296
Ratio		**0.65 %**	0.98 %	0.98 %	**0.65 %**	0.94 %	1.07 %

(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 balances for *North America*—branded and *North America*—retail services are generally still accruing interest. Citigroup'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.
(4) The 90+ days past due and 30–89 days past due and related ratios for *North America GCB* exclude loans guaranteed by U.S. government-sponsored agencies since the potential loss predominantly resides with the U.S. government-sponsored agencies. The amounts excluded for loans 90+ days past due and (EOP loans) were $185 million ($1.1 billion), $171 million ($0.7 billion) and $135 million ($0.5 billion) at December 31, 2021, 2020 and 2019, 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 $74 million, $98 million and $72 million at December 31, 2021, 2020 and 2019, respectively.
(5) *Asia* includes delinquencies and loans in certain *EMEA* countries for all periods presented.
(6) During 2021, Citi's Australia and the Philippines consumer banking businesses were reclassified as HFS, due to Citi's entry into agreements to sell the businesses. Accordingly, Australia and the Philippines consumer loans are recorded in *Other assets* on the Consolidated Balance Sheet, and hence the loans and related delinquencies and ratios are not included in this table. See Note 2 to the Consolidated Financial Statements for additional information.
(7) 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 loss predominantly resides with the U.S. agencies. The amounts excluded for 90+ days past due EOP loans were $138 million ($0.4 billion), $183 million ($0.5 billion) and $172 million ($0.4 billion) at December 31, 2021, 2020 and 2019, 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 $35 million, $73 million and $55 million at December 31, 2021, 2020 and 2019, respectively.

Consumer Loan Net Credit Losses and Ratios

	Average loans[1]	Net credit losses[2]		
In millions of dollars, except average loan amounts in billions	**2021**	**2021**	2020	2019
Global Consumer Banking				
Total	**$ 266.3**	**$ 4,582**	$ 6,646	$ 7,382
Ratio		**1.72 %**	2.39 %	2.60 %
Retail banking				
Total	**$ 122.3**	**$ 779**	$ 805	$ 910
Ratio		**0.64 %**	0.65 %	0.76 %
North America	**50.0**	**109**	132	161
Ratio		**0.22 %**	0.25 %	0.33 %
Latin America	**9.0**	**410**	377	494
Ratio		**4.56 %**	3.85 %	4.30 %
Asia[3][4]	**63.3**	**260**	296	255
Ratio		**0.41 %**	0.47 %	0.43 %
Cards				
Total	**$ 144.0**	**$ 3,803**	$ 5,841	$ 6,472
Ratio		**2.64 %**	3.82 %	3.94 %
North America—branded	**81.1**	**1,659**	2,708	2,864
Ratio		**2.05 %**	3.20 %	3.19 %
North America—retail services	**43.1**	**1,169**	2,150	2,558
Ratio		**2.71 %**	4.62 %	5.13 %
Latin America	**4.4**	**510**	489	615
Ratio		**11.59 %**	10.40 %	10.79 %
Asia[3][4]	**15.4**	**465**	494	435
Ratio		**3.02 %**	2.84 %	2.29 %
***Corporate/Other*—Consumer**				
Total	**$ 5.3**	**$ (82)**	$ (21)	$ (6)
Ratio		**(1.55)%**	0.25 %	0.14 %
Total Citigroup	**$ 271.6**	**$ 4,500**	$ 6,625	$ 7,376
Ratio		**1.66 %**	2.32 %	2.49 %

(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* includes NCLs and average loans in certain *EMEA* countries for all periods presented.
(4) As a result of Citi's entry into agreements to sell its consumer banking businesses in Australia and the Philippines during 2021, these businesses were reclassified as HFS beginning in 2021. As a result of HFS accounting treatment, approximately $6 million of net credit losses (NCLs) was recorded as a reduction in revenue (*Other revenue*) in 2021. Accordingly, these NCLs are not included in this table, as well as Loans HFS that are recorded in *Other assets* on the Consolidated Balance Sheet. See Note 2 to the Consolidated Financial Statements for additional information.

Loan Maturities and Fixed/Variable Pricing of Consumer Loans

Loan Maturities

In millions of dollars at December 31, 2021	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	$ 15	$ 109	$ 2,573	$ 41,116	$ 43,813
Home equity loans	65	56	1,484	3,496	5,101
Credit cards	133,868	—	—	—	133,868
Personal, small business and other	1,092	1,678	237	151	3,158
Total	$ 135,040	$ 1,843	$ 4,294	$ 44,763	$ 185,940
In offices outside North America					
Residential mortgages	$ 2,022	$ 651	$ 6,667	$ 25,261	$ 34,601
Credit cards	17,808	—	—	—	17,808
Personal, small business and other	23,323	8,180	1,124	260	32,887
Total	$ 43,153	$ 8,831	$ 7,791	$ 25,521	$ 85,296

Fixed/Variable Pricing

In millions of dollars at December 31, 2021	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	$ 225	$ 183	$ 1,990	$ 31,581	$ 33,979
Home equity loans	65	51	223	336	675
Credit cards	42,117	—	—	—	42,117
Personal, small business and other	11,883	6,407	37	83	18,410
Total	$ 54,290	$ 6,641	$ 2,250	$ 32,000	$ 95,181
Loans at floating or adjustable interest rates					
Residential first mortgages	$ 1,812	$ 577	$ 7,250	$ 34,796	$ 44,435
Home equity loans	—	5	1,261	3,160	4,426
Credit cards	109,559	—	—	—	109,559
Personal, small business and other	12,532	3,451	1,324	328	17,635
Total	$ 123,903	$ 4,033	$ 9,835	$ 38,284	$ 176,055

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 that, consistent with client needs, encompass multiple products, including cash management and trade services, foreign exchange, lending, capital markets and M&A advisory. During 2021, Citi's corporate credit exposures also included exposures in the private bank, excluding certain loans managed on a delinquency basis. For information on Citi's planned revision to its reporting structure effective for the first quarter of 2022, including the reporting of the private bank as part of a new reporting segment, *Personal Banking and Wealth Management*, see "Strategic Refresh—Market Exits and Planned Revision to Reporting Structure" above.

Corporate Credit Portfolio

The following table details Citi's corporate credit portfolio within *ICG* (excluding certain loans in the private bank, which are managed on a delinquency basis, as well as loans carried at fair value and held-for-sale), and before consideration of collateral or hedges, by remaining tenor for the periods indicated:

	December 31, 2021				September 30, 2021				December 31, 2020			
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]	**$ 187**	**$ 136**	**$ 21**	**$ 344**	$ 192	$ 134	$ 21	$ 347	$ 175	$ 138	$ 25	$ 338
Unfunded lending commitments (off-balance sheet)[2]	**159**	**278**	**13**	**450**	164	286	11	461	158	272	11	441
Total exposure	**$ 346**	**$ 414**	**$ 34**	**$ 794**	$ 356	$ 420	$ 32	$ 808	$ 333	$ 410	$ 36	$ 779

(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 (excluding the delinquency-managed private bank portfolio) based on Citi's internal management geography:

	December 31, 2021	September 30, 2021	December 31, 2020
North America	**57 %**	57 %	56 %
EMEA	**24**	25	25
Asia	**13**	13	13
Latin America	**6**	5	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 are derived by leveraging validated statistical models, scorecard models and external agency ratings (under defined circumstances), 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 (excluding the delinquency-managed private bank portfolio) by facility risk rating as a percentage of the total corporate credit portfolio:

	Total exposure		
	December 31, 2021	September 30, 2021	December 31, 2020
AAA/AA/A	**51 %**	49 %	49 %
BBB	**32**	32	31
BB/B	**15**	16	17
CCC or below	**2**	3	3
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 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, 2021. Since the onset of the pandemic, 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, 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.

For additional information on Citi's corporate credit portfolio, see Note 14 to the Consolidated Financial Statements.

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 (excluding the delinquency-managed private bank portfolio):

	Total exposure		
	December 31, 2021	September 30, 2021	December 31, 2020
Transportation and industrials	**18 %**	19 %	19 %
Private bank	**14**	14	14
Consumer retail	**10**	10	11
Technology, media and telecom	**11**	10	10
Real estate	**9**	9	8
Power, chemicals, metals and mining	**8**	8	8
Banks and finance companies	**7**	7	7
Energy and commodities	**6**	6	6
Health	**4**	5	5
Public sector	**3**	3	3
Insurance	**4**	3	3
Asset managers and funds	**3**	3	3
Financial markets infrastructure	**2**	2	2
Securities firms	**—**	—	—
Other industries	**1**	1	1
Total	**100 %**	100 %	100 %

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[(3)]	Net credit losses (recoveries)[(4)]	Credit derivative hedges[(5)]
Transportation and industrials	**$ 143,444**	**$ 51,502**	**$ 91,942**	**$ 110,047**	**$ 19,051**	**$ 13,196**	**$ 1,150**	**$ 384**	**$ 127**	**$ (8,791)**
Autos[(6)]	48,210	18,662	29,548	39,824	5,365	2,906	115	49	2	(3,228)
Transportation	26,896	12,085	14,811	19,233	2,344	4,447	872	105	104	(1,334)
Industrials	68,338	20,755	47,583	50,990	11,342	5,843	163	230	21	(4,229)
Private bank	**114,018**	**79,684**	**34,334**	**110,684**	**2,060**	**1,190**	**84**	**793**	**6**	**(1,080)**
Consumer retail	**78,995**	**32,894**	**46,101**	**60,687**	**13,590**	**4,311**	**407**	**224**	**100**	**(5,115)**
Technology, media and telecom	**84,334**	**28,542**	**55,792**	**64,677**	**15,873**	**3,587**	**197**	**156**	**11**	**(6,875)**
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**	**53,576**	**10,708**	**1,241**	**116**	**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	20,789	4,224	528	9	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	**58,251**	**36,803**	**21,448**	**49,466**	**4,892**	**3,890**	**3**	**150**	**(5)**	**(680)**
Energy and commodities[(7)]	**48,973**	**13,485**	**35,488**	**38,972**	**7,517**	**2,220**	**264**	**224**	**78**	**(3,679)**
Health	**33,393**	**8,826**	**24,567**	**27,599**	**4,702**	**942**	**150**	**95**	**—**	**(2,465)**
Public sector	**23,842**	**12,464**	**11,378**	**21,035**	**1,527**	**1,275**	**5**	**37**	**(3)**	**(1,282)**
Insurance	**28,495**	**3,163**	**25,332**	**27,447**	**987**	**61**	**—**	**2**	**1**	**(2,711)**
Asset managers and funds	**22,269**	**6,649**	**15,620**	**20,871**	**1,019**	**377**	**2**	**12**	**—**	**(113)**
Financial markets infrastructure	**14,342**	**109**	**14,233**	**14,323**	**18**	**—**	**1**	**—**	**—**	**(22)**
Securities firms	**1,472**	**613**	**859**	**605**	**816**	**51**	**—**	**4**	**—**	**(5)**
Other industries	**6,590**	**2,802**	**3,788**	**4,146**	**1,892**	**490**	**62**	**—**	**6**	**(169)**
Total	**$ 793,867**	**$ 343,980**	**$ 449,887**	**$ 662,224**	**$ 91,413**	**$ 37,754**	**$ 2,476**	**$ 2,489**	**$ 393**	**$ (39,593)**

(1) Excludes $46.5 billion and $1.7 billion of funded and unfunded exposure at December 31, 2021, respectively, primarily related to the delinquency-managed private bank portfolio. 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) Excludes $36 million of past due loans primarily related to the delinquency-managed private bank portfolio.
(4) Net credit losses (recoveries) are for the year ended December 31, 2021 and exclude delinquency-managed private bank net credit losses of $2 million.
(5) Represents the amount of purchased credit protection in the form of derivatives to economically hedge funded and unfunded exposures. Of the $39.6 billion of purchased credit protection, $36.0 billion represents the total notional amount of purchased credit derivatives on individual reference entities. The remaining $3.6 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.
(6) 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) as of December 31, 2021.
(7) 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.

The following table details Citi's corporate credit portfolio by industry as of December 31, 2020:

					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[(3)]	Net credit losses (recoveries)[(4)]	Credit derivative hedges[(5)]
Transportation and industrials	$ 145,449	$ 58,353	$ 87,096	$ 104,311	$ 17,452	$ 21,887	$ 1,798	$ 136	$ 239	$ (8,110)
Autos[(6)]	52,150	23,586	28,564	41,334	4,374	6,167	275	8	45	(3,220)
Transportation	27,693	14,107	13,586	16,410	2,993	6,872	1,417	17	144	(1,166)
Industrials	65,606	20,660	44,946	46,566	10,085	8,848	106	111	50	(3,724)
Private bank[(1)]	109,397	75,693	33,705	104,244	2,395	2,510	248	963	78	(1,080)
Consumer retail	81,941	34,621	47,320	60,683	11,524	9,418	316	146	64	(5,493)
Technology, media and telecom	81,598	29,821	51,777	60,236	15,924	5,214	223	107	74	(7,237)
Real estate	64,817	42,711	22,106	53,839	5,342	5,453	185	334	18	(642)
Power, chemicals, metals and mining	63,273	20,156	43,117	47,534	11,367	4,181	192	59	70	(5,341)
Power	26,555	6,018	20,537	22,405	3,311	685	154	14	57	(2,637)
Chemicals	22,227	7,839	14,387	16,535	3,804	1,882	5	32	8	(2,102)
Metals and mining	14,492	6,299	8,193	8,593	4,251	1,614	34	13	5	(602)
Banks and finance companies	52,639	29,570	23,069	43,546	4,648	4,387	59	27	79	(765)
Energy and commodities[(7)]	48,447	14,009	34,438	33,678	7,226	6,546	996	70	285	(4,199)
Health	35,421	8,575	26,846	29,081	4,354	1,749	238	17	17	(1,964)
Public sector	26,705	13,416	13,289	22,098	1,887	2,704	16	45	9	(1,089)
Insurance	26,576	1,925	24,651	25,864	575	136	—	27	1	(2,682)
Asset managers and funds	19,745	4,491	15,254	18,528	1,013	191	13	41	(1)	(84)
Financial markets infrastructure	12,610	229	12,382	12,590	20	—	—	—	—	(9)
Securities firms	976	430	547	573	298	97	9	—	—	(6)
Other industries	9,009	4,247	4,762	4,980	2,404	1,442	182	10	43	(138)
Total	$ 778,603	$ 338,246	$ 440,357	$ 621,784	$ 86,427	$ 65,914	$ 4,477	$ 1,982	$ 976	$ (38,839)

(1) Excludes $42.0 billion and $4.4 billion of funded and unfunded exposure at December 31, 2020, respectively, primarily related to the delinquency-managed private bank portfolio. Funded balances also excludes loans carried at fair value of $6.8 billion at December 31, 2020.
(2) Includes non-accrual loan exposures and criticized unfunded exposures.
(3) Excludes $162 million of past due loans primarily related to the delinquency-managed private bank portfolio.
(4) Net credit losses (recoveries) are for the year ended December 31, 2020 and exclude delinquency-managed private bank credit losses of $10 million.
(5) Represents the amount of purchased credit protection in the form of derivatives to economically hedge funded and unfunded exposures. Of the $38.8 billion of purchased credit protection, $36.8 billion represents the total notional amount of purchased credit derivatives on individual reference entities. The remaining $2.0 billion represents the first loss tranche of portfolios of purchased credit derivatives with a total notional of $16.1 billion, where the protection seller absorbs the first loss on the referenced loan portfolios.
(6) 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 $20.2 billion ($10.3 billion in funded, with more than 99% rated investment grade) at December 31, 2020.
(7) 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, 2020, Citi's total exposure to these energy-related entities was approximately $7.0 billion, of which approximately $3.8 billion consisted of direct outstanding funded loans.

Exposure to Commercial Real Estate

As of December 31, 2021, *ICG*'s total corporate credit exposure to commercial real estate (CRE) was $66 billion, with $44 billion consisting of direct outstanding funded loans (mainly included in the real estate and private bank categories in the above table), or 7% of Citi's total outstanding loans. In addition, as of December 31, 2021, more than 70% of *ICG*'s total corporate CRE exposure was to borrowers in the U.S. Also as of December 31, 2021, approximately 77% of *ICG*'s total corporate CRE exposure was rated investment grade.

As of December 31, 2021, the ACLL was 0.9% of funded CRE exposure, including 2.4% of funded non-investment-grade exposure.

Of the total CRE exposure:

- $20 billion ($12 billion of direct outstanding funded loans) relates to Community Reinvestment Act-related lending provided pursuant to Citi's regulatory requirements to meet the credit needs of borrowers in low and moderate income neighborhoods.
- $20 billion ($16 billion of direct outstanding funded loans) relates to exposure secured by mortgages on underlying properties or in well-rated securitization exposures.
- $15 billion ($5 billion of direct outstanding funded loans) relates to unsecured loans to large REITs, with nearly 74% of the exposure rated investment grade.
- $11 billion ($11 billion of direct outstanding funded loans) relates to CRE exposure in the private bank, of which 100% is secured by mortgages. In addition, 48% of the exposure is also full recourse to the client. As of December 31, 2021, 82% of the exposure was rated investment grade.

Credit Risk Mitigation

As part of its overall risk management activities, Citi 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, 2021, September 30, 2021 and December 31, 2020, *ICG* (excluding the delinquency-managed private bank portfolio) had economic hedges on the corporate credit portfolio of $39.6 billion, $38.1 billion and $38.8 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* (excluding the delinquency-managed private bank portfolio) corporate credit portfolio exposures with the following risk rating distribution:

Rating of Hedged Exposure

	December 31, 2021	September 30, 2021	December 31, 2020
AAA/AA/A	**35 %**	32 %	30 %
BBB	**49**	47	48
BB/B	**13**	17	19
CCC or below	**3**	4	3
Total	**100 %**	100 %	100 %

Loan Maturities and Fixed/Variable Pricing of Corporate Loans

In millions of dollars at December 31, 2021	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	$ 25,694	$ 24,878	$ 973	$ 454	$ 51,999
Financial institutions	50,299	16,534	91	12	66,936
Mortgage and real estate[(2)]	12,385	5,948	5,460	39,564	63,357
Installment, revolving credit and other	13,090	13,454	2,573	26	29,143
Lease financing	95	230	88	—	413
Total	$ 101,563	$ 61,044	$ 9,185	$ 40,056	$ 211,848
In offices outside the North America[(1)]					
Commercial and industrial loans	$ 75,502	$ 22,905	$ 4,650	$ 110	$ 103,167
Financial institutions	26,672	5,147	92	292	32,203
Mortgage and real estate[(2)]	4,359	4,541	912	600	10,412
Installment, revolving credit and other	25,518	7,440	455	1,023	34,436
Governments and official institutions	792	2,183	843	605	4,423
Lease financing	1	23	18	—	42
Total	$ 132,844	$ 42,239	$ 6,970	$ 2,630	$ 184,683
Corporate loans, net of unearned income[(3)]	$ 234,407	$ 103,283	$ 16,155	$ 42,686	$ 396,531
Loans at fixed interest rates[(4)]					
Commercial and industrial loans		$ 6,003	$ 752	$ 96	
Financial institutions		4,982	26	12	
Mortgage and real estate[(2)]		1,506	4,557	17,150	
Installment, revolving credit and other		4,481	856	92	
Lease financing		240	88	—	
Total		$ 17,212	$ 6,279	$ 17,350	
Loans at floating or adjustable interest rates[(4)]					
Commercial and industrial loans		$ 41,780	$ 4,871	$ 468	
Financial institutions		16,699	157	292	
Mortgage and real estate[(2)]		8,983	1,815	23,015	
Installment, revolving credit and other		18,597	3,015	1,561	
Lease financing		12	18	—	
Total		$ 86,071	$ 9,876	$ 25,336	
Total fixed/variable pricing of corporate loans with maturities due after one year, net of unearned income[(3)]		$ 103,283	$ 16,155	$ 42,686	

(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 ($799) 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 22 to the Consolidated Financial Statements.

ADDITIONAL CONSUMER AND CORPORATE CREDIT DETAILS

Loans Outstanding

	December 31,				
In millions of dollars	**2021**	2020	2019	2018	2017
Consumer loans					
In North America offices[1]					
Residential first mortgages[2]	**$ 43,813**	$ 47,778	$ 47,008	$ 47,412	$ 49,375
Home equity loans[2]	**5,101**	7,128	9,223	11,543	14,827
Credit cards	**133,868**	130,385	149,163	144,542	139,718
Personal, small business and other	**3,158**	4,509	3,699	4,046	4,140
Total	**$ 185,940**	$ 189,800	$ 209,093	$ 207,543	$ 208,060
In offices outside North America[1]					
Residential mortgages[2]	**$ 34,601**	$ 39,969	$ 38,024	$ 36,388	$ 37,870
Credit cards	**17,808**	22,692	25,909	24,951	25,727
Personal, small business and other	**32,887**	36,378	36,522	33,478	34,157
Total	**$ 85,296**	$ 99,039	$ 100,455	$ 94,817	$ 97,754
Consumer loans, net of unearned income[3]	**$ 271,236**	$ 288,839	$ 309,548	$ 302,360	$ 305,814
Corporate loans					
In North America offices[1]					
Commercial and industrial	**$ 51,999**	$ 57,731	$ 55,929	$ 60,861	$ 60,219
Financial institutions	**66,936**	55,809	53,922	48,447	39,128
Mortgage and real estate[2]	**63,357**	60,675	53,371	50,124	44,683
Installment and other	**29,143**	26,744	31,238	32,425	31,932
Lease financing	**413**	673	1,290	1,429	1,470
Total	**$ 211,848**	$ 201,632	$ 195,750	$ 193,286	$ 177,432
In offices outside North America[1]					
Commercial and industrial	**$ 103,167**	$ 104,072	$ 112,668	$ 114,029	$ 113,178
Financial institutions	**32,203**	32,334	40,211	36,837	35,273
Mortgage and real estate[2]	**10,412**	11,371	9,780	7,376	7,309
Installment and other	**34,436**	33,759	27,303	25,685	22,638
Lease financing	**42**	65	95	103	190
Governments and official institutions	**4,423**	3,811	4,128	4,520	5,200
Total	**$ 184,683**	$ 185,412	$ 194,185	$ 188,550	$ 183,788
Corporate loans, net of unearned income[4]	**$ 396,531**	$ 387,044	$ 389,935	$ 381,836	$ 361,220
Total loans—net of unearned income	**$ 667,767**	$ 675,883	$ 699,483	$ 684,196	$ 667,034
Allowance for credit losses on loans (ACLL)	**(16,455)**	(24,956)	(12,783)	(12,315)	(12,355)
Total loans—net of unearned income and ACLL	**$ 651,312**	$ 650,927	$ 686,700	$ 671,881	$ 654,679
ACLL as a percentage of total loans—net of unearned income[5]	**2.49 %**	3.73 %	1.84 %	1.81 %	1.86 %
ACLL for consumer loan losses as a percentage of total consumer loans—net of unearned income[5]	**5.02 %**	6.77 %	3.20 %	3.14 %	3.08 %
ACLL for corporate loan losses as a percentage of total corporate loans—net of unearned income[5]	**0.73 %**	1.42 %	0.75 %	0.74 %	0.82 %

(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 $659 million, $749 million, $783 million, $742 million and $768 million at December 31, 2021, 2020, 2019, 2018 and 2017, respectively. Unearned income on consumer loans primarily represents unamortized origination fees and costs, premiums and discounts.
(4) Corporate loans include private bank loans and are net of unearned income of $(799) million, $(844) million, $(814) million, $(855) million and $(794) million at December 31, 2021, 2020, 2019, 2018 and 2017, 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	**2021**	2020	2019	2018	2017
Allowance for credit losses on loans (ACLL) at beginning of year	**$ 24,956**	$ 12,783	$ 12,315	$ 12,355	$ 12,060
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	**$ 24,956**	$ 16,541	$ 12,315	$ 12,355	$ 12,060
Provision for credit losses on loans (PCLL)					
Consumer[2]	**(966)**	11,765	7,751	7,258	7,329
Corporate	**(2,137)**	4,157	467	96	174
Total	**$ (3,103)**	$ 15,922	$ 8,218	$ 7,354	$ 7,503
Gross credit losses on loans					
Consumer					
In U.S. offices	**$ 4,055**	$ 6,047	$ 6,538	$ 5,971	$ 5,664
In offices outside the U.S.	**2,143**	2,144	2,316	2,351	2,377
Corporate					
Commercial and industrial, and other					
In U.S. offices	**239**	562	265	121	223
In offices outside the U.S.	**256**	409	196	208	401
Loans to financial institutions					
In U.S. offices	**1**	14	—	3	3
In offices outside the U.S.	**1**	12	3	7	1
Mortgage and real estate					
In U.S. offices	**20**	71	23	2	2
In offices outside the U.S.	**5**	4	—	2	2
Total	**$ 6,720**	$ 9,263	$ 9,341	$ 8,665	$ 8,673
Credit recoveries on loans[2]					
Consumer					
In U.S. offices	**$ 1,204**	$ 1,106	$ 975	$ 912	$ 892
In offices outside the U.S.	**494**	460	503	502	552
Corporate					
Commercial and industrial, and other					
In U.S. offices	**67**	43	28	47	31
In offices outside the U.S.	**56**	28	59	78	117
Loans to financial institutions					
In U.S. offices	**3**	—	—	—	1
In offices outside the U.S.	**1**	14	—	3	1
Mortgage and real estate					
In U.S. offices	**—**	—	8	6	2
In offices outside the U.S.	**—**	1	—	4	1
Total	**$ 1,825**	$ 1,652	$ 1,573	$ 1,552	$ 1,597
Net credit losses on loans (NCLs)					
In U.S. offices	**$ 3,041**	$ 5,545	$ 5,815	$ 5,132	$ 4,966
In offices outside the U.S.	**1,854**	2,066	1,953	1,981	2,110
Total	**$ 4,895**	$ 7,611	$ 7,768	$ 7,113	$ 7,076
Other—net[3][4][5][6][7][8]	**$ (503)**	$ 104	$ 18	$ (281)	$ (132)
Allowance for credit losses on loans (ACLL) at end of year	**$ 16,455**	$ 24,956	$ 12,783	$ 12,315	$ 12,355
ACLL as a percentage of EOP loans[9]	**2.49 %**	3.73 %	1.84 %	1.81 %	1.86 %
Allowance for credit losses on unfunded lending commitments (ACLUC)[10][11]	**$ 1,871**	$ 2,655	$ 1,456	$ 1,367	$ 1,258

Total ACLL and ACLUC	**$**	**18,326**	$	27,611	$	14,239	$	13,682	$	13,613
Net consumer credit losses on loans	**$**	**4,500**	$	6,625	$	7,376	$	6,908	$	6,597
As a percentage of average consumer loans		**1.66 %**		2.32 %		2.49 %		2.33 %		2.22 %
Net corporate credit losses on loans	**$**	**395**	$	986	$	392	$	205	$	479
As a percentage of average corporate loans		**0.10 %**		0.25 %		0.10 %		0.05 %		0.14 %
ACLL by type at end of year(12)										
Consumer	**$**	**13,616**	$	19,554	$	9,897	$	9,504	$	9,412
Corporate		**2,839**		5,402		2,886		2,811		2,943
Total	**$**	**16,455**	$	24,956	$	12,783	$	12,315	$	12,355

(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 to the Consolidated Financial Statements 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 to the Consolidated Financial Statements.

(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) 2021 includes an approximate $280 million reclass related to Citi's agreement to sell its consumer banking business in Australia and an approximate $90 million reclass related to Citi's agreement to sell its consumer banking business in the Philippines. Those ACLL were reclassified to Other assets during 2021. 2021 also includes a decrease of approximately $134 million related to FX translation.

(5) 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.

(6) 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.

(7) 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. In addition, 2017 includes an increase of approximately $115 million related to FX translation.

(8) 2017 includes reductions of approximately $261 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. In addition, 2017 includes an increase of approximately $115 million related to FX translation.

(9) December 31, 2021, 2020, 2019, 2018 and 2017 exclude $6.1 billion, $6.9 billion, $4.1 billion, $3.2 billion and $4.4 billion, respectively, of loans which 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 to the Consolidated Financial Statements 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. See "Superseded Accounting Principles" in Note 1 to the Consolidated Financial Statements.

Allowance for Credit Losses on Loans (ACLL)

The following tables detail information on Citi's ACLL, loans and coverage ratios:

	December 31, 2021		
In billions of dollars	**ACLL**	**EOP loans, net of unearned income**	**ACLL as a percentage of EOP loans[1]**
Consumer			
North America cards[2]	**$ 10.8**	**$ 133.8**	**8.1 %**
North America mortgages[3]	**0.2**	**48.9**	**0.4**
North America other	**0.3**	**3.2**	**9.4**
International cards	**1.2**	**17.8**	**6.7**
International other[4]	**1.2**	**67.5**	**1.8**
Total	**$ 13.7**	**$ 271.2**	**5.1 %**
Corporate			
Commercial and industrial	**$ 1.5**	**$ 151.1**	**1.0 %**
Financial institutions	**0.3**	**98.9**	**0.3**
Mortgage and real estate	**0.7**	**73.8**	**0.9**
Installment and other	**0.3**	**66.7**	**0.4**
Total	**$ 2.8**	**$ 390.5**	**0.7 %**
Loans at fair value[1]	**N/A**	**$ 6.1**	**N/A**
Total Citigroup	**$ 16.5**	**$ 667.8**	**2.5 %**

(1) Loans carried at fair value do not have an ACLL and are excluded from the ACLL ratio calculation.
(2) Includes both branded cards and retail services. The $10.8 billion of loan loss reserves represented approximately 63 months of coincident net credit loss coverage. As of December 31, 2021, *North America* branded cards ACLL as a percentage of EOP loans was 7.1% and *North America* retail services ACLL as a percentage of EOP loans was 10.0%.
(3) Of the $0.2 billion, approximately $0.1 billion and $0.1 billion determined in accordance with ASC 450-20 and ASC 310-10-35 (troubled debt restructurings), respectively. Of the $48.9 billion in loans, approximately $47.5 billion and $1.4 billion of the loans were evaluated in accordance with ASC 450-20 and ASC 310-10-35 (troubled debt restructurings), respectively. For additional information, see Note 15 to the Consolidated Financial Statements.
(4) Includes mortgages and other retail loans.

	December 31, 2020		
In billions of dollars	ACLL	EOP loans, net of unearned income	ACLL as a percentage of EOP loans[1]
Consumer			
North America cards[2]	$ 14.7	$ 130.4	11.3 %
North America mortgages[3]	0.7	54.9	1.3
North America other	0.3	4.5	6.7
International cards	2.1	22.7	9.3
International other[4]	1.8	76.3	2.4
Total	$ 19.6	$ 288.8	6.8 %
Corporate			
Commercial and industrial	$ 3.6	$ 156.3	2.3 %
Financial institutions	0.4	87.7	0.5
Mortgage and real estate	1.1	72.1	1.5
Installment and other	0.3	64.1	0.5
Total	$ 5.4	$ 380.2	1.4 %
Loans at fair value[1]	N/A	$ 6.9	N/A
Total Citigroup	$ 25.0	$ 675.9	3.7 %

(1) Loans carried at fair value do not have an ACLL and are excluded from the ACLL ratio calculation.
(2) Includes both branded cards and retail services. The $14.7 billion of loan loss reserves represented approximately 53 months of coincident net credit loss coverage. As of December 31, 2020, *North America* branded cards ACLL as a percentage of EOP loans was 10.0% and *North America* retail services ACLL as a percentage of EOP loans was 13.6%.
(3) Of the $0.7 billion, nearly all was allocated to *North America* mortgages in *Corporate/Other*, including approximately $0.5 billion and $0.2 billion determined in accordance with ASC 450-20 and ASC 310-10-35 (troubled debt restructurings), respectively. Of the $54.9 billion in loans, approximately $53.0 billion and $1.9 billion of the loans were evaluated in accordance with ASC 450-20 and ASC 310-10-35 (troubled debt restructurings), respectively. For additional information, see Note 15 to the Consolidated Financial Statements.
(4) Includes mortgages and other retail loans.

The following table details Citi's corporate credit allowance for credit losses on loans (ACLL) by industry exposure as of December 31, 2021:

In millions of dollars, except percentages	**Funded exposure[1]**	**ACLL**	**ACLL as a % of funded exposure**
Transportation and industrials	**$ 51,502**	**$ 597**	**1.16 %**
Private bank	**79,684**	**145**	**0.18**
Consumer retail	**32,894**	**288**	**0.88**
Technology, media and telecom	**28,542**	**170**	**0.60**
Real estate	**46,220**	**509**	**1.10**
Power, chemicals, metals and mining	**20,224**	**151**	**0.75**
Banks and finance companies	**36,804**	**197**	**0.54**
Energy and commodities	**13,485**	**268**	**1.99**
Health	**8,826**	**73**	**0.83**
Public sector	**12,464**	**74**	**0.59**
Insurance	**3,162**	**8**	**0.25**
Asset managers and funds	**6,649**	**34**	**0.51**
Financial markets infrastructure	**109**	**—**	**—**
Securities firms	**613**	**10**	**1.63**
Other industries	**2,802**	**28**	**1.00**
Total classifiably managed loans[2]	**$ 343,980**	**$ 2,552**	**0.74 %**
Loans managed on a delinquency basis[3]	**$ 46,481**	**$ 287**	**0.62 %**
Total	**$ 390,461**	**$ 2,839**	**0.73 %**

(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 0.4% of funded investment-grade exposure and 2.3% of funded non-investment-grade exposure.
(3) Primarily associated with delinquency-managed private bank loans including non-rated mortgage and real estate loans to private banking clients at December 31, 2021.

The following table details Citi's corporate credit allowance for credit losses on loans (ACLL) by industry exposure as of December 31, 2020:

In millions of dollars, except percentages	Funded exposure[1]	ACLL	ACLL as a % of funded exposure
Transportation and industrials	$ 58,352	$ 1,558	2.67 %
Private bank	75,693	224	0.30
Consumer retail	34,621	563	1.63
Technology, media and telecom	29,821	407	1.36
Real estate	42,711	718	1.68
Power, chemicals, metals and mining	20,156	312	1.55
Banks and finance companies	29,570	219	0.74
Energy and commodities	14,009	523	3.73
Health	8,575	144	1.68
Public sector	13,416	172	1.28
Insurance	1,925	7	0.36
Asset managers and funds	4,491	22	0.49
Financial markets infrastructure	229	—	—
Securities firms	430	10	2.33
Other industries	4,247	122	2.87
Total classifiably managed loans[2]	$ 338,246	$ 5,001	1.48 %
Loans managed on a delinquency basis[3]	$ 41,958	$ 401	0.96 %
Total	$ 380,204	$ 5,402	1.42 %

(1) Funded exposure excludes loans carried at fair value of $6.8 billion that are not subject to ACLL under the CECL standard.
(2) As of December 31, 2021, the ACLL shown above reflects coverage of 0.5% of funded investment-grade exposure and 4.4% of funded non-investment-grade exposure.

(3) Primarily associated with delinquency-managed private bank loans including non-rated mortgage and real estate loans to private banking clients at December 31, 2020.

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 $1.9 billion, $2.4 billion and $3.5 billion as of December 31, 2021, September 30, 2021 and December 31, 2020, respectively. Of these, approximately 54%, 56% and 59% were performing at December 31, 2021, September 30, 2021 and December 31, 2020, 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	**2021**	2020	2019	2018	2017
Corporate non-accrual loans[1]					
North America	**$ 801**	$ 1,928	$ 1,214	$ 586	$ 966
EMEA	**399**	661	430	375	849
Latin America	**568**	719	473	307	348
Asia	**109**	219	71	243	70
Total corporate non-accrual loans	**$ 1,877**	$ 3,527	$ 2,188	$ 1,511	$ 2,233
Consumer non-accrual loans[1]					
North America	**$ 759**	$ 1,059	$ 905	$ 1,138	$ 1,468
Latin America	**524**	774	632	638	688
Asia[2]	**219**	308	279	250	243
Total consumer non-accrual loans	**$ 1,502**	$ 2,141	$ 1,816	$ 2,026	$ 2,399
Total non-accrual loans	**$ 3,379**	$ 5,668	$ 4,004	$ 3,537	$ 4,632

(1) For years prior to 2020, excludes purchased credit-deteriorated loans, as they are generally accruing interest. The carrying value of these loans was $128 million at December 31, 2019, $128 million at December 31, 2018 and $167 million at December 31, 2017.

(2) *Asia GCB* 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, 2021			Year ended December 31, 2020		
In millions of dollars	**Corporate**	**Consumer**	**Total**	Corporate	Consumer	Total
Non-accrual loans at beginning of year	**$ 3,527**	**$ 2,141**	**$ 5,668**	$ 2,188	$ 1,816	$ 4,004
Additions	**1,708**	**2,018**	**3,726**	5,103	2,829	7,932
Sales and transfers to HFS	**(405)**	**(199)**	**(604)**	(2)	(95)	(97)
Returned to performing	**(217)**	**(615)**	**(832)**	(157)	(389)	(546)
Paydowns/settlements	**(2,215)**	**(630)**	**(2,845)**	(3,117)	(677)	(3,794)
Charge-offs	**(493)**	**(1,180)**	**(1,673)**	(446)	(1,132)	(1,578)
Other	**(28)**	**(33)**	**(61)**	(42)	(211)	(253)
Ending balance	**$ 1,877**	**$ 1,502**	**$ 3,379**	$ 3,527	$ 2,141	$ 5,668

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	**2021**	2020	2019	2018	2017
OREO					
North America	**$ 15**	$ 19	$ 39	$ 64	$ 89
EMEA	**—**	—	1	1	2
Latin America	**8**	7	14	12	35
Asia	**4**	17	7	22	18
Total OREO	**$ 27**	$ 43	$ 61	$ 99	$ 144
Non-accrual assets					
Corporate non-accrual loans	**$ 1,877**	$ 3,527	$ 2,188	$ 1,511	$ 2,233
Consumer non-accrual loans	**1,502**	2,141	1,816	2,026	2,399
Non-accrual loans (NAL)	**$ 3,379**	$ 5,668	$ 4,004	$ 3,537	$ 4,632
OREO	**$ 27**	$ 43	$ 61	$ 99	$ 144
Non-accrual assets (NAA)	**$ 3,406**	$ 5,711	$ 4,065	$ 3,636	$ 4,776
NAL as a percentage of total loans	**0.51 %**	0.84 %	0.57 %	0.52 %	0.69 %
NAA as a percentage of total assets	**0.15**	0.25	0.21	0.19	0.26
ACLL as a percentage of NAL[1]	**487**	440	319	348	267

(1) The ACLL includes the allowance for Citi's credit card portfolios and purchased distressed 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, 2021**	Dec. 31, 2020
Corporate renegotiated loans[1]		
In U.S. offices		
Commercial and industrial[2]	**$ 103**	$ 193
Mortgage and real estate	**51**	60
Financial institutions	**—**	—
Other	**32**	30
Total	**$ 186**	$ 283
In offices outside the U.S.		
Commercial and industrial[2]	**$ 133**	$ 132
Mortgage and real estate	**22**	32
Financial institutions	**—**	—
Other	**9**	3
Total	**$ 164**	$ 167
Total corporate renegotiated loans	**$ 350**	$ 450
Consumer renegotiated loans[3]		
In U.S. offices		
Mortgage and real estate	**$ 1,422**	$ 1,904
Cards	**1,269**	1,449
Installment and other	**26**	33
Total	**$ 2,717**	$ 3,386
In offices outside the U.S.		
Mortgage and real estate	**$ 223**	$ 361
Cards	**313**	533
Installment and other	**428**	519
Total	**$ 964**	$ 1,413
Total consumer renegotiated loans	**$ 3,681**	$ 4,799

(1) Includes $321 million and $415 million of non-accrual loans included in the non-accrual loans table above at December 31, 2021 and 2020, respectively. The remaining loans were accruing interest.
(2) In addition to modifications reflected as TDRs at December 31, 2021 and 2020, Citi also modified none and $47 million, respectively, of commercial loans risk rated "Substandard Non-Performing" or worse (asset category defined by banking regulators) in offices outside the U.S. These modifications were not considered TDRs because the modifications did not involve a concession or because the modifications qualified for exemptions from TDR accounting provided by the CARES Act or the interagency guidance.
(3) Includes $627 million and $873 million of non-accrual loans included in the non-accrual loans table above at December 31, 2021 and 2020, 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**	**2021 total**
Interest revenue that would have been accrued at original contractual rates[2]	**$ 343**	**$ 346**	**$ 689**
Amount recognized as interest revenue[2]	**166**	**189**	**355**
Forgone interest revenue	**$ 177**	**$ 157**	**$ 334**

(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, among other things, 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.

As referenced above, Citi's funding and liquidity framework ensures that the tenor of these funding sources is of sufficient term in relation to the tenor of its asset base. The goal of Citi's asset/liability management is to ensure that there is sufficient liquidity and tenor in the liability structure relative to the liquidity profile of the assets. This reduces the risk that liabilities will become due before assets mature or are monetized. This excess liquidity is held primarily in the form of high-quality liquid assets (HQLA), as set forth in the table below.

Citi's liquidity is managed via a centralized treasury model by Treasury, in conjunction with regional and in-country treasurers with oversight provided by Independent Risk Management and various Asset & Liability Committees (ALCOs) at the Citigroup, region, country and business levels. Pursuant to this approach, Citi's HQLA is managed with emphasis on asset-liability management and entity-level liquidity adequacy throughout Citi.

Citi's CRO and Chief Financial Officer 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 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 a more focused assembly for 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/or 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, and to identify viable funding alternatives that can be utilized. 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 with varying frequencies, with several tests performed daily.

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)

In billions of dollars	Citibank			Citi non-bank and other entities			Total		
	Dec. 31, 2021	Sept. 30, 2021	Dec. 31, 2020	**Dec. 31, 2021**	Sept. 30, 2021	Dec. 31, 2020	**Dec. 31, 2021**	Sept. 30, 2021	Dec. 31, 2020
Available cash	**$ 253.6**	$ 255.1	$ 304.3	**$ 2.6**	$ 3.5	$ 2.1	**$ 256.2**	$ 258.6	$ 306.4
U.S. sovereign	**119.6**	108.9	77.8	**63.1**	64.3	64.8	**182.7**	173.2	142.6
U.S. agency/agency MBS	**45.0**	45.3	31.8	**5.7**	6.0	6.5	**50.7**	51.3	38.3
Foreign government debt[1]	**48.9**	50.2	39.6	**13.6**	11.2	16.2	**62.5**	61.4	55.8
Other investment grade	**1.6**	1.8	1.2	**0.8**	0.3	0.5	**2.4**	2.1	1.7
Total HQLA (AVG)	**$ 468.7**	$ 461.2	$ 454.7	**$ 85.8**	$ 85.3	$ 90.1	**$ 554.5**	$ 546.5	$ 544.8

Note: The amounts set forth 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, Mexico, South Korea, India 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 and any amounts in excess of these minimums that are assumed to be transferable to other entities within Citigroup. Citigroup's HQLA increased quarter-over-quarter as of the fourth quarter of 2021, primarily reflecting an increase in deposits.

As of December 31, 2021, Citigroup had $961 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; 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.

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 assets 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, 2021**	Sept. 30, 2021	Dec. 31, 2020
HQLA	**$ 554.5**	$ 546.5	$ 544.8
Net outflows	**482.9**	474.8	460.7
LCR	**115 %**	115 %	118 %
HQLA in excess of net outflows	**$ 71.6**	$ 71.7	$ 84.1

Note: The amounts are presented on an average basis.

As of December 31, 2021, Citi's average LCR was unchanged sequentially, as Citi's average HQLA and net outflows increased proportionately.

Long-Term Liquidity Measurement: Net Stable Funding Ratio (NSFR)

As previously disclosed, in October 2020, the U.S. banking agencies adopted a final 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 liabilities classes. The ratio of available stable funding to required stable funding is required to be greater than 100%.

The final 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 final rule as of December 31, 2021.

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 *GCB* 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 end-of-period loans for each of the periods indicated:

In billions of dollars	**Dec. 31, 2021**	Sept. 30, 2021	Dec. 31, 2020
Global Consumer Banking			
North America	**$ 176.8**	$ 173.8	$ 179.4
Latin America	**13.0**	13.2	14.3
Asia[1]	**72.5**	75.9	82.4
Total	**$ 262.3**	$ 262.9	$ 276.1
Institutional Clients Group			
Corporate lending	**$ 127.5**	$ 129.2	$ 146.2
Treasury and trade solutions (TTS)	**76.3**	73.7	67.1
Private bank	**124.5**	125.9	113.3
Markets and securities services and other	**72.5**	72.0	56.1
Total	**$ 400.8**	$ 400.8	$ 382.7
Total *Corporate/Other*	**$ 4.3**	$ 4.7	$ 7.4
Total Citigroup loans (AVG)	**$ 667.4**	$ 668.5	$ 666.2
Total Citigroup loans (EOP)	**$ 667.8**	$ 664.8	$ 676.1

(1) Includes loans in certain *EMEA* countries for all periods presented.

As of the fourth quarter of 2021, end-of period loans declined 1% year-over-year and were largely unchanged quarter-over-quarter.

On an average basis, loans were largely unchanged both year-over-year and sequentially. Excluding the impact of FX translation, average loans increased 1% year-over-year and were largely unchanged sequentially. On this basis, average *GCB* loans declined 4% year-over-year, primarily reflecting the reclassification of loans to held-for-sale as a result of Citi's entry into agreements to sell its consumer banking businesses in Australia and the Philippines.

Excluding the impact of FX translation, average *ICG* loans increased 5% year-over-year. Loans in corporate lending declined 12% on an average basis, reflecting net repayments as Citi continued to assist its clients in accessing the capital markets, as well as lower demand. Private bank loans increased 10%, largely driven by increased secured lending to high-net-worth clients. *Markets and securities services* loans increased 29%, reflecting an increase in securitization financing. TTS loans increased 15%, reflecting an increase in trade flows and originations.

Average *Corporate/Other* loans continued to decline (down 46%), driven by the wind-down of legacy assets.

Deposits

The table below details the average deposits, by business and/or segment, and the total end-of-period deposits for each of the periods indicated:

In billions of dollars	**Dec. 31, 2021**	Sept. 30, 2021	Dec. 31, 2020
Global Consumer Banking[1]			
North America	**$ 214.0**	$ 208.4	$ 188.9
Latin America	**23.8**	24.2	24.3
Asia[2]	**117.2**	120.7	120.0
Total	**$ 355.0**	$ 353.3	$ 333.2
Institutional Clients Group			
Treasury and trade solutions (TTS)	**$ 690.6**	$ 674.8	$ 686.5
Banking ex-TTS	**188.2**	179.5	163.2
Markets and securities services	**129.3**	127.2	109.3
Total	**$ 1,008.1**	$ 981.6	$ 959.0
Corporate/Other	**$ 7.2**	$ 8.2	$ 13.1
Total Citigroup deposits (AVG)	**$ 1,370.3**	$ 1,343.0	$ 1,305.3
Total Citigroup deposits (EOP)	**$ 1,317.2**	$ 1,347.5	$ 1,280.7

(1) Reflects deposits within retail banking.
(2) Includes deposits in certain *EMEA* countries for all periods presented.

End-of-period deposits increased 3% year-over-year and declined 2% sequentially.

As of the fourth quarter of 2021, on an average basis, deposits increased 5% year-over-year and 2% sequentially. Excluding the impact of FX translation, average deposits grew 6% from the prior-year period and 3% sequentially. The year-over-year increase reflected continued client engagement as well as the elevated level of liquidity in the financial system. Excluding the impact of FX translation, average deposits in *GCB* increased 7%, with continued strong growth in *North America*.

Excluding the impact of FX translation, average deposits in *ICG* grew 6% year-over-year, with strong growth in the private bank and securities services.

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 8.6 years as of December 31, 2021, unchanged from the prior quarter and the prior year. 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 Citibank benchmark senior debt, FHLB borrowings and securitizations.

Long-Term Debt Outstanding

The following table sets forth Citi's end-of-period total long-term debt outstanding for each of the dates indicated:

In billions of dollars	**Dec. 31, 2021**	Sept. 30, 2021	Dec. 31, 2020
Non-bank[1]			
Benchmark debt:			
Senior debt	**$ 117.8**	$ 123.9	$ 126.2
Subordinated debt	**25.7**	26.0	27.1
Trust preferred	**1.7**	1.7	1.7
Customer-related debt	**78.3**	74.7	65.2
Local country and other[2]	**7.3**	7.2	6.7
Total non-bank	**$ 230.8**	$ 233.5	$ 226.9
Bank			
FHLB borrowings	**$ 5.3**	$ 5.8	$ 10.9
Securitizations[3]	**9.6**	11.0	16.6
Citibank benchmark senior debt	**3.6**	3.6	13.6
Local country and other[2]	**5.1**	4.3	3.6
Total bank	**$ 23.6**	$ 24.7	$ 44.7
Total long-term debt	**$ 254.4**	$ 258.2	$ 271.7

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, 2021, non-bank included $65.9 billion of long-term debt issued by Citi's broker-dealer and other subsidiaries, as well as certain Citigroup consolidated hedging activities.

(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. Within bank, borrowings under certain U.S. government-sponsored liquidity programs are also included.

(3) Predominantly credit card securitizations, primarily backed by branded credit card receivables.

As of the fourth quarter of 2021, Citi's total long-term debt outstanding decreased year-over-year, primarily driven by declines in unsecured benchmark senior debt at the non-bank entities and the bank, as well as securitizations and FHLB borrowings at the bank. The decrease in total long-term debt was partially offset by the issuance of customer-related debt at the non-bank entities. Sequentially, long-term debt outstanding decreased, driven primarily by decreases in unsecured benchmark senior debt at the non-bank entities and securitizations at the bank, partially offset by the issuance of customer-related debt at the non-bank entities.

As part of its liability management, Citi also 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 2021, Citi redeemed or repurchased an aggregate of approximately $33.8 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:

	2021		2020		2019	
In billions of dollars	**Maturities**	**Issuances**	Maturities	Issuances	Maturities	Issuances
Non-bank						
Benchmark debt:						
Senior debt	**$ 17.6**	**$ 15.4**	$ 6.5	$ 20.4	$ 16.5	$ 16.2
Subordinated debt	**—**	**—**	—	—	—	—
Trust preferred	**—**	**—**	—	—	—	—
Customer-related debt	**31.2**	**48.7**	27.7	36.8	12.7	25.1
Local country and other	**3.3**	**3.6**	2.4	1.4	1.1	5.4
Total non-bank	**$ 52.1**	**$ 67.7**	$ 36.6	$ 58.6	$ 30.3	$ 46.7
Bank						
FHLB borrowings	**$ 5.7**	**$ —**	$ 7.5	$ 12.9	$ 7.1	$ 2.1
Securitizations	**6.1**	**—**	4.6	0.3	7.9	0.1
Citibank benchmark senior debt	**9.8**	**—**	9.8	—	4.8	8.8
Local country and other	**1.2**	**2.9**	4.9	4.6	0.9	1.4
Total bank	**$ 22.8**	**$ 2.9**	$ 26.8	$ 17.8	$ 20.7	$ 12.4
Total	**$ 74.9**	**$ 70.6**	$ 63.4	$ 76.4	$ 51.0	$ 59.1

The table below shows Citi's aggregate long-term debt maturities (including repurchases and redemptions) in 2021, as well as its aggregate expected remaining long-term debt maturities by year as of December 31, 2021:

	Maturities							
In billions of dollars	**2021**	2022	2023	2024	2025	2026	Thereafter	Total
Non-bank								
Benchmark debt:								
Senior debt	**$ 17.6**	$ 8.2	$ 12.6	$ 11.0	$ 10.7	$ 18.2	$ 57.1	$ 117.8
Subordinated debt	**—**	0.8	1.3	1.0	5.2	2.6	14.8	25.7
Trust preferred	**—**	—	—	—	—	—	1.7	1.7
Customer-related debt	**31.2**	11.9	10.2	8.5	4.9	5.5	37.3	78.3
Local country and other	**3.3**	2.3	2.2	0.1	—	0.7	1.8	7.3
Total non-bank	**$ 52.1**	$ 23.2	$ 26.3	$ 20.6	$ 20.8	$ 27.0	$ 112.7	$ 230.8
Bank								
FHLB borrowings	**$ 5.7**	$ 5.3	$ —	$ —	$ —	$ —	$ —	$ 5.3
Securitizations	**6.1**	2.1	3.3	1.4	0.4	—	2.4	9.6
Citibank benchmark senior debt	**9.8**	0.9	—	2.7	—	—	—	3.6
Local country and other	**1.2**	1.5	0.9	0.9	0.1	0.1	1.6	5.1
Total bank	**$ 22.8**	$ 9.8	$ 4.2	$ 5.0	$ 0.5	$ 0.1	$ 4.0	$ 23.6
Total long-term debt	**$ 74.9**	$ 33.0	$ 30.5	$ 25.6	$ 21.3	$ 27.1	$ 116.7	$ 254.4

Resolution Plan

Citi 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 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.

On December 17, 2019, the Federal Reserve Board and FDIC issued feedback on the resolution plans filed on July 1, 2019 by the eight U.S. Global Systemically Important Banks, including Citigroup. The Federal Reserve Board and FDIC identified one shortcoming, but no deficiencies, in Citigroup's resolution plan relating to governance mechanisms. Based on regulatory changes effective December 31, 2019, Citigroup's 2021 resolution plan submission, which was filed on July 1, 2021 was a targeted resolution plan, only including a subset of the information of a full resolution plan and additional information, identified by the Federal Reserve Board and FDIC on July 1, 2020. Citigroup will alternate between submitting a full resolution plan and a targeted resolution plan on a biennial cycle. For additional information on Citi's resolution plan submissions, see "Risk Factors—Strategic Risks" above. Citigroup's preferred resolution strategy is "single point of entry" under the U.S. Bankruptcy Code.

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 Federal Reserve Board'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 Federal Reserve Board'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 Federal Reserve Board 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" and "Risk Factors—Compliance Risks" 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 $191 billion as of December 31, 2021 decreased 3% from the prior-year period and 9% sequentially. Excluding the impact of FX translation, secured funding decreased 1% from the prior-year period and 8% sequentially, driven by normal business activity. The average balance for secured funding was approximately $222 billion for the quarter ended December 31, 2021.

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, 2021.

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 $28 billion as of the fourth quarter of 2021 decreased 5% year-over-year, reflecting a decline in FHLB advances, and 6% sequentially, primarily driven by a decline in structured notes (see Note 17 to the Consolidated Financial Statements 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, 2021. While not included in the table below, the long-term and short-term ratings of Citigroup Global Markets Holding Inc. (CGMHI) were BBB+/A-2 at S&P Global Ratings and A+/F1 at Fitch as of December 31, 2021.

Ratings as of December 31, 2021

	Citigroup Inc.			Citibank, N.A.		
	Senior debt	Commercial paper	Outlook	Long-term	Short-term	Outlook
Fitch Ratings	A	F1	Stable	A+	F1	Stable
Moody's Investors Service	A3	P-2	Stable	Aa3	P-1	Stable
S&P Global Ratings	BBB+	A-2	Stable	A+	A-1	Stable

Potential Impacts of Ratings Downgrades

Ratings downgrades by Moody's, Fitch or S&P Global Ratings 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, 2021, 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 $0.8 billion, compared to $1.1 billion as of September 30, 2021. 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, 2021, 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 $0.6 billion, compared to $0.5 billion as of September 30, 2021. 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, 2021, Citi estimates that a one-notch downgrade of Citigroup and Citibank across all three major rating agencies could result in increased aggregate cash obligations and collateral requirements of approximately $1.4 billion, compared to $1.6 billion as of September 30, 2021 (see also Note 22 to the Consolidated Financial Statements). As detailed under "High-Quality Liquid Assets" 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, 2021, Citibank had liquidity commitments of approximately $9.0 billion to consolidated asset-backed commercial paper conduits, compared to $10.0 billion as of September 30, 2021 (for additional information, see Note 21 to the Consolidated Financial Statements).

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 emanates from both Citi's trading and non-trading portfolios. For additional information on market risk and market risk management, 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 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 debt 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.

Net Interest Income at Risk

Net interest income, for interest rate exposure purposes, is the difference between the yield earned on the non-trading portfolio assets (including customer loans) and the rate paid on the liabilities (including customer deposits or company borrowings). Net interest income is affected by changes in the level of interest rates, as well as the amounts and mix of assets and liabilities, and the timing of contractual and assumed repricing of assets and liabilities to reflect market rates.

Citi's principal measure of risk to net interest income is interest rate exposure (IRE). IRE measures the change in expected net interest income in each currency resulting solely from unanticipated changes in forward interest rates.

Citi's estimated IRE incorporates various assumptions including prepayment rates on loans, customer behavior and the impact of pricing decisions. For example, in rising interest rate scenarios, portions of the deposit portfolio may be assumed to experience rate increases that are less than the change in market interest rates. In declining interest rate scenarios, it is assumed that mortgage portfolios experience higher prepayment rates. Citi's estimated IRE below assumes that its businesses and/or Citi Treasury make no additional changes in balances or positioning in response to the unanticipated rate changes.

Citi is planning to transition the sensitivity analysis for its IRE (see the current IRE sensitivity impacts below), employing enhanced methodologies and changes to certain assumptions. The changes include, among other things, assumptions around the projected balance sheet (being more static), coupled with revisions to the treatment of certain business contributions to IRE, mainly accrual positions in *ICG*'s *Markets* businesses. These changes are planned for 2022, and will result in a higher impact to Citi's NII and *AOCI* and a better reflection of the nature of the portfolios.

In order to manage changes in interest rates effectively, Citi may modify pricing on new customer loans and deposits, purchase fixed-rate securities, issue debt that is either fixed or floating or enter into derivative transactions that have the opposite risk exposures. Citi regularly assesses the viability of these and other strategies to reduce its interest rate risks and implements such strategies when it believes those actions are prudent.

Citi manages interest rate risk as a consolidated Company-wide position. Citi's client-facing businesses create interest rate-sensitive positions, including loans and deposits, as part of their ongoing activities. Citi Treasury aggregates these risk positions and manages them centrally. Operating within established limits, Citi Treasury makes positioning decisions and uses tools, such as Citi's investment securities portfolio, company-issued debt and interest rate derivatives, to target the desired risk profile. Changes in Citi's interest rate risk position reflect the accumulated changes in all non-trading assets and liabilities, with potentially large and offsetting impacts, as well as in Citi Treasury's positioning decisions.

Citigroup employs additional measurements, including stress testing the impact of non-linear interest rate movements on the value of the balance sheet, and the analysis of portfolio duration and volatility, particularly as they relate to mortgage loans and mortgage-backed securities and the potential impact of the change in the spread between different market indices.

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 Common Equity Tier 1 and other regulatory capital ratios. Citi's goal is to benefit from an increase in the market level of interest rates, while limiting the impact of changes in *AOCI* on its 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 Common Equity Tier 1 Capital ratio) relative to Citi's capital generation capacity.

The following table sets forth the estimated impact to Citi's net interest income, *AOCI* and the Common Equity Tier 1 Capital ratio (on a fully implemented basis), each assuming an unanticipated parallel instantaneous 100 basis point (bps) increase in interest rates:

In millions of dollars, except as otherwise noted	Dec. 31, 2021	Sept. 30, 2021	Dec. 31, 2020
Estimated annualized impact to net interest income			
U.S. dollar[1]	**$ 563**	$ 151	$ 373
All other currencies	**612**	586	683
Total	**$ 1,175**	$ 737	$ 1,056
As a percentage of average interest-earning assets	**0.05 %**	0.03 %	0.05 %
Estimated initial negative impact to *AOCI* (after-tax)[2]	**$ (4,609)**	$ (4,914)	$ (5,645)
Estimated initial impact on Common Equity Tier 1 Capital ratio (bps)	**(30)**	(30)	(34)

(1) Certain trading-oriented businesses within Citi have accrual-accounted positions that are excluded from the estimated impact to net interest income in the table, since these exposures are managed economically in combination with mark-to-market positions. The U.S. dollar interest rate exposure associated with these businesses was $(179) million for a 100 bps instantaneous increase in interest rates as of December 31, 2021.
(2) Includes the effect of changes in interest rates on *AOCI* related to investment securities, cash flow hedges and pension liability adjustments.

The year-over-year increase in the estimated impact to net interest income primarily reflected changes in Citi's balance sheet composition and Citi Treasury positioning. The year-over-year changes in the estimated impact to *AOCI* and the Common Equity Tier 1 Capital ratio primarily reflected the impact of the composition of Citi Treasury's investment and derivatives portfolio.

In the event of a parallel instantaneous 100 bps increase in interest rates, Citi expects that the negative impact to *AOCI* would be offset in shareholders' equity through the expected recovery of the impact on *AOCI* through accretion of Citi's investment portfolio over a period of time. As of December 31, 2021, Citi expects that the $4.6 billion negative impact to *AOCI* in such a scenario could potentially be offset over approximately 27 months.

The following table sets forth the estimated impact to Citi's net interest income, *AOCI* and the Common Equity Tier 1 Capital ratio (on a fully implemented basis) under five different changes in interest rate scenarios for the U.S. dollar and Citi's other currencies. 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)
Estimated annualized impact to net interest income					
U.S. dollar	$ 563	$ 647	$ 86	$ (244)	$ (770)
All other currencies	612	655	41	(41)	(353)
Total	$ 1,175	$ 1,302	$ 127	$ (285)	$ (1,123)
Estimated initial impact to *AOCI* (after-tax)[1]	$ (4,609)	$ (2,934)	$ (1,757)	$ 1,373	$ 3,050
Estimated initial impact to Common Equity Tier 1 Capital ratio (bps)	(30)	(19)	(12)	9	18

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 magnitude of the impact to Citi's net interest income and *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, 2021, 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 $1.5 billion, or 0.9%, as a result of changes to Citi's FX translation adjustment 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 FX 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 Common Equity Tier 1 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.

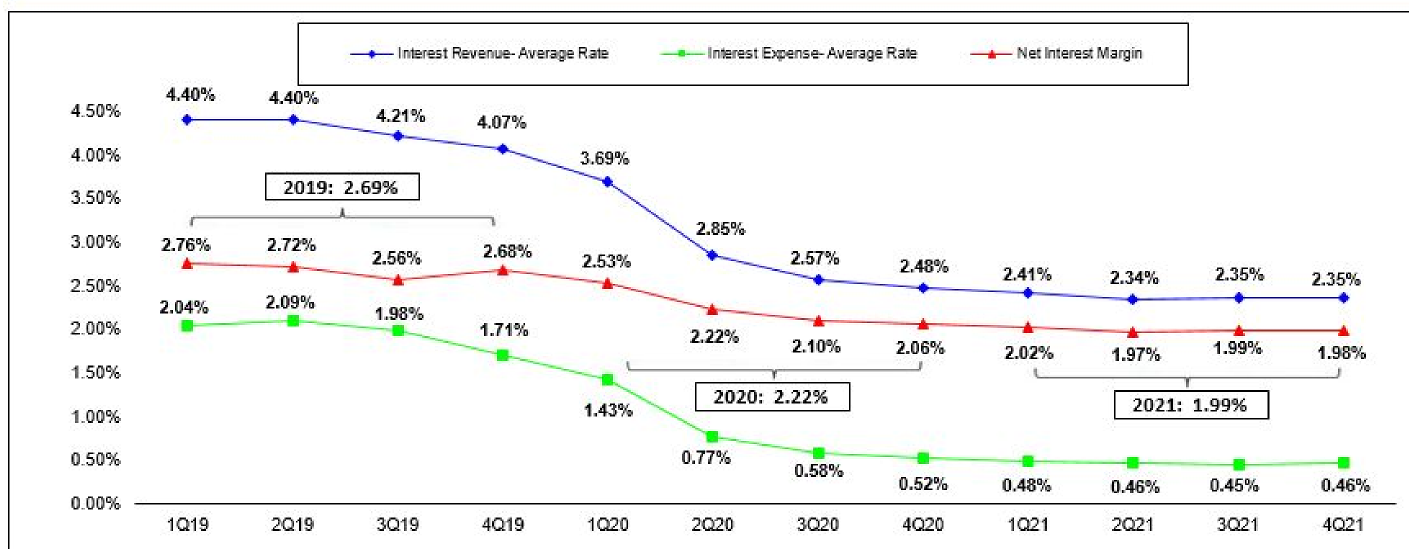
In addition, the effect of Citi's ongoing management strategies with respect to quarterly changes in foreign exchange rates, and the quarterly impact of these changes on Citi's TCE and Common Equity Tier 1 Capital ratio, are shown in the table below. For additional information on the changes in *AOCI*, see Note 19 to the Consolidated Financial Statements.

	For the quarter ended		
In millions of dollars, except as otherwise noted	**Dec. 31, 2021**	Sept. 30, 2021	Dec. 31, 2020
Change in FX spot rate[1]	**(0.6)%**	(2.7)%	5.5 %
Change in TCE due to FX translation, net of hedges	**$ (438)**	$ (1,042)	$ 1,829
As a percentage of TCE	**(0.3)%**	(0.7)%	1.2 %
Estimated impact to Common Equity Tier 1 Capital ratio (on a fully implemented basis) due to changes in FX translation, net of hedges (bps)	**(1)**	(1)	2

(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)

Average Rates - Interest Revenue, Interest Expense, and Net Interest Margin



In millions of dollars, except as otherwise noted	**2021**	2020	2019	**Change 2021 vs. 2020**	Change 2020 vs. 2019
Interest revenue[1]	**$ 50,667**	$ 58,285	$ 76,718	**(13)%**	(24)%
Interest expense[2]	**7,981**	13,338	28,382	**(40)**	(53)
Net interest income, taxable equivalent basis[1]	**$ 42,686**	$ 44,947	$ 48,336	**(5)%**	(7)%
Interest revenue—average rate[3]	**2.36 %**	2.88 %	4.27 %	**(52) bps**	(139) bps
Interest expense—average rate	**0.46**	0.81	1.95	**(35) bps**	(114) bps
Net interest margin[3][4]	**1.99**	2.22	2.69	**(23) bps**	(47) bps
Interest rate benchmarks					
Two-year U.S. Treasury note—average rate	**0.27 %**	0.39 %	1.97 %	**(12) bps**	(158) bps
10-year U.S. Treasury note—average rate	**1.45**	0.89	2.14	**56 bps**	(125) bps
10-year vs. two-year spread	118 **bps**	50 bps	17 bps		

Note: Revenue previously referred to as net interest revenue is now referred to as net interest income. In addition, during the fourth quarter of 2021, Citi reclassified deposit insurance expenses (FDIC and other similar insurance assessments outside of the U.S.) from *Interest expense* to *Other operating expenses* for all periods presented. Amounts reclassified for each year were $1,207 million for 2021, $1,203 million for 2020 and $781 million for 2019.

(1) *Interest revenue* and *Net interest income* include the taxable equivalent adjustments 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 $192 million, $196 million and $208 million for 2021, 2020 and 2019, 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 net interest margin (NIM) is calculated by dividing net interest income by average interest-earning assets.

Non-*ICG Markets* Net Interest Income

In millions of dollars	2021	2020	2019
Net interest income (NII)—taxable equivalent basis[1] per above	**$ 42,686**	$ 44,947	$ 48,338
ICG Markets NII—taxable equivalent basis[1]	**5,733**	5,786	4,562
Non-*ICG Markets* NII—taxable equivalent basis[1]	**$ 36,953**	$ 39,161	$ 43,776

(1) *Interest revenue* and *Net interest income* include the taxable equivalent adjustments discussed in the table above.

Citi's net interest income (NII) in the fourth quarter of 2021 was $10.8 billion ($10.9 billion on a taxable equivalent basis), largely unchanged versus the prior year, as a modest increase in non-*ICG Markets* NII (approximately $60 million) offset an equivalent decline in *ICG Markets* (fixed income markets and equity markets). Citi's NIM was 1.98% on a taxable equivalent basis in the fourth quarter of 2021, a decrease of one basis point from the prior quarter, largely reflecting deposit growth.

Citi's NII for 2021 decreased 5%, or approximately $2.3 billion, to $42.5 billion ($42.7 billion on a taxable equivalent basis) versus the prior year. The decrease was primarily related to a decline in non-*ICG Markets* NII, largely reflecting lower interest rates and lower loan balances. In 2021, Citi's NIM was 1.99% on a taxable equivalent basis, compared to 2.22% in 2020, primarily driven by lower rates and a mix-shift in balances.

Additional Interest Rate Details

Average Balances and Interest Rates—Assets[1][2][3]

Taxable Equivalent Basis

	Average volume			Interest revenue			% Average rate		
In millions of dollars, except rates	**2021**	2020	2019	**2021**	2020	2019	**2021**	2020	2019
Assets									
Deposits with banks[4]	**$ 298,319**	$ 288,629	$ 188,523	**$ 577**	$ 928	$ 2,682	**0.19 %**	0.32 %	1.42 %
Securities borrowed and purchased under agreements to resell[5]									
In U.S. offices	**$ 172,716**	$ 149,076	$ 146,030	**$ 385**	$ 1,202	$ 4,752	**0.22 %**	0.81 %	3.25 %
In offices outside the U.S.[4]	**149,944**	138,074	119,550	**667**	1,081	2,133	**0.44**	0.78	1.78
Total	**$ 322,660**	$ 287,150	$ 265,580	**$ 1,052**	$ 2,283	$ 6,885	**0.33 %**	0.80 %	2.59 %
Trading account assets[6][7]									
In U.S. offices	**$ 140,215**	$ 144,130	$ 109,064	**$ 2,653**	$ 3,624	$ 4,099	**1.89 %**	2.51 %	3.76 %
In offices outside the U.S.[4]	**151,722**	134,078	131,217	**2,718**	2,509	3,589	**1.79**	1.87	2.74
Total	**$ 291,937**	$ 278,208	$ 240,281	**$ 5,371**	$ 6,133	$ 7,688	**1.84 %**	2.20 %	3.20 %
Investments									
In U.S. offices									
Taxable	**$ 322,884**	$ 265,833	$ 221,895	**$ 3,547**	$ 3,860	$ 5,162	**1.10 %**	1.45 %	2.33 %
Exempt from U.S. income tax	**12,296**	14,084	15,227	**437**	452	577	**3.55**	3.21	3.79
In offices outside the U.S.[4]	**152,940**	139,400	117,529	**3,498**	3,781	4,222	**2.29**	2.71	3.59
Total	**$ 488,120**	$ 419,317	$ 354,651	**$ 7,482**	$ 8,093	$ 9,961	**1.53 %**	1.93 %	2.81 %
Loans (net of unearned income)[8]									
In U.S. offices	**$ 386,141**	$ 396,846	$ 395,792	**$ 24,023**	$ 26,700	$ 30,563	**6.22 %**	6.73 %	7.72 %
In offices outside the U.S.[4]	**281,895**	288,379	288,319	**11,509**	13,569	17,266	**4.08**	4.71	5.99
Total	**$ 668,036**	$ 685,225	$ 684,111	**$ 35,532**	$ 40,269	$ 47,829	**5.32 %**	5.88 %	6.99 %
Other interest-earning assets[9]	**$ 75,876**	$ 67,547	$ 64,322	**$ 653**	$ 579	$ 1,673	**0.86 %**	0.86 %	2.60 %
Total interest-earning assets	**$ 2,144,948**	$ 2,026,076	$ 1,797,468	**$ 50,667**	$ 58,285	$ 76,718	**2.36 %**	2.88 %	4.27 %
Non-interest-earning assets[6]	**$ 202,761**	$ 200,378	$ 181,337						
Total assets	**$ 2,347,709**	$ 2,226,454	$ 1,978,805						

(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 $192 million, $196 million and $208 million for 2021, 2020 and 2019, 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) Includes cash-basis loans.
(9) Includes *Brokerage receivables*.

Average Balances and Interest Rates—Liabilities and Equity, and Net Interest Income[(1)(2)(3)]

Taxable Equivalent Basis

In millions of dollars, except rates	Average volume 2021	2020	2019	Interest expense 2021	2020	2019	% Average rate 2021	2020	2019
Liabilities									
Deposits									
In U.S. offices[(4)]	**$ 532,466**	$ 485,848	$ 388,948	**$ 1,084**	$ 2,524	$ 5,873	**0.20 %**	0.52 %	1.51 %
In offices outside the U.S.[(5)]	**557,207**	541,301	487,318	**1,812**	2,810	5,979	**0.33**	0.52	1.23
Total	**$ 1,089,673**	$ 1,027,149	$ 876,266	**$ 2,896**	$ 5,334	$ 11,852	**0.27 %**	0.52 %	1.35 %
Securities loaned and sold under agreements to repurchase[(6)]									
In U.S. offices	**$ 136,955**	$ 137,348	$ 112,876	**$ 676**	$ 1,292	$ 4,194	**0.49 %**	0.94 %	3.72 %
In offices outside the U.S.[(5)]	**93,744**	79,426	77,283	**336**	785	2,069	**0.36**	0.99	2.68
Total	**$ 230,699**	$ 216,774	$ 190,159	**$ 1,012**	$ 2,077	$ 6,263	**0.44 %**	0.96 %	3.29 %
Trading account liabilities[(7)(8)]									
In U.S. offices	**$ 47,871**	$ 38,308	$ 37,099	**$ 109**	$ 283	$ 818	**0.23 %**	0.74 %	2.20 %
In offices outside the U.S.[(5)]	**67,739**	52,051	51,817	**373**	345	490	**0.55**	0.66	0.95
Total	**$ 115,610**	$ 90,359	$ 88,916	**$ 482**	$ 628	$ 1,308	**0.42 %**	0.70 %	1.47 %
Short-term borrowings and other interest-bearing liabilities[(9)]									
In U.S. offices	**$ 69,683**	$ 82,363	$ 78,230	**$ (27)**	$ 493	$ 2,138	**(0.04)%**	0.60 %	2.73 %
In offices outside the U.S.[(5)]	**26,133**	20,053	20,575	**148**	137	327	**0.57**	0.68	1.59
Total	**$ 95,816**	$ 102,416	$ 98,805	**$ 121**	$ 630	$ 2,465	**0.13 %**	0.62 %	2.49 %
Long-term debt[(10)]									
In U.S. offices	**$ 186,522**	$ 213,809	$ 193,972	**$ 3,384**	$ 4,656	$ 6,398	**1.81 %**	2.18 %	3.30 %
In offices outside the U.S.[(5)]	**4,282**	3,918	4,803	**86**	13	96	**2.01**	0.33	2.00
Total	**$ 190,804**	$ 217,727	$ 198,775	**$ 3,470**	$ 4,669	$ 6,494	**1.82 %**	2.14 %	3.27 %
Total interest-bearing liabilities	**$ 1,722,602**	$ 1,654,425	$ 1,452,921	**$ 7,981**	$ 13,338	$ 28,382	**0.46 %**	0.81 %	1.95 %
Demand deposits in U.S. offices	**$ 98,414**	$ 30,876	$ 27,737						
Other non-interest-bearing liabilities[(7)]	**324,724**	346,736	301,756						
Total liabilities	**$ 2,145,740**	$ 2,032,037	$ 1,782,414						
Citigroup stockholders' equity	**$ 201,360**	$ 193,769	$ 195,685						
Noncontrolling interests	**609**	648	706						
Total equity	**$ 201,969**	$ 194,417	$ 196,391						
Total liabilities and stockholders' equity	**$ 2,347,709**	$ 2,226,454	$ 1,978,805						
Net interest income as a percentage of average interest-earning assets[(11)]									
In U.S. offices	**$ 1,244,182**	$ 1,187,077	$ 1,017,021	**$ 26,404**	$ 27,520	$ 28,898	**2.12 %**	2.32 %	2.84 %
In offices outside the U.S.[(6)]	**900,766**	838,999	780,447	**16,282**	17,427	19,440	**1.81**	2.08	2.49
Total	**$ 2,144,948**	$ 2,026,076	$ 1,797,468	**$ 42,686**	$ 44,947	$ 48,338	**1.99 %**	2.22 %	2.69 %

(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. The interest expense on savings deposits includes FDIC deposit insurance assessments.
(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]

	2021 vs. 2020			2020 vs. 2019		
	Increase (decrease) due to change in:			Increase (decrease) due to change in:		
In millions of dollars	**Average volume**	**Average rate**	**Net change**	Average volume	Average rate	Net change
Deposits with banks[3]	**$ 30**	**$ (381)**	**$ (351)**	$ 976	$ (2,730)	$ (1,754)
Securities borrowed and purchased under agreements to resell						
In U.S. offices	**$ 166**	**$ (983)**	**$ (817)**	$ 97	$ (3,647)	$ (3,550)
In offices outside the U.S.[3]	**86**	**(500)**	**(414)**	290	(1,342)	(1,052)
Total	**$ 252**	**$ (1,483)**	**$ (1,231)**	$ 387	$ (4,989)	$ (4,602)
Trading account assets[4]						
In U.S. offices	**$ (96)**	**$ (875)**	**$ (971)**	$ 1,103	$ (1,578)	$ (475)
In offices outside the U.S.[3]	**320**	**(111)**	**209**	77	(1,157)	(1,080)
Total	**$ 224**	**$ (986)**	**$ (762)**	$ 1,180	$ (2,735)	$ (1,555)
Investments[1]						
In U.S. offices	**$ 761**	**$ (1,089)**	**$ (328)**	$ 911	$ (2,338)	$ (1,427)
In offices outside the U.S.[3]	**345**	**(628)**	**(283)**	703	(1,144)	(441)
Total	**$ 1,106**	**$ (1,717)**	**$ (611)**	$ 1,614	$ (3,482)	$ (1,868)
Loans (net of unearned income)[5]						
In U.S. offices	**$ (706)**	**$ (1,971)**	**$ (2,677)**	$ 81	$ (3,945)	$ (3,864)
In offices outside the U.S.[3]	**(299)**	**(1,761)**	**(2,060)**	4	(3,700)	(3,696)
Total	**$ (1,005)**	**$ (3,732)**	**$ (4,737)**	$ 85	$ (7,645)	$ (7,560)
Other interest-earning assets[6]	**$ 72**	**$ 2**	**$ 74**	$ 80	$ (1,174)	$ (1,094)
Total interest revenue	**$ 679**	**$ (8,297)**	**$ (7,618)**	$ 4,322	$ (22,755)	$ (18,433)

(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]

In millions of dollars	2021 vs. 2020 Increase (decrease) due to change in: Average volume	Average rate	Net change	2020 vs. 2019 Increase (decrease) due to change in: Average volume	Average rate	Net change
Deposits						
In U.S. offices	**$ 222**	**$ (1,661)**	**$ (1,439)**	$ 1,199	$ (4,548)	$ (3,349)
In offices outside the U.S.[3]	**80**	**(1,078)**	**(998)**	601	(3,770)	(3,169)
Total	**$ 302**	**$ (2,739)**	**$ (2,437)**	$ 1,800	$ (8,318)	$ (6,518)
Securities loaned and sold under agreements to repurchase						
In U.S. offices	**$ (4)**	**$ (612)**	**$ (616)**	$ 757	$ (3,659)	$ (2,902)
In offices outside the U.S.[3]	**122**	**(571)**	**(449)**	56	(1,340)	(1,284)
Total	**$ 118**	**$ (1,183)**	**$ (1,065)**	$ 813	$ (4,999)	$ (4,186)
Trading account liabilities[4]						
In U.S. offices	**$ 58**	**$ (232)**	**$ (174)**	$ 26	$ (561)	$ (535)
In offices outside the U.S.[3]	**93**	**(65)**	**28**	2	(147)	(145)
Total	**$ 151**	**$ (297)**	**$ (146)**	$ 28	$ (708)	$ (680)
Short-term borrowings and other interest-bearing liabilities[5]						
In U.S. offices	**$ (66)**	**$ (454)**	**$ (520)**	$ 107	$ (1,752)	$ (1,645)
In offices outside the U.S.[3]	**37**	**(26)**	**11**	(8)	(182)	(190)
Total	**$ (29)**	**$ (480)**	**$ (509)**	$ 99	$ (1,934)	$ (1,835)
Long-term debt						
In U.S. offices	**$ (551)**	**$ (721)**	**$ (1,272)**	$ 603	$ (2,346)	$ (1,743)
In offices outside the U.S.[3]	**1**	**71**	**72**	(15)	(67)	(82)
Total	**$ (550)**	**$ (650)**	**$ (1,200)**	$ 588	$ (2,413)	$ (1,825)
Total interest expense	**$ (8)**	**$ (5,349)**	**$ (5,357)**	$ 3,328	$ (18,372)	$ (15,044)
Net interest income	**$ 687**	**$ (2,948)**	**$ (2,261)**	$ 993	$ (4,382)	$ (3,389)

(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 within *ICG*.

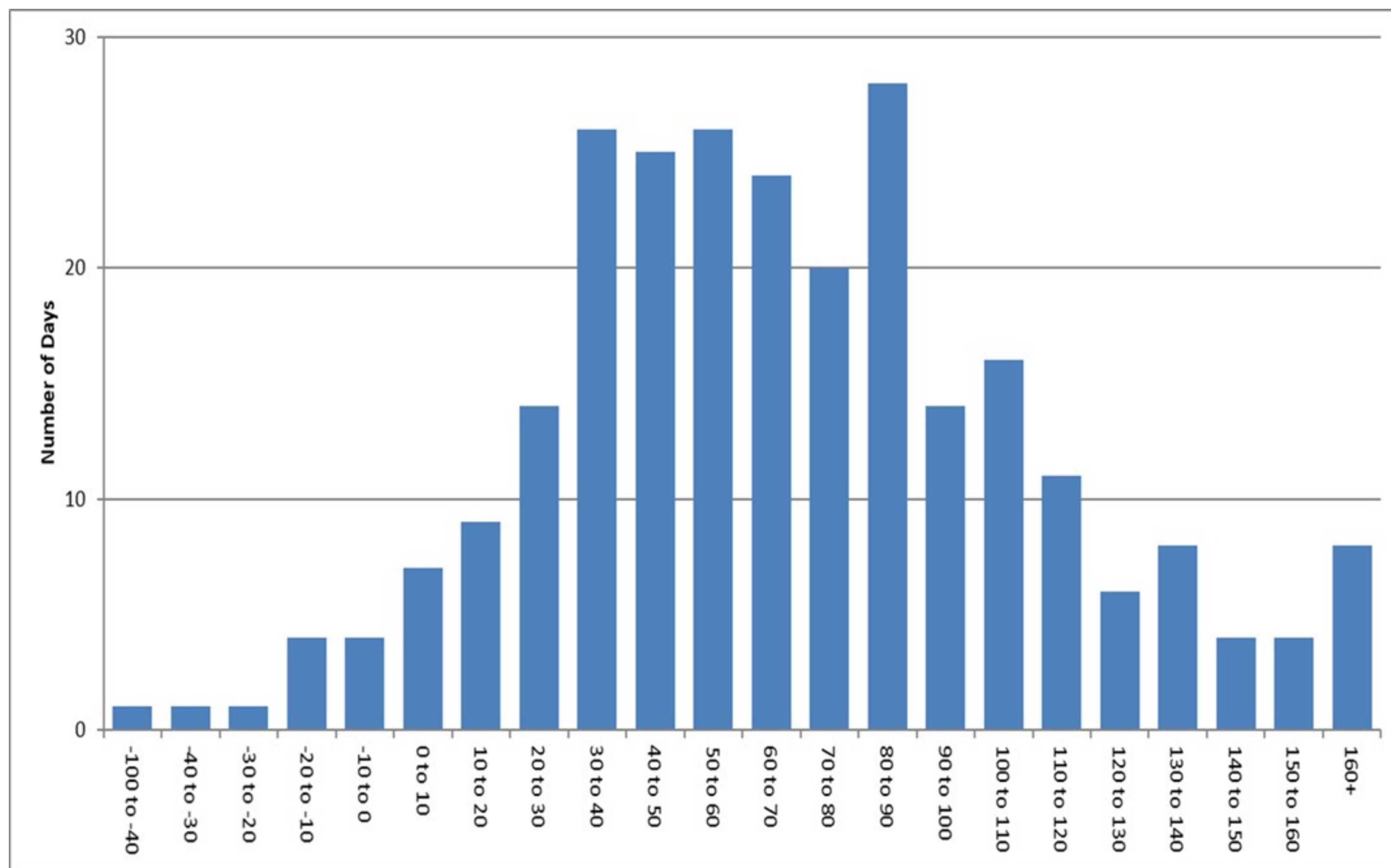
The market risk of Citi's trading portfolios is monitored using a combination of quantitative and qualitative measures, including, but not limited to:

- 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 95.8% of the trading days in 2021.

Daily Trading-Related Revenue (Loss)[(1)]—Twelve Months Ended December 31, 2021
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, differences in VAR methodologies and differences in 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. For information on these securities, see Note 13 to the Consolidated Financial Statements.

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 (three years) market volatility. The Monte Carlo simulation involves approximately 450,000 market factors, making use of approximately 350,000 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 33% add-on to what would be a VAR estimated under the assumption of stable and perfectly, normally distributed markets.

As set forth in the table below, Citi's average trading VAR decreased $5 million from 2020 to 2021, mainly due to a reduction of market volatility, given improved macroeconomic conditions, compared to 2020. Citi's average trading and credit portfolio VAR decreased $24 million from 2020 to 2021 due to VAR volatility recalibration.

Year-end and Average Trading VAR and Trading and Credit Portfolio VAR

In millions of dollars	**December 31, 2021**	**2021 Average**	December 31, 2020	2020 Average
Interest rate	**$ 50**	**$ 65**	$ 72	$ 66
Credit spread	**59**	**71**	70	86
Covariance adjustment[1]	**(35)**	**(42)**	(51)	(48)
Fully diversified interest rate and credit spread[2]	**$ 74**	**$ 94**	$ 91	$ 104
Foreign exchange	**36**	**42**	40	26
Equity	**29**	**33**	31	36
Commodity	**28**	**34**	17	22
Covariance adjustment[1]	**(88)**	**(102)**	(85)	(82)
Total trading VAR—all market risk factors, including general and specific risk (excluding credit portfolios)[2]	**$ 79**	**$ 101**	$ 94	$ 106
Specific risk-only component[3]	**$ 3**	**$ 1**	$ (1)	$ (2)
Total trading VAR—general market risk factors only (excluding credit portfolios)	**$ 76**	**$ 100**	$ 95	$ 108
Incremental impact of the credit portfolio[4]	**$ 45**	**$ 30**	$ 29	$ 49
Total trading and credit portfolio VAR	**$ 124**	**$ 131**	$ 123	$ 155

(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 including Citi Treasury, 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	2021 Low	2021 High	2020 Low	2020 High
Interest rate	**$ 47**	**$ 96**	$ 28	$ 137
Credit spread	**54**	**96**	36	171
Fully diversified interest rate and credit spread	**$ 74**	**$ 123**	$ 44	$ 223
Foreign exchange	**33**	**49**	14	40
Equity	**21**	**50**	13	141
Commodity	**19**	**55**	12	64
Total trading	**$ 79**	**$ 130**	$ 47	$ 245
Total trading and credit portfolio	**108**	**166**	58	424

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, 2021
Total—all market risk factors, including general and specific risk	**$ 81**
Average—during year	**$ 103**
High—during year	**134**
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* business 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.

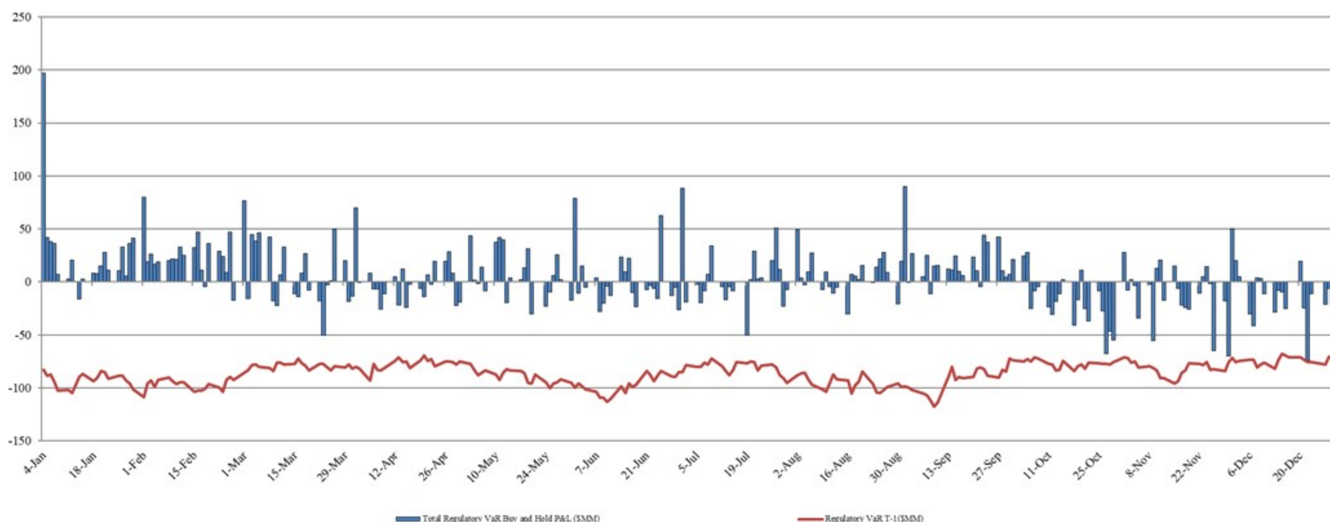
Regulatory VAR Back-Testing
In accordance with Basel III, Citi is required to perform back-testing to evaluate the effectiveness of its Regulatory VAR model. Regulatory VAR back-testing is the process in which the daily one-day VAR, at a 99% confidence interval, is compared to the buy-and-hold profit 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 2021. As of December 31, 2021, one back-testing exception was observed at the Citigroup level.

The difference between the 54.4% of days with buy-and-hold gains for Regulatory VAR back-testing and the 95.8% 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, 2021
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, people and systems 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 Citi-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 Annual 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 major business 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 estimate and aggregate 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 BRCC as well as business, functions, regional and country BRCCs. BRCCs are chaired by the individuals in the first line of defense and 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 cyber attack, 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 cyber attacks and information security incidents. Citi recognizes the significance of these risks and, therefore, leverages an intelligence-led strategy to protect against, detect and respond to, and recover from cyber attacks. 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 provides oversight of management's efforts to mitigate cybersecurity risk and respond to cyber incidents. The Board 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 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. In 2021, the Board of Directors underwent a cyber incident tabletop exercise. Also in 2021, 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 2022 proxy statement to be filed with the SEC in March 2022.

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) 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 Policy and Compliance Risk 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.

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.

Citi carries out its objectives and fulfills its responsibilities through the Compliance Risk 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;
- 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.

As discussed above, Citi is working to address the FRB and OCC consent orders, which include improvements to Citi's Compliance Risk 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 with its stakeholders and Citi is diligent in enhancing and protecting its reputation with its colleagues, customers, investors and regulators. To support this, Citi has developed a reputation risk framework. Under this framework, Citigroup and Citibank have implemented a risk appetite statement and related key indicators to monitor corporate activities and operations relative to our risk appetite. The framework also requires that business segments and regions escalate significant reputation risks that require review or mitigation through a Reputation Risk Committee or equivalent.

The Reputation Risk Committees, which are composed of Citi's most senior executives, govern the process by which material reputation risks are identified, monitored, reported, managed, and escalated. 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 Reputation Risk Committees in the business segments and regions are part of the governance infrastructure that Citi has in place to review the reputation risk posed by business activities, sales practices, product design, or perceived conflicts of interest. These committees may also raise potential reputation risks for due consideration by the Reputation Risk Committee at the corporate level. 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.

The responsibility for enhancing and protecting Citi's reputation is shared by all colleagues, who are 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 potential 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 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.

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 Top Risk identification 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 *ICG*, *GCB* 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. 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.

OTHER RISKS

LIBOR Transition Risk

The LIBOR administrator ceased publication of non-USD LIBOR and one week and two-month USD LIBOR on a representative basis on December 31, 2021, with plans to cease publication of all other USD LIBOR tenors on June 30, 2023. Regulators expect banks, including Citi, to have ceased entering into new contracts that reference USD LIBOR as a

benchmark by December 31, 2021, except for limited circumstances as set out in regulatory guidance.

Citi recognizes that a transition away from and discontinuance of LIBOR presents various risks and challenges that could significantly impact financial markets and market participants, including Citi (for information about Citi's risks from a transition away from and discontinuation of LIBOR or any other benchmark rates, see "Risk Factors—Other Risks" above). Accordingly, Citi has continued its efforts to identify and manage its LIBOR transition risks.

For example, Citi continues to closely monitor legislative, regulatory and other developments related to LIBOR transition matters and legislative relief. The International Swaps and Derivatives Association (ISDA) published the Interbank Offered Rate (IBOR) Fallbacks Protocol for existing IBOR derivatives transactions, which became effective in January 2021. The IBOR Fallbacks Protocol provides derivatives market participants with new fallbacks for legacy and new derivatives contracts if both counterparties adhere to the protocol or engage in bilateral amendments (see discussion below regarding Citi's adherence to the protocol). In April 2021, legislation was adopted in New York State that provides for the use of a statutory replacement for USD LIBOR in certain New York law legacy contracts. Similar federal legislation was passed in the House of Representatives in December 2021 and is pending passage by the Senate, although there is no guarantee that the federal legislative proposal will become law.

In addition, Citi has established a LIBOR governance and implementation program focused on identifying and addressing the impact of LIBOR transition on Citi's clients, operational capabilities and financial contracts. The program operates globally across Citi's businesses and functions and includes active involvement of senior management, oversight by Citi's Asset and Liability Committee and reporting to the Risk Management Committee of Citigroup's Board of Directors. As part of the program, Citi has continued to implement its LIBOR transition action plans and associated roadmaps under the following key workstreams: program management; transition strategy and risk management; customer management, including internal communications and training, legal/contract management and product management; financial exposures and risk management; regulatory and industry engagement; operations and technology; and finance, risk, tax and treasury.

During 2021, Citi continued to participate in a number of working groups formed by global regulators, including the Alternative Reference Rates Committee (ARRC) convened by the FRB. These working groups promote and advance development of alternative reference rates and seek to identify and address potential challenges from any transition to such rates. Citi's LIBOR transition action plans and associated roadmaps are intended to be consistent with the timelines recommended by these working groups. This includes the Commodity Futures Trading Commission's SOFR First Initiative, which is designed to promote derivatives trading in SOFR. Citi also continued to engage with regulators, financial accounting bodies and others on LIBOR transition matters.

Citi's LIBOR transition efforts include, among other things, reducing its overall exposure to LIBOR, increasing Citi's virtual client communication efforts and client transition facilitation, including outreach regarding new industry-led protocols and solutions, and using alternative reference rates in certain newly issued financial instruments and products. In the past several years, Citi has issued preferred stock and benchmark debt referencing the Secured Overnight Financing Rate (SOFR) and issued customer-related debt referencing SOFR and the Sterling Overnight Interbank Average Rate (SONIA), the recommended replacement rate for Sterling LIBOR. Citi has also originated and arranged loans referencing SOFR and SONIA and executed SOFR and SONIA-based derivatives contracts. Further, Citi has also been investing in its systems and infrastructure, as client activity moves away from LIBOR to alternative reference rates. Since the ARRC's recommendation of CME Group's Term SOFR in July 2021, Citi has focused on systems' readiness to provide Term SOFR loan and derivatives to clients, where permitted.

In 2021, Citi also focused on remediating existing LIBOR contracts for which publication ceased on a representative basis on December 31, 2021. Substantially all of these contracts were remediated by December 31, 2021, and Citi continues to actively engage in and track the remediation of any remaining contracts after December 31, 2021. As of December 31, 2021, Citi's overall USD LIBOR gross notional exposure for contracts maturing after the LIBOR cessation date of June 30, 2023 was approximately $7.1 trillion, which includes approximately $4 trillion of cleared derivatives that are covered by planned Central Counterparty Clearing House (CCP) conversions, and approximately $2.4 trillion of bilateral derivatives that are covered by robust contract fallback language. The remaining exposure of approximately $0.7 trillion includes bilateral derivatives and cash products that will be addressed by 2022 contract remediation plans.

In addition, for LIBOR contracts that have not yet been remediated, Citi continues to review the effect of relevant legislative solutions, which are expected to facilitate the transition to replacement rates.

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 is comprised of 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, reputational risk from increased stakeholder concerns about financing high-carbon industries and operational risk from physical risks to Citi's facilities and personnel.

Citi currently identifies climate risk as an "emerging risk" within its enterprise risk management framework. Emerging

risks are risks or thematic issues that are either new to the landscape, or in the case of climate risk, existing risks that are rapidly changing or evolving in an escalating fashion, which are difficult to assess due to limited data or other uncertainties. For additional information on climate risk, see "Risk Factors—Other Risks" above.

Citi reviews factors related to climate risk under its longstanding Environmental and Social Risk Management (ESRM) Policy, which includes a focus on climate risk related to financed projects and clients in high-carbon sectors. Cautious of the credit risk of stranded assets, as well as the reputational risks associated with the coal sector due to its high carbon emissions, Citi began a phase-down of its financing of thermal coal mining companies in 2015 and of new coal-fired power plants in 2018. As Citi's phase-down has continued, Citi's ESRM Policy was updated to include a prohibition on all project-related financing of new coal-fired power plants and new or expanding thermal coal mines as well as clear timetables to reduce financing of companies with high exposure to coal fired power and coal mining who do not pursue low-carbon transition in the coming years. These sector approaches allow Citi to set a comprehensive and industry-wide approach to clarify its positions, set clear expectations for its 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 is developing 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. In the near term, Citi's assessments will consider sectors that have been identified as higher climate risk by Citi's risk identification process. This will not only help Citi better understand its clients' businesses and climate-related risks, but will also provide a source of climate data. Citi's net zero plan is leading to the further integration of climate risk discussions into client engagement and client selection.

Furthermore, Citi is developing globally consistent principles and approaches for managing climate risk across Citi. Climate risk will be embedded into relevant policies and processes over time.

In addition, Citi continues to participate in financial industry collaborations to develop and pilot new methodologies and approaches for measuring and assessing the potential financial risks of climate change. Citi is also closely monitoring regulatory developments on climate risk and sustainable finance, and actively engaging with regulators on these topics.

For additional information about sustainability and other ESG matters at Citi, see "Sustainability and Other ESG Matters" above.

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, 2021. (Including the U.S., the total exposure as of December 31, 2021 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 33% of corporate loans presented in the table below are to U.K. domiciled entities (36% for unfunded commitments), with the balance of the loans predominately to European domiciled counterparties. Approximately 87% of the total U.K. funded loans and 88% of the total U.K. unfunded commitments were investment grade as of December 31, 2021.

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(1)	GCB loans	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 4Q21	Total as of 3Q21	Total as of 4Q20	Total as a % of Citi as of 4Q21
United Kingdom	$ 42.8	$ 0.2	$ 1.2	$ 45.7	$ 12.8	$ (5.7)	$ 3.6	$ (4.7)	**$ 95.9**	$ 111.6	$ 115.2	**5.5 %**
Mexico	14.2	13.3	0.3	7.7	3.4	(0.9)	19.6	2.0	**59.6**	60.0	64.5	**3.4**
Hong Kong	18.8	15.3	0.2	7.1	0.7	(1.6)	7.9	2.0	**50.4**	52.8	49.0	**2.9**
Singapore	15.6	14.0	0.1	7.4	1.2	(0.9)	6.3	2.0	**45.7**	46.0	45.8	**2.6**
Ireland	13.9	—	0.6	28.9	0.4	(0.2)	—	0.9	**44.5**	45.3	43.9	**2.5**
South Korea	3.8	15.7	0.1	2.1	1.0	(0.9)	9.7	0.5	**32.0**	34.2	35.8	**1.8**
India	6.8	3.8	0.9	5.3	4.6	(0.7)	8.5	0.6	**29.8**	30.3	31.4	**1.7**
Brazil	11.0	—	0.1	3.0	5.6	(0.7)	5.7	2.6	**27.3**	24.4	26.2	**1.6**
China	7.3	3.6	0.8	1.8	2.5	(1.0)	8.2	0.2	**23.4**	20.2	21.8	**1.3**
Germany	0.3	—	—	6.0	6.4	(3.6)	5.9	4.4	**19.4**	14.4	24.4	**1.1**
Jersey	7.3	—	0.1	10.4	—	(0.1)	—	—	**17.7**	14.9	13.4	**1.0**
Australia	5.9	—	0.1	8.0	1.1	(0.7)	1.3	0.7	**16.4**	17.7	21.7	**0.9**
Japan	2.3	—	—	3.4	3.2	(1.8)	5.0	3.8	**15.9**	19.3	21.8	**0.9**
Taiwan	4.1	8.6	0.1	1.4	0.5	(0.2)	0.2	0.6	**15.3**	17.0	17.3	**0.9**
United Arab Emirates	7.3	1.5	0.1	3.8	0.4	(0.5)	2.2	0.1	**14.9**	16.6	12.4	**0.9**
Canada	2.1	0.5	0.1	7.5	1.7	(1.5)	3.3	1.0	**14.7**	16.9	17.8	**0.8**
Poland	3.2	1.8	—	2.6	0.4	(0.2)	4.5	0.8	**13.1**	11.2	15.0	**0.7**
Thailand	1.1	2.7	—	2.1	—	—	1.8	0.2	**7.9**	8.0	8.0	**0.5**
Malaysia	1.4	3.4	0.2	1.0	0.1	(0.1)	1.9	(0.1)	**7.8**	8.2	8.3	**0.4**
Indonesia	2.2	0.6	—	1.2	0.2	(0.1)	1.5	(0.1)	**5.5**	5.8	6.0	**0.3**
Russia	2.2	0.7	—	0.7	0.4	(0.1)	1.5	—	**5.4**	5.5	5.2	**0.3**
Luxembourg	0.8	—	—	—	0.2	(0.9)	4.0	(0.1)	**4.0**	5.3	5.1	**0.2**
South Africa	1.4	—	0.1	0.6	0.2	(0.1)	1.8	(0.2)	**3.8**	3.8	3.6	**0.2**
Czech Republic	0.7	—	—	0.9	1.6	(0.1)	0.4	—	**3.5**	3.5	4.3	**0.2**
Spain	0.4	—	—	2.9	0.4	(1.3)	—	0.3	**2.7**	3.3	3.4	**0.2**
Total as a % of Citi's total exposure												**32.8 %**
Total as a % of Citi's non-U.S. total exposure												**93.4 %**

(1) *ICG* loans reflect funded corporate loans and private bank loans, net of unearned income. As of December 31, 2021, private bank loans in the table above totaled $31.8 billion, concentrated in the U.K. ($8.8 billion), Hong Kong ($8.6 billion) and Singapore ($7.5 billion).
(2) Other funded includes other direct exposures such as accounts receivable, loans HFS, other loans in *Corporate/Other* 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 counterparty risk on OTC derivatives and securities lending/borrowing transactions (repos). Exposures are shown net of collateral and inclusive of CVA. 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.

Argentina

Citi operates in Argentina through its *ICG* businesses. As of December 31, 2021, Citi's net investment in its Argentine operations was approximately $1.5 billion. Citi uses the U.S. dollar as the functional currency for its operations in highly inflationary countries under U.S. GAAP. 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, 2021, the official Argentine peso exchange rate against the U.S. dollar was 102.73.

The Central Bank of Argentina maintains certain capital and currency controls that generally restrict Citi's ability to access U.S. dollars in Argentina and remit substantially all of its earnings from its Argentine operations. Citi's net investment in its Argentine operations is likely to increase as Citi continues to generate net income from its Argentine franchise and the majority of 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. 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, 2021, the international NDF market had very limited liquidity, resulting in Citi being unable to economically hedge nearly all of its Argentine peso exposure. As a result, 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 sovereign risk associated with its Argentine assets. Citi believes it has established appropriate allowances for credit losses on its Argentine loans, and appropriate fair value adjustments on Argentine assets and liabilities measured at fair value, for such risks under U.S. GAAP as of December 31, 2021. 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.

Russia

Citi operates both its *ICG* and *GCB* businesses in Russia, although the Company is currently pursuing the exit of its *GCB* business in the country. All of Citi's domestic operations in Russia are conducted through a subsidiary of Citibank, which uses the Russian ruble as its functional currency. Citi's net investment in Russia was approximately $1 billion as of December 31, 2021. The majority of Citi's net investment was hedged for foreign currency depreciation as of December 31, 2021, using forward foreign exchange contracts. Citi's total third-party exposure was approximately $8.2 billion as of December 31, 2021. These assets primarily consisted of corporate and consumer loans, local government debt securities, reverse repurchase agreements, and cash on deposit and placements with the Bank of Russia and other financial institutions. A significant portion of Citi's third-party exposures were funded with domestic deposit liabilities from both *ICG* and *GCB* clients. Further, Citi has approximately $1.6 billion of additional exposures to Russian counterparties that are not held on the Russian subsidiary and are not included in the $8.2 billion above.

The $5.4 billion in Russia credit and other exposures in the "Top 25 Country Exposures" table above does not include approximately $1.0 billion of cash and placements with the Bank of Russia and other financial institutions and $1.8 billion of reverse repurchase agreements with various counterparties.

Citi continues to monitor the current Russia–Ukraine geopolitical situation and economic conditions and will mitigate its exposures and risks as appropriate. For additional information, see "Risk Factors—Market-Related Risk," "—Operational Risks" and "—Other Risks" above.

FFIEC—Cross-Border Claims on Third Parties and Local Country Assets

Citi's cross-border disclosures are set forth below, based on the country exposure bank regulatory reporting guidelines of the Federal Financial Institutions Examination Council (FFIEC). The following summarizes some of the FFIEC key 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, 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**

	December 31, 2020									
	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[6]	$ 16.0	$ 26.0	$ 50.5	$ 17.5	$ 14.2	$ 73.5	$ 110.0	$ 25.8	$ 76.2	$ 75.3
Cayman Islands	—	—	85.8	12.7	8.0	69.7	98.5	11.9	0.3	0.2
Japan	32.9	35.5	12.1	6.6	16.2	63.3	87.1	6.6	16.1	15.1
Germany[6]	7.1	51.8	15.9	9.6	11.3	58.6	84.4	14.1	49.7	48.1
Mexico	3.9	31.5	9.5	28.8	6.0	44.4	73.7	21.7	7.3	6.6
France	11.0	9.7	39.3	9.5	13.3	58.7	69.5	68.2	61.3	56.4
Singapore	2.5	25.6	10.7	17.5	2.8	46.5	56.3	13.8	1.9	1.5
South Korea	3.3	18.2	1.8	24.9	1.5	35.6	48.2	14.7	10.8	10.7
Hong Kong	1.5	13.8	3.9	19.8	7.2	33.2	39.0	13.1	2.1	1.7
Australia	5.1	16.4	4.0	13.0	9.6	31.6	38.5	13.0	5.7	5.2
China	4.5	16.3	3.3	14.1	9.7	33.4	38.2	5.8	10.5	10.0
India	1.9	14.0	2.5	12.9	2.3	22.1	31.3	11.3	1.8	1.6
Taiwan	0.4	7.8	2.0	16.5	5.1	23.7	26.7	14.1	—	—
Netherlands	7.8	10.4	3.4	4.8	5.2	18.2	26.4	10.4	28.5	27.4
Brazil	2.8	11.3	1.6	9.9	5.2	20.0	25.6	2.7	6.0	6.0
Italy	2.5	19.1	0.6	1.9	15.0	16.1	24.1	2.7	42.3	41.3
Switzerland	1.8	14.3	1.4	4.9	2.6	20.0	22.4	7.3	18.0	17.4
Canada	4.5	6.3	5.9	4.5	3.4	15.1	21.2	14.5	3.9	4.0

(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.
(6) Exposures for the United Kingdom and Germany for the December 31, 2020 period have been revised by $(5.4) billion and $4.8 billion, respectively, as compared to those previously reported, with the balance in the U.S. This revision reflects a correction in the domicile for Non-Bank Financial Institutions counterparties.

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 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 in active markets 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 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, 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, the portion of the loss related 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 other comprehensive income. 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). Adjudicating the temporary nature of fair value impairments 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, 24 and 25 to the Consolidated Financial Statements.

Citi's Allowance for Credit Losses (ACL)

The table below shows Citi's ACL as of the fourth quarter of 2021. For information on the drivers of Citi's ACL release in the fourth quarter, see 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 below.

	Allowance for credit losses (ACL)								
	Balance Dec. 31,	Build (release)						Balance Dec. 31,	
In millions of dollars	2020	1Q21	2Q21	3Q21	4Q21	2021	2021 FX/Other[1]	2021	ACLL/EOP loans Dec. 31, 2021[2]
Cards[2]	$ 16,805	$ (1,523)	$ (1,106)	$ (906)	$ (957)	**$ (4,492)**	**$ (322)**	**$ 11,991**	**7.90 %**
All other *GCB*	2,419	(283)	(292)	(125)	18	**(682)**	**(149)**	**1,588**	
Global Consumer Banking	$ 19,224	$ (1,806)	$ (1,398)	$ (1,031)	$ (939)	**$ (5,174)**	**$ (471)**	**$ 13,579**	**5.08 %**
Institutional Clients Group	5,402	(1,312)	(949)	(65)	(207)	**(2,533)**	**(30)**	**2,839**	**0.73**
Corporate/Other	330	(109)	(99)	(53)	(30)	**(291)**	**(2)**	**37**	
Allowance for credit losses on loans (ACLL)	**$ 24,956**	**$ (3,227)**	**$ (2,446)**	**$ (1,149)**	**$ (1,176)**	**$ (7,998)**	**$ (503)**	**$ 16,455**	**2.49 %**
Allowance for credit losses on unfunded lending commitments	2,655	(626)	44	(13)	(193)	**(788)**	**4**	**1,871**	
Other	146	1	1	(13)	11	**—**	**2**	**148**	
Total allowance for credit losses (ACL)	**$ 27,757**	**$ (3,852)**	**$ (2,401)**	**$ (1,175)**	**$ (1,358)**	**$ (8,786)**	**$ (497)**	**$ 18,474**	

(1) Includes reclassifications to *Other assets* related to Citi's agreements to sell its consumer banking businesses in Australia and the Philippines. See Notes 2 and 15 to the Consolidated Financial Statements.
(2) As of December 31, 2021, in *North America GCB*, branded cards ACLL/EOP loans was 7.10% and retail services ACLL/EOP loans was 10.0%.

Citi's reserves for expected credit losses on funded loans and 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* (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.

The ACL is composed of quantitative and qualitative management adjustment components. The quantitative component uses a forward-looking base macroeconomic forecast. The qualitative management adjustment component reflects economic uncertainty using alternative downside macroeconomic scenarios and portfolio characteristics and current economic conditions not captured in the quantitative component, such as adjustments to reflect uncertainty around the estimated impact of the pandemic on credit losses. Both the quantitative and qualitative management adjustment 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) a reasonable and supportable forecast 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 that inform the forecasts, and cover a wide range of geographic, industry, product and operating 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 (among other things), as well as other current economic factors and credit trends, including housing prices, unemployment and gross domestic product (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. 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, among other things, are all taken into account.

Changes in these estimates could have a direct impact on Citi's credit costs and the allowance in any period.

Qualitative Component

The qualitative management adjustment component includes, among other things, management adjustments to reflect economic uncertainty based on the likelihood and severity of downside scenarios and certain portfolio characteristics not captured in the quantitative component, such as concentrations, collateral valuation, model limitations, idiosyncratic events and other factors as required by banking supervisory guidance for the ACL. The qualitative management adjustment component also reflects the uncertainty around the estimated impact of the pandemic on credit loss estimates. The ultimate extent of the pandemic's impact on Citi's ACL will depend on, among other things, (i) how consumers respond to the conclusion of government stimulus and assistance programs, (ii) the impact on unemployment, (iii) the timing and extent of the economic recovery, (iv) the severity and duration of any resurgence of COVID-19, (v) the rate of distribution and administration of vaccines and (vi) the extent of any market volatility.

4Q21 Changes in the ACL

In the fourth quarter of 2021, Citi released $1.0 billion of the ACL for its consumer portfolios and $0.4 billion of the ACL for its corporate portfolios, for a total release of $1.4 billion. The releases in the consumer and corporate ACLs were driven primarily by the continued improvement in the macroeconomic outlook, as well as continued improvements in credit quality. The overall qualitative management adjustments declined compared to the previous quarter. 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, 2021.

Macroeconomic Variables

Citi considers a multitude of macroeconomic variables for both the base and downside macroeconomic forecasts it uses to estimate the ACL, including domestic and international variables for its global portfolios and exposures. 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 Citi's ACL for each quarterly reporting period from 4Q20 to 4Q21:

	Quarterly average			
U.S. unemployment	**4Q21**	**2Q22**	**4Q22**	**13-quarter average[(1)]**
Citi forecast at 4Q20	6.3	6.1	5.7	6.1
Citi forecast at 1Q21	4.9	4.1	3.8	4.3
Citi forecast at 2Q21	4.6	4.1	3.9	4.1
Citi forecast at 3Q21	4.5	4.1	3.9	4.0
Citi forecast at 4Q21	4.3	4.0	3.8	3.8

(1) Represents the average unemployment rate for the rolling, forward-looking 13 quarters in the forecast horizon.

	Year-over-year growth rate[(1)]		
	Full year		
U.S. Real GDP	**2021**	**2022**	**2023**
Citi forecast at 4Q20	3.7	2.7	2.6
Citi forecast at 1Q21	6.2	4.1	1.9
Citi forecast at 2Q21	6.5	3.7	2.0
Citi forecast at 3Q21	5.9	3.9	2.1
Citi forecast at 4Q21	5.5	4.0	2.2

(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 4Q21, U.S. Real GDP growth is expected to remain strong during 2022, and the unemployment rate is expected to continue to improve as the U.S. moves past the peak of the pandemic-related health and economic crisis.

Consumer

As discussed above, Citi's total consumer ACLL release (including *Corporate/Other*) of $1.0 billion in the fourth quarter of 2021 reduced the ACLL balance to $13.6 billion, or 5.0% of total consumer loans as of December 31, 2021. The release was primarily driven by the continued improvement in the macroeconomic outlook, as well as continued improvements in credit quality. Citi's consumer ACLL is largely driven by the cards businesses.

For cards, including Citi's international businesses, the level of reserves relative to EOP loans decreased to 7.9% as of December 31, 2021, compared to 9.1% at September 30, 2021, primarily driven by by the continued improvement in the macroeconomic outlook, as well as continued improvements

in credit quality. For the remaining consumer exposures, the level of reserves relative to EOP loans was 1.4% at December 31, 2021, essentially unchanged from September 30, 2021.

Corporate
Citi's corporate ACLL release of $0.2 billion in the fourth quarter of 2021 reduced the ACLL reserve balance to $2.8 billion, or 0.73% of total funded loans. The release was primarily driven by improvements in portfolio credit quality, as well as improvement in the macroeconomic outlook.

The *Allowance for credit losses on unfunded lending commitments* (ACLUC) release of $191 million in the fourth quarter of 2021 decreased the total ACLUC reserve balance included in *Other liabilities* to $1.9 billion at December 31, 2021.

ACLL and Non-accrual Ratios
At December 31, 2021, the ratio of the allowance for credit losses to total funded loans was 2.49% (5.02% for consumer loans and 0.73% for corporate loans) compared to 2.69% at September 30, 2021 (5.55% for consumer loans and 0.77% for corporate loans).

Citi's total non-accrual loans were $3.4 billion at December 31, 2021, down $610 million from September 30, 2021. Consumer non-accrual loans decreased $87 million to $1.5 billion at December 31, 2021 from $1.6 billion at September 30, 2021, while corporate non-accrual loans decreased $523 million to $1.9 billion at December 31, 2021 from $2.4 billion at September 30, 2021. In addition, the ratio of non-accrual loans to total consumer loans was 0.55% and non-accrual loans to total corporate loans was 0.47%, at December 31, 2021.

Regulatory Capital Impact
Citi has elected to phase in the CECL impact for regulatory capital purposes. The transition provisions were recently modified to defer the phase-in. After two years with no impact on capital, the CECL transition impact will phase in over a three-year transition period with 25% of the impact (net of deferred taxes) recognized on the first day of each subsequent year, commencing January 1, 2022, and will be fully implemented on January 1, 2025. In addition, 25% of the impact of the build (pretax) in 2020 and 2021 were deferred and being amortized over the same timeframe.

For a further description of the ACL and related accounts, see Notes 1 and 15 to the Consolidated Financial Statements.

For a discussion of the adoption of the CECL accounting pronouncement, see Note 1 to the Consolidated Financial Statements.

Goodwill
Citi tests goodwill for impairment annually on July 1 (the annual test) and through 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, such as 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 significant decline in Citi's stock price. During 2021, the annual test was performed, which resulted in no goodwill impairment as described in Note 16 to the Consolidated Financial Statements.

As of December 31, 2021, Citigroup's activities were conducted through the *Global Consumer Banking* and *Institutional Clients Group* business 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 of the reporting unit 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.

Similar to 2020, Citi engaged an independent valuation specialist in 2021 to assist in Citi's valuation of all the reporting units, employing both the market approach and the DCF method. The resulting fair values were relatively consistent and appropriate weighting was given to outputs from both methods. The DCF method utilized at the time of each impairment test used discount rates that Citi believes adequately reflected the risk and uncertainty in the financial markets in the internally generated cash flow projections.

The DCF method 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 July 1, 2021. 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.

Citi performed its annual goodwill impairment test as of July 1, 2021. The fair values of Citi's reporting units as a percentage of their carrying values ranged from approximately 125% to 153%, resulting in no impairment. While the inherent risk related to 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, which includes, among others, the exits of consumer businesses in 13 markets in *Asia* and *EMEA*, as well as the exit of the Mexico consumer, small business and middle-market banking operations. 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. Citi expects that the implementation of its new operating segments and reporting units in the first quarter of 2022, as well as the timing and sequencing of the sales of its *Asia* consumer banking businesses, may result in goodwill impairment. See Notes 1 and 16 to the Consolidated Financial Statements for additional information on goodwill, including the changes in the goodwill balance year-over-year and the segments' goodwill balances as of December 31, 2021.

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 since it currently has sufficient branch tax carry-forwards. 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.

Deferred Tax Assets and Valuation Allowances

At December 31, 2021, Citi had net DTAs of $24.8 billion. In the fourth quarter of 2021, Citi's DTAs increased by $0.3 billion, primarily as a result of losses in *Other comprehensive income*. On a full-year basis, Citi's DTAs at December 31, 2021 were essentially unchanged from $24.8 billion at December 31, 2020.

Of Citi's total net DTAs of $24.8 billion as of December 31, 2021, $9.5 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, 2021, Citi did not have any such DTAs. Accordingly, the remaining $15.3 billion of net DTAs as of December 31, 2021 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, 2021 was $4.2 billion, a decrease of $1.0 billion from $5.2 billion at December 31, 2020. The decrease was primarily driven by usage of carry-forwards and expirations in the FTC branch basket. Citi's VA of $4.2 billion is composed of $2.5 billion on its FTC carry-forwards, $1.0 billion on its U.S. residual DTA related to its non-U.S. branches, $0.6 billion on local non-U.S. DTAs and $0.1 billion on state net operating loss carry-forwards.

In 2021, Citi reduced its VA for DTAs related to FTCs in its branch basket for 2021 and future periods. 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. In addition, during 2021, the global interest rate environment and balance sheet requirements in non-U.S. branches resulted in a lower relative allocation of interest expense to non-U.S. branches. The combination of the factors enumerated resulted in a VA release of $0.2 billion. Citi also released branch basket VA of $0.1 billion with respect to future years, based upon Citi's operating plan and estimates of future branch basket factors, as outlined above.

Citi's VA of $0.8 billion against FTC carry-forwards in its general basket was reduced by $0.2 billion in 2021, primarily as a result of audit adjustments made to prior years' returns. 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 valuation allowance that is needed against such FTCs. Citi continues to look for additional actions that may become prudent and feasible, taking into account client, regulatory and operational

considerations. (See Note 9 to the Consolidated Financial Statements.)

Recognized FTCs comprised approximately $2.8 billion of Citi's DTAs as of December 31, 2021, compared to approximately $4.4 billion as of December 31, 2020. The decrease in FTCs year-over-year was primarily due to current-year usage. The FTC carry-forward period represents the most time-sensitive component of Citi's DTAs.

Citi has an ODL of approximately $15 billion at December 31, 2021, which allows Citi to elect a percentage between 50% and 100% of future years' domestic source income to be reclassified as foreign source income. (See Note 9 to the Consolidated Financial Statements 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 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 City.

Although realization is not assured, Citi believes that the realization of its recognized net DTAs of $24.8 billion at December 31, 2021 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 valuation allowances into consideration.

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, 2021 (including the FTCs and applicable expiration dates of the FTCs), see Note 9 to the Consolidated Financial Statements. For information on Citi's ability to use its DTAs, see "Risk Factors—Strategic Risks" above and Note 9 to the Consolidated Financial Statements.

Potential U.S. Tax Legislation

On January 4, 2022, final 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. Citi is examining the extent to which these regulations will impact its effective tax rate. Any adoption effect on Citi's DTAs, including its valuation allowance against FTC carry-forwards, will be reported in the first quarter of 2022. Citi does not expect a significant impact on its 2022 effective tax rate. However, the U.S. president's proposed legislation discussed below, if enacted, could exacerbate the impact of these regulations.

The president has proposed the Build Back Better Act, which makes substantial changes to the taxation of multinational corporations. While the Act does not presently contain an increase to the U.S. corporate tax rate, it would impose a minimum level of U.S. taxation, computed on a jurisdiction by jurisdiction basis. The Organization for Economic Cooperation and Development (OECD) Inclusive Framework (140 countries) similarly proposed a minimum tax that could impact Citi.

2017 Impact of Tax Reform

The table below discloses the as-reported GAAP results for 2018 and 2017, as well as the 2017 adjusted results excluding the one-time 2017 impact of Tax Reform. The table does not reflect any adjustment to 2018 results:

In millions of dollars, except per share amounts and as otherwise noted	2018 as reported[(1)]	2017 as reported	2017 one-time impact of Tax Reform	2017 adjusted results[(2)]	2018 increase (decrease) vs. 2017 ex-Tax Reform	
					$ Change	% Change
Net income	$ 18,045	$ (6,798)	$ (22,594)	$ 15,796	$ 2,249	14 %
Diluted earnings per share:						
Income from continuing operations	6.69	(2.94)	(8.31)	5.37	1.32	25
Net income	6.68	(2.98)	(8.31)	5.33	1.35	25
Effective tax rate	22.8 %	129.1 %	(9,930) bps	29.8 %		(700) bps
Performance and other metrics:						
Return on average assets	0.94 %	(0.36)%	(120) bps	0.84 %		10 bps
Return on average common stockholders' equity	9.4	(3.9)	(1,090)	7.0		240
Return on average total stockholders' equity	9.1	(3.0)	(1,000)	7.0		210
Return on average tangible common equity	11.0	(4.6)	(1,270)	8.1		290
Dividend payout ratio	23.1	(32.2)	(5,020)	18.0		510
Total payout ratio	109.1	(213.9)	(33,140)	117.5		840

(1) 2018 includes the one-time benefit of $94 million, due to the finalization of the provisional component of the impact based on Citi's analysis as well as additional guidance received from the U.S. Treasury Department related to Tax Reform, which impacted the tax line within *Corporate/Other*.
(2) 2017 excludes the one-time impact of Tax Reform.

Litigation Accruals

See the discussion in Note 27 to the Consolidated Financial Statements for information regarding Citi's policies on establishing accruals for litigation and regulatory contingencies.

Accounting Changes

See Note 1 to the Consolidated Financial Statements 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, 2021. 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, 2021 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, 2021, 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, 2021 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, 2021 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, 2021.

FORWARD-LOOKING STATEMENTS

Certain statements in this Form 10-K, 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 U.S. Private Securities Litigation Reform Act of 1995. In addition, Citigroup also 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 and capital and other financial conditions may differ materially from those included in these statements due to a variety of factors, including without limitation (i) the precautionary statements included within 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, 2021 and 2020, 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, 2021, 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, 2021, 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, 2021 and 2020, and the results of its operations and its cash flows for each of the years in the three-year period ended December 31, 2021, 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, 2021 based on criteria established in Internal Control – Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission.

Change in Accounting Principle
As discussed in Note 1 to the consolidated financial statements, the Company has changed its method of accounting for the recognition and measurement of credit losses as of January 1, 2020 due to the adoption of ASC Topic 326, Financial Instruments – Credit Losses.

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 control 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, 24 and 25 to the consolidated financial statements, the Company's assets and liabilities recorded at fair value on a recurring basis were $856.6 billion and $313.4 billion, respectively at December 31, 2021. The Company estimated the fair value of Level 3 assets and liabilities measured on a recurring basis ($14.7 billion and $35.2 billion, respectively at December 31, 2021) 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 and inputs include interest rate, price, yield, credit spread, volatilities, correlations and forward prices. 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
- relevant information used within the Company's models that was reasonably available was considered in the fair value determination.

We evaluated the Company's methodology for compliance with U.S. generally accepted accounting principles. We involved valuation professionals with specialized skills and knowledge who assisted in developing an independent fair value estimate for a selection of certain Level 3 assets and liabilities recorded at fair value on a recurring basis, based on independently developed valuation models and assumptions, as applicable, using market data sources we determined to be relevant and reliable, and compared our independent expectation to the Company's fair value measurements.

Assessment of the allowance for credit losses collectively evaluated for impairment

As discussed in Notes 1 and 15 to the consolidated financial statements, the Company's allowance for credit losses related to loans and unfunded lending commitments collectively evaluated for impairment (the collective ACLL) was $18.3 billion as of December 31, 2021. 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 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 Company's models utilize a single forward-looking macroeconomic forecast and macroeconomic assumptions over reasonable and supportable forecast periods. Reasonable and supportable forecast periods vary by product. For consumer loan models, the Company uses a 13-quarter reasonable and supportable period and reverts to historical loss experience thereafter. For corporate loan models, the Company uses a nine-quarter reasonable and supportable period followed by a three-quarter transition to historical loss experience. Additionally, for consumer 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 as a critical audit matter. The assessment involved significant measurement uncertainty requiring complex

auditor judgment, and specialized skills and knowledge as well as experience in the industry. This 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 forecast periods, expected life as well as economic factors, including unemployment rates, gross domestic product (GDP) and housing prices, which are considered in the model. For corporate loans, key assumptions and inputs included risk ratings, reasonable and supportable forecasts, credit conversion factor for unfunded lending commitments, and economic factors, including GDP and unemployment rates considered in the model. Key assumptions and inputs for the qualitative component for both consumer and corporate loan portfolios included the likelihood and severity of a downside scenario and consideration of uncertainties due to idiosyncratic events as a result of the COVID-19 pandemic. 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 economic forecast scenarios through comparison to publicly available forecasts
- evaluating the methodologies used to develop certain economic forecast scenarios by comparing them 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 those components 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.

/s/ KPMG LLP)
We have served as the Company's auditor since 1969.

New York, New York
(PCAOB ID # 185)
February 25, 2022

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CONSOLIDATED FINANCIAL STATEMENTS
CONSOLIDATED STATEMENT OF INCOME *Citigroup Inc. and Subsidiaries*

	Years ended December 31,		
In millions of dollars, except per share amounts	**2021**	2020	2019
Revenues			
Interest revenue	**$ 50,475**	$ 58,089	$ 76,510
Interest expense	**7,981**	13,338	28,382
Net interest income	**$ 42,494**	$ 44,751	$ 48,128
Commissions and fees	**$ 13,672**	$ 11,385	$ 11,746
Principal transactions	**10,154**	13,885	8,892
Administration and other fiduciary fees	**3,943**	3,472	3,411
Realized gains on sales of investments, net	**665**	1,756	1,474
Impairment losses on investments:			
Impairment losses on investments and other assets	**(206)**	(165)	(32)
Provision for credit losses on AFS debt securities[1]	**(3)**	(3)	—
Net impairment losses recognized in earnings	**$ (209)**	$ (168)	$ (32)
Other revenue	**$ 1,165**	$ 420	$ 1,448
Total non-interest revenues	**$ 29,390**	$ 30,750	$ 26,939
Total revenues, net of interest expense	**$ 71,884**	$ 75,501	$ 75,067
Provisions for credit losses and for benefits and claims			
Provision for credit losses on loans	**$ (3,103)**	$ 15,922	$ 8,218
Provision for credit losses on held-to-maturity (HTM) debt securities	**(3)**	7	—
Provision for credit losses on other assets	**—**	7	—
Policyholder benefits and claims	**116**	113	73
Provision for credit losses on unfunded lending commitments	**(788)**	1,446	92
Total provisions for credit losses and for benefits and claims[2]	**$ (3,778)**	$ 17,495	$ 8,383
Operating expenses			
Compensation and benefits	**$ 25,134**	$ 22,214	$ 21,433
Premises and equipment	**2,314**	2,333	2,328
Technology/communication	**7,828**	7,383	7,077
Advertising and marketing	**1,490**	1,217	1,516
Other operating	**11,427**	11,227	10,429
Total operating expenses	**$ 48,193**	$ 44,374	$ 42,783
Income from continuing operations before income taxes	**$ 27,469**	$ 13,632	$ 23,901
Provision for income taxes	**5,451**	2,525	4,430
Income from continuing operations	**$ 22,018**	$ 11,107	$ 19,471
Discontinued operations			
Income (loss) from discontinued operations	**$ 7**	$ (20)	$ (31)
Benefit for income taxes	**—**	—	(27)
Income (loss) from discontinued operations, net of taxes	**$ 7**	$ (20)	$ (4)
Net income before attribution of noncontrolling interests	**$ 22,025**	$ 11,087	$ 19,467
Noncontrolling interests	**73**	40	66
Citigroup's net income	**$ 21,952**	$ 11,047	$ 19,401
Basic earnings per share[3]			
Income from continuing operations	**$ 10.21**	$ 4.75	$ 8.08
Loss from discontinued operations, net of taxes	**—**	(0.01)	—
Net income	**$ 10.21**	$ 4.74	$ 8.08
Weighted average common shares outstanding *(in millions)*	**2,033.0**	2,085.8	2,249.2
Diluted earnings per share[3]			
Income from continuing operations	**$ 10.14**	$ 4.73	$ 8.04
Loss from discontinued operations, net of taxes	**—**	(0.01)	—
Net income	**$ 10.14**	$ 4.72	$ 8.04
Adjusted weighted average common shares outstanding *(in millions)*	**2,049.4**	2,099.0	2,265.3

(1) This presentation is 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	**2021**	2020	2019
Citigroup's net income	**$ 21,952**	$ 11,047	$ 19,401
Add: Citigroup's other comprehensive income (loss)			
Net change in unrealized gains and losses on debt securities, net of taxes[1]	**$ (3,934)**	$ 3,585	$ 1,985
Net change in debt valuation adjustment (DVA), net of taxes[1]	**232**	(475)	(1,136)
Net change in cash flow hedges, net of taxes	**(1,492)**	1,470	851
Benefit plans liability adjustment, net of taxes[2]	**1,012**	(55)	(552)
Net change in foreign currency translation adjustment, net of taxes and hedges	**(2,525)**	(250)	(321)
Net change in excluded component of fair value hedges, net of taxes	**—**	(15)	25
Citigroup's total other comprehensive income (loss)	**$ (6,707)**	$ 4,260	$ 852
Citigroup's total comprehensive income	**$ 15,245**	$ 15,307	$ 20,253
Add: Other comprehensive income (loss) attributable to noncontrolling interests	**$ (99)**	$ 26	$ —
Add: Net income attributable to noncontrolling interests	**73**	40	66
Total comprehensive income	**$ 15,219**	$ 15,373	$ 20,319

(1) See Note 1 to the Consolidated Financial Statements.
(2) See Note 8 to the Consolidated Financial Statements.

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, 2021	2020
Assets		
Cash and due from banks (including segregated cash and other deposits)	**$ 27,515**	$ 26,349
Deposits with banks, net of allowance	**234,518**	283,266
Securities borrowed and purchased under agreements to resell (including $216,466 and $185,204 as of December 31, 2021 and 2020, respectively, at fair value), net of allowance	**327,288**	294,712
Brokerage receivables, net of allowance	**54,340**	44,806
Trading account assets (including $133,828 and $168,967 pledged to creditors at December 31, 2021 and 2020, respectively)	**331,945**	375,079
Investments:		
Available-for-sale debt securities (including $9,226 and $5,921 pledged to creditors as of December 31, 2021 and 2020, respectively), net of allowance	**288,522**	335,084
Held-to-maturity debt securities (including $1,460 and $547 pledged to creditors as of December 31, 2021 and 2020, respectively), net of allowance	**216,963**	104,943
Equity securities (including $1,032 and $1,066 as of December 31, 2021 and 2020, respectively, at fair value)	**7,337**	7,332
Total investments	**$ 512,822**	$ 447,359
Loans:		
Consumer (including $12 and $14 as of December 31, 2021 and 2020, respectively, at fair value)	**271,236**	288,839
Corporate (including 6,070 and 6,840 as of December 31, 2021 and 2020, respectively, at fair value)	**396,531**	387,044
Loans, net of unearned income	**$ 667,767**	$ 675,883
Allowance for credit losses on loans (ACLL)	**(16,455)**	(24,956)
Total loans, net	**$ 651,312**	$ 650,927
Goodwill	**21,299**	22,162
Intangible assets (including MSRs of $404 and $336 as of December 31, 2021 and 2020, respectively, at fair value)	**4,495**	4,747
Other assets (including $12,342 and $14,613 as of December 31, 2021 and 2020, respectively, at fair value), net of allowance	**125,879**	110,683
Total assets	**$ 2,291,413**	$ 2,260,090

The following table presents certain assets of consolidated variable interest entities (VIEs), which are included on the Consolidated Balance Sheet above. 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.

In millions of dollars	December 31, 2021	2020
Assets of consolidated VIEs to be used to settle obligations of consolidated VIEs		
Cash and due from banks	**$ 260**	$ 281
Trading account assets	**10,038**	8,104
Investments	**844**	837
Loans, net of unearned income		
Consumer	**34,677**	37,561
Corporate	**14,312**	17,027
Loans, net of unearned income	**$ 48,989**	$ 54,588
Allowance for credit losses on loans (ACLL)	**(2,668)**	(3,794)
Total loans, net	**$ 46,321**	$ 50,794
Other assets	**1,174**	43
Total assets of consolidated VIEs to be used to settle obligations of consolidated VIEs	**$ 58,637**	$ 60,059

Statement continues on the next page.

CONSOLIDATED BALANCE SHEET

Citigroup Inc. and Subsidiaries

(Continued)

In millions of dollars, except shares and per share amounts	December 31, 2021	2020
Liabilities		
Non-interest-bearing deposits in U.S. offices	**$ 158,552**	$ 126,942
Interest-bearing deposits in U.S. offices (including $879 and $879 as of December 31, 2021 and 2020, respectively, at fair value)	**543,283**	503,213
Non-interest-bearing deposits in offices outside the U.S.	**97,270**	100,543
Interest-bearing deposits in offices outside the U.S. (including $787 and $1,079 as of December 31, 2021 and 2020, respectively, at fair value)	**518,125**	549,973
Total deposits	**$ 1,317,230**	$ 1,280,671
Securities loaned and sold under agreements to repurchase (including $56,694 and $60,206 as of December 31, 2021 and 2020, respectively, at fair value)	**191,285**	199,525
Brokerage payables (including $3,575 and $6,835 as of December 31, 2021 and 2020, respectively, at fair value), including allowance	**61,430**	50,484
Trading account liabilities	**161,529**	168,027
Short-term borrowings (including $7,358 and $4,683 as of December 31, 2021 and 2020, respectively, at fair value)	**27,973**	29,514
Long-term debt (including $82,609 and $67,063 as of December 31, 2021 and 2020, respectively, at fair value)	**254,374**	271,686
Other liabilities	**74,920**	59,983
Total liabilities	**$ 2,088,741**	$ 2,059,890
Stockholders' equity		
Preferred stock ($1.00 par value; authorized shares: 30 million), issued shares: **759,800 as of December 31, 2021** and 779,200 as of December 31, 2020, at aggregate liquidation value	**$ 18,995**	$ 19,480
Common stock ($0.01 par value; authorized shares: 6 billion), issued shares: **3,099,651,835 as of December 31, 2021** and 3,099,633,160 as of December 31, 2020	**31**	31
Additional paid-in capital	**108,003**	107,846
Retained earnings	**184,948**	168,272
Treasury stock, at cost: **1,115,296,641 shares as of December 31, 2021** and 1,017,543,951 shares as of December 31, 2020	**(71,240)**	(64,129)
Accumulated other comprehensive income (loss) (*AOCI*)	**(38,765)**	(32,058)
Total Citigroup stockholders' equity	**$ 201,972**	$ 199,442
Noncontrolling interests	**700**	758
Total equity	**$ 202,672**	$ 200,200
Total liabilities and equity	**$ 2,291,413**	$ 2,260,090

The following table presents certain liabilities of consolidated VIEs, which are included on the Consolidated Balance Sheet above. 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	December 31, 2021	2020
Liabilities of consolidated VIEs for which creditors or beneficial interest holders do not have recourse to the general credit of Citigroup		
Short-term borrowings	**$ 8,376**	$ 9,278
Long-term debt	**12,579**	20,405
Other liabilities	**694**	463
Total liabilities of consolidated VIEs for which creditors or beneficial interest holders do not have recourse to the general credit of Citigroup	**$ 21,649**	$ 30,146

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	**2021**	2020	2019	**2021**	2020	2019
Preferred stock at aggregate liquidation value						
Balance, beginning of year	**$ 19,480**	$ 17,980	$ 18,460	**779**	719	738
Issuance of new preferred stock	**3,300**	3,000	1,500	**132**	120	60
Redemption of preferred stock	**(3,785)**	(1,500)	(1,980)	**(151)**	(60)	(79)
Balance, end of year	**$ 18,995**	$ 19,480	$ 17,980	**760**	779	719
Common stock and additional paid-in capital (APIC)						
Balance, beginning of year	**$ 107,877**	$ 107,871	$ 107,953	**3,099,633**	3,099,603	3,099,567
Employee benefit plans	**85**	5	(112)	**19**	30	36
Preferred stock issuance costs (new issuances, net of reclassifications to retained earnings for redemptions)	**25**	(4)	(4)	**—**	—	—
Other	**47**	5	34	**—**	—	—
Balance, end of year	**$ 108,034**	$ 107,877	$ 107,871	**3,099,652**	3,099,633	3,099,603
Retained earnings						
Balance, beginning of year	**$ 168,272**	$ 165,369	$ 151,347			
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	—			
Lease accounting, intra-entity transfers of assets	**—**	—	151			
Adjusted balance, beginning of year	**$ 168,272**	$ 162,623	$ 151,498			
Citigroup's net income	**21,952**	11,047	19,401			
Common dividends[2]	**(4,196)**	(4,299)	(4,403)			
Preferred dividends	**(1,040)**	(1,095)	(1,109)			
Other (primarily reclassifications from APIC for preferred issuance costs on redemptions)	**(40)**	(4)	(18)			
Balance, end of year	**$ 184,948**	$ 168,272	$ 165,369			
Treasury stock, at cost						
Balance, beginning of year	**$ (64,129)**	$ (61,660)	$ (44,370)	**(1,017,544)**	(985,480)	(731,100)
Employee benefit plans[3]	**489**	456	585	**7,745**	8,676	9,872
Treasury stock acquired[4]	**(7,600)**	(2,925)	(17,875)	**(105,498)**	(40,740)	(264,252)
Balance, end of year	**$ (71,240)**	$ (64,129)	$ (61,660)	**(1,115,297)**	(1,017,544)	(985,480)
Citigroup's accumulated other comprehensive income (loss)						
Balance, beginning of year	**$ (32,058)**	$ (36,318)	$ (37,170)			
Citigroup's total other comprehensive income (loss)	**(6,707)**	4,260	852			
Balance, end of year	**$ (38,765)**	$ (32,058)	$ (36,318)			
Total Citigroup common stockholders' equity	**$ 182,977**	$ 179,962	$ 175,262	**1,984,355**	2,082,089	2,114,123
Total Citigroup stockholders' equity	**$ 201,972**	$ 199,442	$ 193,242			
Noncontrolling interests						
Balance, beginning of year	**$ 758**	$ 704	$ 854			
Transactions between noncontrolling-interest shareholders and the related consolidated subsidiary	**—**	—	—			
Transactions between Citigroup and the noncontrolling-interest shareholders	**(10)**	(4)	(169)			
Net income attributable to noncontrolling-interest shareholders	**73**	40	66			
Distributions paid to noncontrolling-interest shareholders	**(10)**	(2)	(40)			
Other comprehensive income (loss) attributable to noncontrolling-interest shareholders	**(99)**	26	—			
Other	**(12)**	(6)	(7)			
Net change in noncontrolling interests	**$ (58)**	$ 54	$ (150)			
Balance, end of year	**$ 700**	$ 758	$ 704			
Total equity	**$ 202,672**	$ 200,200	$ 193,946			

(1) See Note 1 to the Consolidated Financial Statements for additional details.
(2) Common dividends declared were $0.51 per share in the first, second, third and fourth quarters of 2021 and 2020; $0.45 per share in the first and second quarters of 2019 and $0.51 per share in the third and fourth quarters of 2019.
(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 programs.

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

	Years ended December 31,		
In millions of dollars	**2021**	2020	2019
Cash flows from operating activities of continuing operations			
Net income before attribution of noncontrolling interests	**$ 22,025**	$ 11,087	$ 19,467
Net income attributable to noncontrolling interests	**73**	40	66
Citigroup's net income	**$ 21,952**	$ 11,047	$ 19,401
Income (loss) from discontinued operations, net of taxes	**7**	(20)	(4)
Income from continuing operations—excluding noncontrolling interests	**$ 21,945**	$ 11,067	$ 19,405
Adjustments to reconcile net income to net cash provided by (used in) operating activities of continuing operations			
Net loss on significant disposals[1]	**700**	—	—
Depreciation and amortization	**3,964**	3,937	3,905
Deferred income taxes	**1,413**	(2,333)	(610)
Provision for credit losses on loans and unfunded lending commitments	**(3,891)**	17,368	8,310
Realized gains from sales of investments	**(665)**	(1,756)	(1,474)
Impairment losses on investments and other assets	**206**	165	32
Change in trading account assets	**43,059**	(98,997)	(20,124)
Change in trading account liabilities	**(6,498)**	48,133	(24,411)
Change in brokerage receivables net of brokerage payables	**1,412**	(3,066)	(20,377)
Change in loans HFS	**(3,809)**	1,202	(909)
Change in other assets	**(2,139)**	(1,012)	4,724
Change in other liabilities	**6,839**	558	1,737
Other, net	**(1,287)**	4,113	16,955
Total adjustments	**$ 39,304**	$ (31,688)	$ (32,242)
Net cash provided by (used in) operating activities of continuing operations	**$ 61,249**	$ (20,621)	$ (12,837)
Cash flows from investing activities of continuing operations			
Change in securities borrowed and purchased under agreements to resell	**$ (32,576)**	$ (43,390)	$ 19,362
Change in loans	**(1,173)**	14,249	(22,466)
Proceeds from sales and securitizations of loans	**2,918**	1,495	2,878
Purchases of investments	**(359,158)**	(334,900)	(274,491)
Proceeds from sales of investments	**126,728**	146,285	137,173
Proceeds from maturities of investments	**142,100**	124,229	119,051
Capital expenditures on premises and equipment and capitalized software	**(4,119)**	(3,446)	(5,336)
Proceeds from sales of premises and equipment, subsidiaries and affiliates and repossessed assets	**190**	50	259
Other, net	**185**	116	196
Net cash used in investing activities of continuing operations	**$ (124,905)**	$ (95,312)	$ (23,374)
Cash flows from financing activities of continuing operations			
Dividends paid	**$ (5,198)**	$ (5,352)	$ (5,447)
Issuance of preferred stock	**3,300**	2,995	1,496
Redemption of preferred stock	**(3,785)**	(1,500)	(1,980)
Treasury stock acquired	**(7,601)**	(2,925)	(17,571)
Stock tendered for payment of withholding taxes	**(337)**	(411)	(364)
Change in securities loaned and sold under agreements to repurchase	**(8,240)**	33,186	(11,429)
Issuance of long-term debt	**70,658**	76,458	59,134
Payments and redemptions of long-term debt	**(74,950)**	(63,402)	(51,029)
Change in deposits	**44,966**	210,081	57,420
Change in short-term borrowings	**(1,541)**	(15,535)	12,703

CONSOLIDATED STATEMENT OF CASH FLOWS (Continued)

Citigroup Inc. and Subsidiaries

	Years ended December 31,		
In millions of dollars	**2021**	2020	2019
Net cash provided by financing activities of continuing operations	**$ 17,272**	$ 233,595	$ 42,933
Effect of exchange rate changes on cash and due from banks	**$ (1,198)**	$ (1,966)	$ (908)
Change in cash, due from banks and deposits with banks	**(47,582)**	115,696	5,814
Cash, due from banks and deposits with banks at beginning of year	**309,615**	193,919	188,105
Cash, due from banks and deposits with banks at end of year	**$ 262,033**	$ 309,615	$ 193,919
Cash and due from banks (including segregated cash and other deposits)	**$ 27,515**	$ 26,349	$ 23,967
Deposits with banks, net of allowance	**234,518**	283,266	169,952
Cash, due from banks and deposits with banks at end of year	**$ 262,033**	$ 309,615	$ 193,919
Supplemental disclosure of cash flow information for continuing operations			
Cash paid during the year for income taxes	**$ 4,028**	$ 4,797	$ 4,888
Cash paid during the year for interest	**7,143**	12,094	27,901
Non-cash investing activities[(1)(2)]			
Decrease in net loans associated with significant disposals reclassified to HFS	**$ 9,945**	$ —	$ —
Transfers to loans HFS (*Other assets*) from loans	**7,414**	2,614	5,500
Non-cash financing activities[(1)]			
Decrease in long-term debt associated with significant disposals reclassified to HFS	**$ 479**	$ —	$ —
Decrease in deposits associated with significant disposals reclassified to HFS	**8,407**	—	—

(1) See Note 2 to the Consolidated Financial Statements for further information on significant disposals.
(2) 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 26 to the Consolidated Financial Statements for more information and balances.

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 21 to the Consolidated Financial Statements, 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 21 to the Consolidated Financial Statements 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)*, 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*.

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.

For investments in debt securities classified as held-to-maturity (HTM) or available-for-sale (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.

Debt securities not measured at fair value through earnings include securities held in HTM or AFS, and equity securities accounted for under the Measurement Alternative or equity method and Federal Reserve Bank, Federal Home Loan Bank stock and certain exchange seats. These securities are subject to evaluation for impairment as described in Note 15 to the Consolidated Financial Statements 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 24 to the Consolidated Financial Statements.

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 25 to the Consolidated Financial Statements, 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 25 to the Consolidated Financial Statements).

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 hedge 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 25 to the Consolidated Financial Statements.

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 22 to the Consolidated Financial Statements.

The Company uses a number of techniques to determine the fair value of trading assets and liabilities, which are described in Note 24 to the Consolidated Financial Statements.

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 25 to the Consolidated Financial Statements, 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 24 to the Consolidated Financial Statements, 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 25 to the Consolidated Financial Statements, the Company has

elected to apply fair value accounting to certain 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 24 to the Consolidated Financial Statements, 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 25 to the Consolidated Financial Statements, 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 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 *Global Consumer Banking (GCB)* businesses and *Corporate/Other*.

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*). 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 written down to the lower of carrying value 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 held-for-sale*.

Allowances for Credit Losses (ACL)

Commencing January 1, 2020, Citi adopted Accounting Standards Update (ASC) 326, *Financial Instruments—Credit Losses*, using the methodologies described below. For information about Citi's accounting for loan losses prior to January 1, 2020, see "Superseded Accounting Principles" 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 to the Consolidated Financial Statements 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 prior U.S. GAAP.

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. Where the asset's life extends beyond the R&S forecast period, Citi considers historical experience over the remaining life of the assets in estimating the ACL.

Citi uses a multitude of variables in its macroeconomic forecast as part of its calculation of both the qualitative and quantitative components of the ACL, including both domestic and international variables for its global portfolios and exposures. 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 its consumer and corporate ACLs. Under the quantitative base scenario, Citi's 4Q21 forecasts are for U.S. unemployment to continue to improve as the U.S. continues to move past the peak of the pandemic-related health and economic crisis.

The following are the main factors and interpretations that Citi considers when estimating the ACL under the CECL methodology:

- The most important reasons for the change in the ACL during 2021 were the ACL releases resulting from the recovery from the pandemic.
- 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 such as 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 economic forecasting team (EFT) that are approved by senior management. Analysis is performed and documented to determine the necessary qualitative management adjustment (QMA) to capture forward-looking macroeconomic expectations and model uncertainty.
- The portion of the forecast that reflects the EFT's reasonable and supportable (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 reasonable and supportable (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 loans is 13 quarters and, in most cases, reverts to historically based loss experience either immediately or using a straight-line approach thereafter, while the R&S period for corporate loans is nine quarters with an additional straight-line reversion period of three quarters for ECL parameters.
- 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 the discounted cash flow method and considers 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 a single forward-looking macroeconomic forecast, complemented by the qualitative component that reflects economic uncertainty due to a different possible more adverse scenario for estimating the ACL. 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: the uncertainty of forward-looking scenarios based on the likelihood and severity of a possible recession; the uncertainty of economic conditions related to an alternative downside scenario; certain portfolio characteristics and concentrations; collateral coverage; model limitations; idiosyncratic events; and other relevant criteria under banking supervisory guidance for loan loss reserves. 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.

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. As such, only the principal balance is subject to the CECL reserve methodology and interest does not attract a further reserve. FAS 91-deferred origination costs and fees related to new 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 only for consumer loans 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. As such, the entire customer balance up until write-off, including accrued interest and fees, will be subject to the CECL reserve methodology.

Corporate Loans and HTM Securities

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 and HTM debt securities. 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.

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, credit losses are 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. 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 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 *GCB*) 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 in the Delinquency-Managed Portfolios for Performing Exposures
In addition, 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. 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, among other things, are all taken into account during this review. 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 to the Consolidated Financial Statements.

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 to the Consolidated Financial Statements.

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. 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.

Other Assets and Other Liabilities
Other assets include, among other items, loans HFS, deferred tax assets, equity method investments, interest and fees receivable, lease right-of-use assets, premises and equipment (including purchased and developed software), repossessed assets and other receivables. *Other liabilities* include, among other items, accrued expenses and other payables, lease liabilities, deferred tax liabilities and reserves for legal claims, taxes, unfunded lending commitments, repositioning reserves and other payables.

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 the debt is in a fair value hedging relationship.

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 21 to the Consolidated Financial Statements 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 22 to the Consolidated Financial Statements 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. See Note 8 to the Consolidated Financial Statements.

Stock-Based Compensation

The Company recognizes compensation expense related to stock and option 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 to the Consolidated Financial Statements.

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 to the Consolidated Financial Statements 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 to the Consolidated Financial Statements for a description of the Company's revenue recognition policies for *Commissions and fees*, and Note 6 to the Consolidated Financial Statements for details of *Principal transactions* revenue.

Earnings per Share

Earnings per share (EPS) is computed after deducting preferred stock dividends. The Company has granted restricted and deferred share awards with dividend rights that are considered to be participating securities, which are akin to a second class of common stock. Accordingly, a portion of Citigroup's earnings is allocated to those participating securities in the EPS calculation.

Basic earnings per share is computed by dividing income available to common stockholders after the allocation of dividends and undistributed earnings to the participating securities by the weighted average number of common shares outstanding for the period. *Diluted earnings per share* reflects the potential dilution that could occur if securities or other contracts to issue common stock were exercised. It is computed after giving consideration to the weighted average dilutive effect of the Company's stock options and warrants and convertible securities and after the allocation of earnings to the participating securities. Anti-dilutive options and warrants are disregarded in the EPS calculations.

Use of Estimates

Management must make estimates and assumptions that affect the Consolidated Financial Statements and the related Notes to the Consolidated Financial Statements. Such estimates are used in connection with certain fair value measurements. See Note 24 to the Consolidated Financial Statements 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 and 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 Flows

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.

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

Accounting for Deposit Insurance Expenses

During the fourth quarter of 2021, Citi changed its presentation of accounting for 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 Financial Accounting Standards Board (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.

Under the CECL methodology, the *Allowance for credit losses* consists of quantitative and qualitative components. Citi's quantitative component of the *Allowance for credit losses* is model based and utilizes a single forward-looking macroeconomic forecast and discounts inputs for the corporate classifiably managed portfolios, complemented by the qualitative component described below, in estimating expected credit losses and discounts inputs for the corporate classifiably managed portfolios. Reasonable and supportable forecast periods vary by product. For example, Citi's consumer models use a 13-quarter reasonable and supportable period and revert to historical loss experience thereafter, while its corporate loan models use a nine-quarter reasonable and supportable period followed by a three-quarter graduated transition to historical loss experience.

The qualitative management adjustment component includes, among other things, management adjustments to reflect economic uncertainty based on the likelihood and severity of downside scenarios and certain portfolio characteristics not captured in the quantitative component, such as concentrations, collateral coverage, model limitations, idiosyncratic events and other factors as required by banking supervisory guidance for the ACL. The qualitative management adjustment component also includes management adjustments to reflect the uncertainty around the estimated impact of the pandemic on credit loss estimates.

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.

Reference Rate Reform

In March 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. Specifically, the guidance permits an entity, when certain criteria are met, to consider amendments to contracts made to comply with reference rate reform to meet the definition of a modification under U.S. GAAP. It further allows hedge accounting to be maintained and permits a one-time transfer or sale of qualifying held-to-maturity securities. The expedients and exceptions provided by the amendments are permitted to be adopted any time through December 31, 2022 and do not apply to contract modifications made and hedging relationships entered into or evaluated after December 31, 2022, except for certain optional expedients elected for certain hedging relationships existing as of December 31, 2022. The ASU was adopted by Citi as of June 30, 2020 with prospective application and did not impact financial results in 2020.

In January 2021, the FASB issued ASU No. 2021-01, *Reference Rate Reform (Topic 848): Scope*, which clarifies that the scope of the initial accounting relief issued by the FASB in March 2020 includes derivative instruments that do not reference a rate that is expected to be discontinued but that use an interest rate for margining, discounting or contract price alignment that is modified as a result of reference rate reform (commonly referred to as the "discounting transition"). The amendments do not apply to contract modifications made after December 31, 2022, new hedging relationships entered into after December 31, 2022 and existing hedging relationships evaluated for effectiveness in periods after December 31, 2022, except for hedging relationships existing as of December 31, 2022 that apply certain optional expedients in which the accounting effects are recorded through the end of the hedging relationship. The ASU was adopted by Citi on a full retrospective basis upon issuance and did not impact financial results in 2020.

Lease Accounting

In February 2016, the FASB issued ASU No. 2016-02, *Leases (Topic 842)*, which increases the transparency and comparability of accounting for lease transactions. The ASU requires lessees to recognize liabilities for operating leases and corresponding right-of-use (ROU) assets on the balance sheet. The ASU also requires quantitative and qualitative disclosures regarding key information about leasing arrangements. Lessee accounting for finance leases, as well as lessor accounting, is largely unchanged.

Effective January 1, 2019, Citi prospectively adopted the provisions of the ASU. At adoption, Citi recognized a lease liability and a corresponding ROU asset of approximately $4.4 billion on the Consolidated Balance Sheet related to its future lease payments as a lessee under operating leases. In addition, Citi recorded a $151 million increase in *Retained earnings* for the cumulative effect of recognizing previously deferred gains on sale/leaseback transactions. Adoption of the ASU did not have a material impact on the Consolidated Statement of Income. See Notes 14 and 26 for additional details.

Citi has elected not to separate lease and non-lease components in its lease contracts and accounts for them as a single lease component. Citi has also elected not to record an ROU asset for short-term leases that have a term of 12 months or less and do not contain purchase options that Citi is reasonably certain to exercise. The cost of short-term leases is recognized in the Consolidated Statement of Income on a straight-line basis over the lease term. In addition, Citi applies the portfolio approach to account for certain equipment leases with nearly identical contractual terms.

Lessee Accounting

Operating lease ROU assets and lease liabilities are included in *Other assets* and *Other liabilities*, respectively, on the Consolidated Balance Sheet. Finance lease assets and liabilities are included in *Other assets* and *Long-term debt*, respectively, on the Consolidated Balance Sheet. Citi uses its incremental borrowing rate, factoring in the lease term, to

determine the lease liability, which is measured at the present value of future lease payments. The ROU asset is initially measured at the amount of the lease liability plus any prepaid rent and remaining initial direct costs, less any remaining lease incentives and accrued rent. The ROU asset is subject to impairment, during the lease term, in a manner consistent with the impairment of long-lived assets. The lease terms include periods covered by options to extend or terminate the lease depending on whether Citi is reasonably certain to exercise such options.

Lessor Accounting

Lessor accounting is largely unchanged under the ASU. Citi acts as a lessor for power, railcar, shipping and aircraft assets, where Citi has executed operating, direct financing and leveraged leasing arrangements. In a direct financing or a leveraged lease, Citi derecognizes the leased asset and records a lease financing receivable at lease commencement in *Loans*. Upon lease termination, Citi may obtain control of the asset, which is then recorded in *Other assets* on the Consolidated Balance Sheet and any remaining receivable for the asset's residual value is derecognized. Under the ASU, leveraged lease accounting is grandfathered and may continue to be applied until the leveraged lease is terminated or modified. Upon modification, the lease must be classified as an operating, direct finance or sales-type lease in accordance with the ASU.

Separately, as part of managing its real estate footprint, Citi subleases excess real estate space via operating lease arrangements.

FUTURE ACCOUNTING CHANGES

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 will be 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 plans to adopt the targeted improvements in ASU 2018-12 on January 1, 2023 and is currently evaluating the impact of the standard on its insurance subsidiaries. Citi does not expect a material impact to its results of operations as a result of adopting the standard.

SUPERSEDED ACCOUNTING PRINCIPLES

The following accounting principle was in effect for 2019 since ASU No. 2016-13, *Financial Instruments—Credit Losses (Topic 326)* became effective beginning on January 1, 2020.

Allowance for Credit Losses

The allowance for credit losses on loans represents management's best estimate of probable credit losses inherent in the portfolio, including probable losses related to large individually evaluated impaired loans and troubled debt restructurings. Additions to the allowance are made through the *Provision for credit losses on loans*. Loan losses are deducted from the allowance and subsequent recoveries are added. Assets received in exchange for loan claims in a restructuring are initially recorded at fair value, with any gain or loss reflected as a recovery or charge-off in the provision.

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	2021	2020	2019
Total revenues, net of interest expense	**$ —**	$ —	$ —
Income (loss) from discontinued operations	**$ 7**	$ (20)	$ (31)
Benefit for income taxes	**—**	—	(27)
Income (loss) from discontinued operations, net of taxes	**$ 7**	$ (20)	$ (4)

Cash flows from *Discontinued operations* were not material for any period presented.

Significant Disposals

The following transactions were identified as significant disposals that are recorded within the *GCB* segment, including the assets and liabilities that were reclassified to held-for-sale within *Other assets* and *Other liabilities* on the Consolidated Balance Sheet and the *Income (loss) before taxes (benefits)* related to each business.

Agreement to Sell Australia Consumer Banking Business

On August 9, 2021, Citi entered into an agreement to sell its Australia consumer banking business, which is part of *Asia GCB*. The sale, which is subject to regulatory approvals and other closing conditions, is expected to close in the first half of 2022. As of December 31, 2021, Citi reported the business as held-for-sale, resulting in a pretax loss on sale of approximately $700 million recorded in *Other revenue* ($600 million after-tax), subject to closing adjustments. The loss on sale primarily reflected the impact of a pretax $625 million currency translation adjustment (CTA) loss (net of hedges) ($475 million after-tax) already reflected in the *Accumulated other comprehensive income (AOCI)* component of equity. Upon closing, the CTA-related balance will be removed from the *AOCI* component of equity, resulting in a neutral CTA impact to Citi's Common Equity Tier 1 Capital. Income before taxes, excluding the above referenced pretax loss on sale, for the Australia consumer banking business was as follows:

In millions of dollars	2021	2020	2019
Income before taxes	**$ 306**	$ 181	$ 302

The following assets and liabilities for the Australia consumer banking business were identified and reclassified to held-for-sale within *Other assets* and *Other liabilities* on the Consolidated Balance Sheet at December 31, 2021:

In millions of dollars	December 31, 2021
Assets	
Cash and deposits with banks	**$ 24**
Loans (net of allowance of $242 million at December 31, 2021)	**8,813**
Goodwill and intangible assets	**257**
Other assets	**81**
Total assets	**$ 9,175**
Liabilities	
Deposits	**$ 7,034**
Long-term debt	**479**
Other liabilities	**171**
Total liabilities	**$ 7,684**

Agreement to Sell Philippines Consumer Banking Business

On December 23, 2021, Citi entered into an agreement to sell its Philippines consumer banking business, which is part of *Asia GCB*. The sale, which is subject to regulatory approvals and other closing conditions, is expected to close in the second half of 2022 and result in an after-tax gain upon closing. Income before taxes for the period in which the individually significant component was classified as held-for-sale and for all prior periods was as follows:

In millions of dollars	2021	2020	2019
Income before taxes	**$ 145**	$ 42	$ 196

The following assets and liabilities for the Philippines consumer banking business were identified and reclassified to held-for-sale within *Other assets* and *Other liabilities* on the Consolidated Balance Sheet at December 31, 2021:

In millions of dollars	December 31, 2021
Assets	
Cash and deposits with banks	**$ 20**
Loans (net of allowance of $96 million at December 31, 2021)	**1,132**
Goodwill	**244**
Other assets, advances to/from subs	**588**
Other assets	**63**
Total assets	**$ 2,047**
Liabilities	
Deposits	**$ 1,373**
Other liabilities	**76**
Total liabilities	**$ 1,449**

Sale of Mexico Asset Management Business

On September 21, 2018, Citi completed the sale of its Mexico asset management business, which was part of *Latin America GCB*. As part of the sale, Citi derecognized total assets of $137 million and total liabilities of $41 million. The transaction resulted in a pretax gain on sale of approximately $250 million (approximately $150 million after-tax) recorded in *Other revenue* in 2018. Further, Citi and the buyer entered into a 10-year services framework agreement, with Citi acting as the distributor in exchange for an ongoing fee.

Income before taxes for the divested business, excluding the pretax gain on sale, was as follows:

In millions of dollars	**2021**	2020	2019
Income before taxes	**$ —**	$ —	$ 123

Other Business Exits

Wind-Down of Korea Consumer Banking Business

On October 25, 2021, Citi announced its decision to wind down and close its Korea consumer banking business, which is part of *Asia GCB*. In connection with the announcement, Citibank Korea Inc. (CKI) commenced a voluntary termination program (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*.

For the year ended December 31, 2021, Citigroup recorded pretax charges of approximately $1.1 billion, composed of gross charges connected to the Korea voluntary termination program.

The following table summarizes the reserve charges related to the voluntary termination program and other initiatives reported in the *GCB* business segment:

In millions of dollars		**2021**
Employee termination costs (pretax)		
Original reserve charges	**$**	**1,052**
Utilization		**(1)**
Foreign exchange		**3**
Balance at December 31, 2021	**$**	**1,054**

The total estimated cash charges for the termination program are approximately $1.1 billion, of which most are already recognized in 2021. Citi expects to recognize the remaining charges throughout 2022, as voluntary retirements are phased in and irrevocably accepted in order to minimize business and operational impacts.

3. OPERATING SEGMENTS

As of December 31, 2021, Citigroup's primary activities were conducted through the following operating segments: *Institutional Clients Group (ICG)* and *Global Consumer Banking (GCB)*. Activities not assigned to the operating segments, as well as certain *North America* legacy consumer loan portfolios, discontinued operations and other legacy assets, were included in *Corporate/Other*.

The operating segments are determined based on how management allocates resources and measures financial performance to make business decisions, and are reflective of the types of customers served, and products and services provided.

ICG consisted of *Banking* and *Markets and securities services*, providing institutional, public sector and high-net-worth clients in 95 countries and jurisdictions with a broad range of banking and financial products and services.

GCB included a global, full-service consumer franchise delivering a wide array of banking, credit card, lending and investment services through a network of local branches, offices and electronic delivery systems and consisted of three *GCB* reporting units: *North America*, *Latin America* and *Asia* (including consumer banking activities in certain *EMEA* countries).

Corporate/Other included certain unallocated costs of global functions, other corporate expenses and net treasury results, offsets to certain line-item reclassifications and eliminations, and unallocated taxes.

Beginning in 2021, Citi changed its allocation for certain recurring expenses that are attributable to the operating segments from *Corporate/Other* to *GCB* and *ICG*. These expenses include incremental investments related to risks and controls, technology capabilities and information security initiatives, as well as some incremental spend related to the pandemic. The prior-period reportable operating segment results have been revised to conform to the current-year presentation for all periods to reflect this revised allocation methodology. Citi's consolidated results were unchanged for all periods presented as a result of the changes discussed above.

As part of its strategic refresh, Citi is making management reporting changes to align with its vision and strategy, including to assist Citi in decisions about resources and capital allocation and to assess business performance. In the first quarter of 2022, Citi plans to revise its financial reporting structure to align with these management reporting changes.

The accounting policies of these operating segments are the same as those disclosed in Note 1 to the Consolidated Financial Statements.

The following table presents certain information regarding the Company's continuing operations by operating segment and *Corporate/Other*:

	Revenues, net of interest expense[(1)]			**Provision (benefits) for income taxes**			**Income (loss) from continuing operations[(2)]**			**Identifiable assets**	
In millions of dollars, except identifiable assets in billions	**2021**	2020	2019	**2021**	2020	2019	**2021**	2020	2019	**2021**	2020
Institutional Clients Group	**$ 43,887**	$ 45,088	$ 39,824	**$ 4,524**	$ 3,303	$ 3,524	**$ 15,763**	$ 11,553	$ 12,776	**$ 1,762**	$ 1,730
Global Consumer Banking	**27,330**	30,342	33,221	**1,745**	143	1,708	**6,046**	663	5,579	**432**	434
Corporate/Other	**667**	71	2,022	**(818)**	(921)	(802)	**209**	(1,109)	1,116	**97**	96
Total	**$ 71,884**	$ 75,501	$ 75,067	**$ 5,451**	$ 2,525	$ 4,430	**$ 22,018**	$ 11,107	$ 19,471	**$ 2,291**	$ 2,260

(1) Includes total revenues, net of interest expense (excluding *Corporate/Other*), in *North America* of $34.2 billion, $36.8 billion and $34.1 billion; in *EMEA* of $13.1 billion, $13.0 billion and $12.2 billion; in *Latin America* of $9.2 billion, $9.4 billion and $10.6 billion; and in *Asia* of $14.7 billion, $16.2 billion and $16.2 billion in 2021, 2020 and 2019, respectively. These regional numbers exclude *Corporate/Other*, which largely reflects U.S. activities.

(2) Includes pretax provisions for credit losses and for benefits and claims in the *ICG* results of $(2.9) billion, $5.6 billion and $0.6 billion; in the *GCB* results of $(0.5) billion, $11.7 billion and $7.9 billion; and in the *Corporate/Other* results of $(0.4) billion, $0.2 billion and $(0.1) billion in 2021, 2020 and 2019, respectively.

4. INTEREST REVENUE AND EXPENSE

Interest revenue and *Interest expense* consisted of the following:

In millions of dollars	**2021**	2020	2019
Interest revenue			
Loan interest, including fees	**$ 35,440**	$ 40,185	$ 47,751
Deposits with banks	**577**	928	2,682
Securities borrowed and purchased under agreements to resell	**1,052**	2,283	6,872
Investments, including dividends	**7,388**	7,989	9,860
Trading account assets[2]	**5,365**	6,125	7,672
Other interest-bearing assets	**653**	579	1,673
Total interest revenue	**$ 50,475**	$ 58,089	$ 76,510
Interest expense			
Deposits[1]	**$ 2,896**	$ 5,334	$ 11,852
Securities loaned and sold under agreements to repurchase	**1,012**	2,077	6,263
Trading account liabilities[2]	**482**	628	1,308
Short-term borrowings and other interest-bearing liabilities	**121**	630	2,465
Long-term debt	**3,470**	4,669	6,494
Total interest expense	**$ 7,981**	$ 13,338	$ 28,382
Net interest income	**$ 42,494**	$ 44,751	$ 48,128
Provision for credit losses on loans	**(3,103)**	15,922	8,218
Net interest income after provision for credit losses on loans	**$ 45,597**	$ 28,829	$ 39,910

(1) During 2021, Citi reclassified deposit insurance expenses from *Interest expense* to *Other operating expenses* for all periods presented. Amounts reclassified for each year were $1,207 million for 2021, $1,203 million for 2020 and $781 million for 2019. For additional information, see Note 1 to the Consolidated Financial Statements.

(2) 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. 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. The Company recognized $639 million, $495 million and $485 million of revenue related to such variable consideration for the years ended December 31, 2021, 2020 and 2019, 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 and, to the extent that the increase in net credit losses reduces Citi's liability for the partners' share for a given program year, it 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 determinable. The Company recognized $260 million, $290 million and $322 million of revenue related to such variable consideration for the years ended December 31, 2021, 2020 and 2019, 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:

	2021				2020				2019			
In millions of dollars	**ICG**	**GCB**	**Corp/Other**	**Total**	ICG	GCB	Corp/Other	Total	ICG	GCB	Corp/Other	Total
Investment banking	**$ 6,007**	**$ —**	**$ —**	**$ 6,007**	$ 4,483	$ —	$ —	$ 4,483	$ 3,767	$ —	$ —	$ 3,767
Brokerage commissions	**2,080**	**1,156**	**—**	**3,236**	1,986	974	—	2,960	1,771	841	—	2,612
Credit card and bank card income												
Interchange fees	**817**	**9,004**	**—**	**9,821**	703	7,301	—	8,004	1,222	8,621	—	9,843
Card-related loan fees	**28**	**667**	**—**	**695**	23	626	—	649	60	718	—	778
Card rewards and partner payments[1]	**(405)**	**(9,830)**	**—**	**(10,235)**	(380)	(8,293)	—	(8,673)	(691)	(8,883)	—	(9,574)
Deposit-related fees[2]	**1,044**	**287**	**—**	**1,331**	958	376	—	1,334	1,048	470	—	1,518
Transactional service fees	**1,003**	**95**	**—**	**1,098**	886	88	—	974	824	123	—	947
Corporate finance[3]	**709**	**—**	**—**	**709**	457	—	—	457	616	—	—	616
Insurance distribution revenue	**11**	**462**	**—**	**473**	11	492	—	503	12	524	—	536
Insurance premiums	**—**	**94**	**—**	**94**	—	125	—	125	—	186	—	186
Loan servicing	**43**	**40**	**15**	**98**	82	30	25	137	78	55	21	154
Other	**104**	**237**	**4**	**345**	118	310	4	432	99	261	3	363
Total commissions and fees[4]	**$ 11,441**	**$ 2,212**	**$ 19**	**$ 13,672**	$ 9,327	$ 2,029	$ 29	$ 11,385	$ 8,806	$ 2,916	$ 24	$ 11,746

(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 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.

(2) Includes overdraft fees of $107 million, $100 million and $127 million for the years ended December 31, 2021, 2020 and 2019, respectively. Overdraft fees are accounted for under ASC 310.

(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 $(8,516) million, $(7,160) million and $(7,695) million not accounted for under ASC 606, *Revenue from Contracts with Customers*, for the years ended December 31, 2021, 2020 and 2019, 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.

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, safe-keeps, 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:

	2021				2020				2019			
In millions of dollars	**ICG**	**GCB**	**Corp/Other**	**Total**	ICG	GCB	Corp/Other	Total	ICG	GCB	Corp/Other	Total
Custody fees	**$ 1,872**	**$ 25**	**$ 1**	**$ 1,898**	$ 1,590	$ 29	$ 38	$ 1,657	$ 1,453	$ 16	$ 73	$ 1,542
Fiduciary fees	**798**	**659**	**7**	**1,464**	668	602	4	1,274	647	621	28	1,296
Guarantee fees	**569**	**8**	**4**	**581**	529	7	5	541	558	8	7	573
Total administration and other fiduciary fees(1)	**$ 3,239**	**$ 692**	**$ 12**	**$ 3,943**	$ 2,787	$ 638	$ 47	$ 3,472	$ 2,658	$ 645	$ 108	$ 3,411

(1) *Administration and other fiduciary fees* include $581 million, $541 million and $573 million for the years ended December 31, 2021, 2020 and 2019, 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. 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 to the Consolidated Financial Statements 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 24 to the Consolidated Financial Statements.

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	**2021**	2020	2019
Interest rate risks[1]	**$ 2,790**	$ 5,561	$ 3,831
Foreign exchange risks[2]	**3,886**	4,158	3,850
Equity risks[3]	**2,197**	1,343	808
Commodity and other risks[4]	**1,123**	1,133	546
Credit products and risks[5]	**158**	1,690	(143)
Total	**$ 10,154**	$ 13,885	$ 8,892

(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. $100,000 (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 25%–60% of their awards in the form of deferred stock and deferred cash stock units. Discretionary annual incentive awards to many 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).

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 refraining from competition with Citigroup during the remaining vesting period, unless the employment relationship has been terminated by Citigroup under certain conditions.

Generally, the deferred awards vest in equal annual installments over three- or four-year periods. Vested CAP 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 CAP 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).

Unvested CAP, deferred cash stock units and deferred cash awards may be subject to performance conditions and 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, 2020	28,226,292	$ 69.25
Granted[1]	17,535,978	62.10
Canceled	(1,453,029)	67.01
Vested[2]	(12,664,557)	67.17
Unvested at December 31, 2021	**31,644,684**	**$ 66.22**

(1) The weighted-average fair value of the shares granted during 2020 and 2019 was $76.68 and $61.78, respectively.

(2) The weighted-average fair value of the shares vesting during 2021 was approximately $64.23 per share on the vesting date, compared to $67.17 on the grant date.

Total unrecognized compensation cost related to unvested stock awards was $654 million at December 31, 2021. The cost is expected to be recognized over a weighted-average period of 1.6 years.

Performance Share Units

Executive officers were awarded performance share units (PSUs) every February from 2018 to 2021, for performance in the year prior to the award date based on two performance metrics. For PSUs awarded in 2018, 2019 and 2020, those metrics were return on tangible common equity and earnings per share. For PSUs awards in 2021, 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.

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, until the award is settled solely in cash after the end of the 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	2021	2020	2019
Expected volatility	**40.88 %**	22.26 %	25.33 %
Expected dividend yield	**4.21**	2.82	2.67

A summary of the performance share unit activity for 2021 is presented below:

Performance share units	Units	Weighted-average grant date fair value per unit
Outstanding, beginning of year	**1,333,803**	**$ 79.39**
Granted[(1)]	**418,098**	**78.55**
Canceled	**(344,131)**	**83.24**
Payments	**(133,497)**	**83.24**
Outstanding, end of year	**1,274,273**	**$ 77.67**

(1) The weighted-average grant date fair value per unit awarded in 2020 and 2019 was $83.45 and $72.83, respectively.

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 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. Eligible employees were notified of their award under the program in November 2021. Performance under the program is divided into three consecutive periods, ending on December 31, 2022, 2023 and 2024. The awards will be 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. The amortization commenced after the service inception date of November 2021. 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 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 is provided for in the event of misconduct and certain other circumstances. The program applies to senior leaders critical to helping deliver a successful transformation with the value varying based on individual compensation levels.

Stock Option Programs

All outstanding stock options are fully vested, with the related expense recognized as a charge to income in prior periods. The following table presents information with respect to stock option activity under Citigroup's stock option programs:

	2021			2020			2019		
	Options	**Weighted-average exercise price**	**Intrinsic value per share**	Options	Weighted-average exercise price	Intrinsic value per share	Options	Weighted-average exercise price	Intrinsic value per share
Outstanding, beginning of year	**166,650**	**$ 47.42**	**$ 14.24**	166,650	$ 47.42	$ 32.47	762,225	$ 101.84	$ —
Canceled	**—**	**—**	**—**	—	—	—	(11,365)	40.80	—
Expired	**—**	**—**	**—**	—	—	—	(449,916)	142.30	—
Exercised	**(166,650)**	**52.50**	**20.49**	—	—	—	(134,294)	39.00	23.50
Outstanding, end of year	**—**	**$ —**	**$ —**	166,650	$ 47.42	$ 14.24	166,650	$ 47.42	$ 32.47
Exercisable, end of year	**—**			166,650			166,650		

As of December 31, 2021, Citigroup no longer has any stock options outstanding.

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 monthly 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 made or are expected to be made to retirement-eligible employees, the charge to income is accelerated based on when the applicable conditions to 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, or after the expiration of applicable required holding periods. 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 dividends or dividend-equivalent payments during the vesting period. Recipients of stock payment awards generally are entitled to vote the shares in their award 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 P&C Committee, which is composed entirely of independent non-employee directors.

At December 31, 2021, approximately 39.0 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	**2021**	2020	2019
Charges for estimated awards to retirement-eligible colleagues	**$ 807**	$ 748	$ 683
Amortization of deferred cash awards, deferred cash stock units and performance stock units	**384**	201	355
Immediately vested stock award expense[1]	**99**	95	82
Amortization of restricted and deferred stock awards[2]	**395**	420	404
Other variable incentive compensation	**435**	627	666
Total	**$ 2,120**	$ 2,091	$ 2,190

(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 colleagues.

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, 2021. 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:

	Pension plans						Postretirement benefit plans					
	U.S. plans			Non-U.S. plans			U.S. plans			Non-U.S. plans		
In millions of dollars	**2021**	2020	2019	**2021**	2020	2019	**2021**	2020	2019	**2021**	2020	2019
Benefits earned during the year	**$ —**	$ —	$ 1	**$ 149**	$ 147	$ 146	**$ —**	$ —	$ —	**$ 6**	$ 7	$ 8
Interest cost on benefit obligation	**351**	378	469	**268**	246	287	**13**	17	24	**96**	93	104
Expected return on assets	**(683)**	(824)	(821)	**(253)**	(245)	(281)	**(13)**	(17)	(18)	**(84)**	(77)	(84)
Amortization of unrecognized:												
Prior service cost (benefit)	**2**	2	2	**(6)**	5	(4)	**(9)**	(2)	—	**(9)**	(9)	(10)
Net actuarial loss (gain)	**228**	233	200	**62**	70	61	**(3)**	—	—	**13**	20	23
Curtailment loss (gain)[1]	**—**	—	1	**1**	(8)	(6)	**—**	—	—	**—**	—	—
Settlement loss (gain)[1]	**—**	—	—	**10**	(1)	6	**—**	—	—	**—**	—	—
Total net (benefit) expense	**$ (102)**	$ (211)	$ (148)	**$ 231**	$ 214	$ 209	**$ (12)**	$ (2)	$ 6	**$ 22**	$ 34	$ 41

(1) Losses (gains) due to curtailment and settlement relate to repositioning and divestiture activities.

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 2021 or 2020.

The following table summarizes the Company's actual contributions for the years ended December 31, 2021 and 2020, as well as expected Company contributions for 2022. 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	**2022**	2021	2020	**2022**	2021	2020	**2022**	2021	2020	**2022**	2021	2020
Contributions made by the Company	**$ —**	$ —	$ —	**$ 74**	$ 104	$ 115	**$ —**	$ —	$ —	**$ 3**	$ 3	$ 4
Benefits paid directly by (reimbursements to) the Company[3]	**57**	56	56	**413**	51	43	**5**	22	(15)	**6**	5	5

(1) Amounts reported for 2022 are expected amounts.
(2) The U.S. pension plans include benefits paid directly by the Company for the nonqualified pension plans.
(3) Estimated 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 plan will be withdrawing their pension plan assets. See Note 2 to the Consolidated Financial Statements 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	**2021**	2020	**2021**	2020	**2021**	2020	**2021**	2020
Change in projected benefit obligation								
Projected benefit obligation at beginning of year	**$ 13,815**	$ 13,453	**$ 8,629**	$ 8,105	**$ 559**	$ 692	**$ 1,390**	$ 1,384
Benefits earned during the year	**—**	—	**149**	147	**—**	—	**6**	7
Interest cost on benefit obligation	**351**	378	**268**	246	**13**	17	**96**	93
Plan amendments[1]	**—**	—	**6**	(4)	**—**	(104)	**—**	—
Actuarial (gain) loss[2]	**(447)**	950	**(344)**	518	**(28)**	(18)	**(110)**	30
Benefits paid, net of participants' contributions and government subsidy[3]	**(953)**	(966)	**(345)**	(298)	**(43)**	(28)	**(78)**	(64)
Settlement gain[4]	**—**	—	**(124)**	(110)	**—**	—	**—**	—
Curtailment gain[4]	**—**	—	**(30)**	(14)	**—**	—	**—**	—
Foreign exchange impact and other	**—**	—	**(208)**	39	**—**	—	**(135)**	(60)
Projected benefit obligation at year end	**$ 12,766**	$ 13,815	**$ 8,001**	$ 8,629	**$ 501**	$ 559	**$ 1,169**	$ 1,390
Change in plan assets								
Plan assets at fair value at beginning of year	**$ 13,309**	$ 12,717	**$ 7,831**	$ 7,556	**$ 331**	$ 345	**$ 1,146**	$ 1,127
Actual return on assets[2]	**565**	1,502	**217**	584	**9**	29	**97**	129
Company contributions (reimbursements)	**56**	56	**155**	158	**22**	(15)	**8**	9
Benefits paid, net of participants' contributions and government subsidy[3]	**(953)**	(966)	**(345)**	(298)	**(43)**	(28)	**(78)**	(64)
Settlement gain[4]	**—**	—	**(124)**	(110)	**—**	—	**—**	—
Foreign exchange impact and other	**—**	—	**(120)**	(59)	**—**	—	**(130)**	(55)
Plan assets at fair value at year end	**$ 12,977**	$ 13,309	**$ 7,614**	$ 7,831	**$ 319**	$ 331	**$ 1,043**	$ 1,146
Funded status of the plans								
Qualified plans[5]	**$ 894**	$ 230	**$ (387)**	$ (798)	**$ (182)**	$ (228)	**$ (126)**	$ (244)
Nonqualified plans[6]	**(683)**	(736)	**—**	—	**—**	—	**—**	—
Funded status of the plans at year end	**$ 211**	$ (506)	**$ (387)**	$ (798)	**$ (182)**	$ (228)	**$ (126)**	$ (244)
Net amount recognized								
Qualified plans								
Benefit asset	**$ 894**	$ 230	**$ 963**	$ 741	**$ —**	$ —	**$ 165**	$ 25
Benefit liability	**—**	—	**(1,350)**	(1,539)	**(182)**	(228)	**(291)**	(269)
Qualified plans	**$ 894**	$ 230	**$ (387)**	$ (798)	**$ (182)**	$ (228)	**$ (126)**	$ (244)
Nonqualified plans	**(683)**	(736)	**—**	—	**—**	—	**—**	—
Net amount recognized on the balance sheet	**$ 211**	$ (506)	**$ (387)**	$ (798)	**$ (182)**	$ (228)	**$ (126)**	$ (244)
Amounts recognized in *AOCI*[7]								
Net transition obligation	**$ —**	$ —	**$ —**	$ —	**$ —**	$ —	**$ —**	$ —
Prior service (cost) benefit	**(8)**	(10)	**5**	12	**92**	101	**47**	63
Net actuarial (loss) gain	**(6,575)**	(7,132)	**(1,400)**	(1,863)	**77**	56	**(182)**	(348)
Net amount recognized in equity (pretax)	**$ (6,583)**	$ (7,142)	**$ (1,395)**	$ (1,851)	**$ 169**	$ 157	**$ (135)**	$ (285)
Accumulated benefit obligation at year end	**$ 12,765**	$ 13,812	**$ 7,559**	$ 8,116	**$ 501**	$ 559	**$ 1,169**	$ 1,390

(1) The U.S. postretirement benefit plan was amended in 2020 to move grandfathered Medicare-eligible retirees to the Medicare individual marketplace.
(2) During 2021, the actuarial gain was primarily due to the increase in global discount rates partially offset by lower than expected asset returns. During 2020, the actuarial loss was primarily due to the decline in global discount rates partially offset by favorable asset returns.
(3) U.S. postretirement benefit plans were net of Employer Group Waiver Plan subsidies of $11 million and $40 million in 2021 and 2020, respectively.
(4) Curtailment and settlement gains relate to repositioning and divestiture activities.
(5) The U.S. qualified pension plan was fully funded under specified Employee Retirement Income Security Act (ERISA) funding rules as of January 1, 2022 and no minimum required funding is expected for 2022.
(6) The nonqualified plans of the Company are unfunded.

(7) 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 shows the change in *AOCI* related to the Company's pension, postretirement and post employment plans:

In millions of dollars	**2021**	2020	2019
Beginning of year balance, net of tax[1][2]	**$ (6,864)**	$ (6,809)	$ (6,257)
Actuarial assumptions changes and plan experience	**963**	(1,464)	(2,300)
Net asset gain (loss) due to difference between actual and expected returns	**(148)**	1,076	1,427
Net amortization	**280**	318	274
Prior service credit (cost)	**(7)**	108	(7)
Curtailment/settlement gain[3]	**11**	(8)	1
Foreign exchange impact and other	**153**	(108)	(66)
Change in deferred taxes, net	**(240)**	23	119
Change, net of tax	**$ 1,012**	$ (55)	$ (552)
End of year balance, net of tax[1][2]	**$ (5,852)**	$ (6,864)	$ (6,809)

(1) See Note 19 to the Consolidated Financial Statements 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 repositioning and divestiture activities.

At December 31, 2021 and 2020, 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	**2021**	2020	**2021**	2020	**2021**	2020	**2021**	2020
Projected benefit obligation	**$ 683**	$ 736	**$ 3,966**	$ 4,849	**$ 683**	$ 736	**$ 3,809**	$ 4,723
Accumulated benefit obligation	**682**	734	**3,574**	4,400	**682**	734	**3,477**	4,329
Fair value of plan assets	**—**	—	**2,616**	3,310	**—**	—	**2,486**	3,212

(1) As of December 31, 2021 and 2020, 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	**2021**	2020
Discount rate		
U.S. plans		
Qualified pension	**2.80%**	2.45%
Nonqualified pension	**2.80**	2.35
Postretirement	**2.75**	2.20
Non-U.S. pension plans		
Range[(1)]	**-0.10 to 11.95**	-0.25 to 11.15
Weighted average	**3.96**	3.14
Non-U.S. postretirement plans		
Range	**1.05 to 10.00**	0.80 to 8.55
Weighted average	**8.28**	7.42
Future compensation increase rate[(2)]		
Non-U.S. pension plans		
Range	**1.30 to 11.25**	1.20 to 11.25
Weighted average	**3.10**	3.10
Expected return on assets		
U.S. plans		
Qualified pension	**5.00**	5.80
Postretirement[(3)]	**5.00/1.50**	5.80/1.50
Non-U.S. pension plans		
Range	**0.00 to 11.50**	0.00 to 11.50
Weighted average	**3.69**	3.39
Non-U.S. postretirement plans		
Range	**6.00 to 8.00**	5.95 to 8.00
Weighted average	**7.99**	7.99

(1) 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 2021 and 2020, the expected return on assets for the VEBA Trust was 1.50%.

During the year	**2021**	2020	2019
Discount rate			
U.S. plans			
Qualified pension	**2.45%/3.10%/ 2.75%/2.80%**	3.25%/3.20%/ 2.60%/2.55%	4.25%/3.85%/ 3.45%/3.10%
Nonqualified pension	**2.35/3.00/ 2.70/2.75**	3.25/3.25/ 2.55/2.50	4.25/3.90/ 3.50/3.10
Postretirement	**2.20/2.85/ 2.60/2.65**	3.15/3.20/ 2.45/2.35	4.20/3.80/ 3.35/3.00
Non-U.S. pension plans[(1)]			
Range[(2)]	**-0.25 to 11.15**	-0.10 to 11.30	-0.05 to 12.00
Weighted average	**3.14**	3.65	4.47
Non-U.S. postretirement plans[(1)]			
Range	**0.80 to 9.80**	0.90 to 9.75	1.75 to 10.75
Weighted average	**7.42**	7.76	9.05
Future compensation increase rate[(3)]			
Non-U.S. pension plans[(1)]			
Range	**1.20 to 11.25**	1.50 to 11.50	1.30 to 13.67
Weighted average	**3.10**	3.17	3.16
Expected return on assets			
U.S. plans			
Qualified pension[(4)]	**5.80/5.60/5.60/5.00**	6.70	6.70
Postretirement[(4)]	**5.80/1.50**	6.70/3.00	6.70/3.00
Non-U.S. pension plans[(1)]			
Range	**0.00 to 11.50**	0.00 to 11.50	1.00 to 11.50
Weighted average	**3.39**	3.95	4.30
Non-U.S. postretirement plans[(1)]			
Range	**5.95 to 8.00**	6.20 to 8.00	8.00 to 9.20
Weighted average	**7.99**	7.99	8.01

(1) Reflects rates utilized to determine the quarterly expense for Significant non-U.S. pension and postretirement plans.
(2) 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 lowered from 5.80% to 5.60% effective April 1, 2021 and to 5.00% effective October 1, 2021 to reflect the change in target asset allocation.

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 compared with high-quality corporate bond indices for reasonableness. The discount rates for the non-U.S. pension and postretirement plans are selected by reference to high-quality corporate bond rates in countries that have developed corporate bond markets. However, where developed corporate bond markets do not exist, the discount rates are selected by reference to local government bond rates with a premium added to reflect the additional risk for corporate bonds in certain countries. Effective December 31, 2019, the established rounding convention is to the nearest 5 bps for all countries.

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 2021, 2020 and 2019 for the U.S. pension and postretirement plans:

U.S. plans (During the year)	**2021**	2020	2019
Expected return on assets			
U.S. pension and postretirement trust	**5.80%/5.60%/5.60%/5.00%**	6.70%	6.70%
VEBA trust	**1.50**	3.00	3.00
Actual return on assets[(1)]			
U.S. pension and postretirement trust	**5.14**	12.84	15.20
VEBA trust	**1.52**	2.11	1.91 to 2.76

(1) Actual return on assets is presented net of fees.

Sensitivities of Certain Key Assumptions

The following tables summarize the effect on pension expense:

	Discount rate		
	One-percentage-point increase		
In millions of dollars	**2021**	2020	2019
U.S. plans	**$ 35**	$ 34	$ 28
Non-U.S. plans	**(4)**	(16)	(19)
	One-percentage-point decrease		
In millions of dollars	**2021**	2020	2019
U.S. plans	**$ (49)**	$ (52)	$ (44)
Non-U.S. plans	**25**	25	32

The U.S. Qualified Pension Plan was frozen in 2008, and as a result, most service costs have been eliminated. The pension expense for the U.S. Qualified Pension Plan is therefore driven primarily by interest cost rather than by service cost. An increase in the discount rate generally increases 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.

Since the U.S. Qualified Pension Plan was frozen, most of the prospective service cost has 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 the discount rate would decrease pension expense.

The following tables summarize the effect on pension expense:

	Expected return on assets		
	One-percentage-point increase		
In millions of dollars	**2021**	2020	2019
U.S. plans	**$ (124)**	$ (123)	$ (123)
Non-U.S. plans	**(70)**	(66)	(64)
	One-percentage-point decrease		
In millions of dollars	**2021**	2020	2019
U.S. plans	**$ 124**	$ 123	$ 123
Non-U.S. plans	**70**	66	64

Health Care Cost Trend Rate

Assumed health care cost trend rates were as follows:

	2021	2020
Health care cost increase rate for U.S. plans		
Following year	**6.25%**	6.50%
Ultimate rate to which cost increase is assumed to decline	**5.00**	5.00
Year in which the ultimate rate is reached	**2027**	2027
Health care cost increase rate for non-U.S. plans (weighted average)		
Following year	**6.92%**	6.85%
Ultimate rate to which cost increase is assumed to decline	**6.92**	6.85
Year in which the ultimate rate is reached	**2022**	2021

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	**2021**	2020	2019
U.S. plans	**1.80%**	1.45%	2.25%
Non-U.S. plans	**1.61**	1.60	1.61

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]	2022	**2021**	2020	**2021**	2020
Equity securities[2]	0–22%	**7 %**	16 %	**7 %**	16 %
Debt securities[3]	55–114	**72**	59	**72**	59
Real estate	0–4	**2**	4	**2**	4
Private equity	0–5	**6**	3	**6**	3
Other investments	0–23	**13**	18	**13**	18
Total		**100 %**	100 %	**100 %**	100 %

(1) Asset allocations for the U.S. plans are set by investment strategy, not by investment product. For example, private equities with an underlying investment in real estate are classified in the real estate asset category, 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 2021 and 2020.
(3) The VEBA Trust for postretirement benefits is primarily invested in cash equivalents and debt securities in 2021 and 2020 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]	2022	**2021**	2020	**2021**	2020
Equity securities	0–100%	**0–100%**	0–100%	**16 %**	15 %
Debt securities	0–100	**0–100**	0–100	**76**	77
Real estate	0–15	**0–14**	0–12	**1**	1
Other investments	0–100	**0–100**	0–100	**7**	7
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.

	Non-U.S. postretirement plans				
	Target asset allocation	Actual range at December 31,		Weighted-average at December 31,	
Asset category[1]	2022	**2021**	2020	**2021**	2020
Equity securities	0–42%	**0–42%**	0–38%	**41 %**	38 %
Debt securities	54–100	**53–100**	56–100	**53**	56
Other investments	0–4	**0–6**	0–6	**6**	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 24 to the Consolidated Financial Statements. 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:

In millions of dollars	U.S. pension and postretirement benefit plans[1] 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	**$ 635**	**$ 75**	**$ —**	**$ 710**
Other investment liabilities	**(7)**	**(17)**	**—**	**(24)**
Net investments at fair value	**$ 3,415**	**$ 6,988**	**$ 29**	**$ 10,432**
Other investment liabilities redeemed at NAV				**$ (87)**
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	U.S. pension and postretirement benefit plans[1]			
	Fair value measurement at December 31, 2020			
Asset categories	Level 1	Level 2	Level 3	Total
U.S. equities	$ 813	$ —	$ —	$ 813
Non-U.S. equities	725	—	—	725
Mutual funds and other registered investment companies	447	—	—	447
Commingled funds	—	1,056	—	1,056
Debt securities	1,275	4,430	—	5,705
Annuity contracts	—	—	1	1
Derivatives	8	6	—	14
Other investments	16	—	57	73
Total investments	$ 3,284	$ 5,492	$ 58	$ 8,834
Cash and short-term investments	$ 72	$ 1,035	$ —	$ 1,107
Other investment liabilities	(2)	(10)	—	(12)
Net investments at fair value	$ 3,354	$ 6,517	$ 58	$ 9,929
Other investment receivables redeemed at NAV				$ 99
Securities valued at NAV				3,612
Total net assets				$ 13,640

(1) The investments of the U.S. pension and postretirement plans are commingled in one trust. At December 31, 2020, 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, 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**

In millions of dollars	Non-U.S. pension and postretirement benefit plans			
	Fair value measurement at December 31, 2020			
Asset categories	Level 1	Level 2	Level 3	Total
U.S. equities	$ 5	$ 16	$ —	$ 21
Non-U.S. equities	105	670	—	775
Mutual funds and other registered investment companies	3,137	73	—	3,210
Commingled funds	24	—	—	24
Debt securities	6,705	1,420	—	8,125
Real estate	—	2	2	4
Annuity contracts	—	—	5	5
Derivatives	—	1,005	—	1,005
Other investments	—	—	312	312
Total investments	$ 9,976	$ 3,186	$ 319	$ 13,481
Cash and short-term investments	$ 129	$ 3	$ —	$ 132
Other investment liabilities	—	(4,650)	—	(4,650)
Net investments at fair value	$ 10,105	$ (1,461)	$ 319	$ 8,963
Securities valued at NAV				$ 14
Total net assets				$ 8,977

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, 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	U.S. pension and postretirement benefit plans					
Asset categories	Beginning Level 3 fair value at Dec. 31, 2019	Realized (losses)	Unrealized (losses)	Purchases, sales and issuances	Transfers in and/or out of Level 3	Ending Level 3 fair value at Dec. 31, 2020
Annuity contracts	$ 1	$ —	$ —	$ —	$ —	$ 1
Other investments	75	(3)	3	(18)	—	57
Total investments	$ 76	$ (3)	$ 3	$ (18)	$ —	$ 58

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**
Debt securities	$ —	$ —	$ —	$ —	**$ —**
Real estate	2	—	—	—	**2**
Annuity contracts	5	—	(3)	—	**2**
Other investments	312	4	2	—	**318**
Total investments	$ 319	$ 4	$ (1)	$ —	**$ 322**

In millions of dollars	Non-U.S. pension and postretirement benefit plans				
Asset categories	Beginning Level 3 fair value at Dec. 31, 2019	Unrealized (losses)	Purchases, sales and issuances	Transfers in and/or out of Level 3	Ending Level 3 fair value at Dec. 31, 2020
Debt securities	$ 10	$ —	$ (10)	$ —	$ —
Real estate	1	1	—	—	2
Annuity contracts	5	—	—	—	5
Other investments	274	23	15	—	312
Total investments	$ 290	$ 24	$ 5	$ —	$ 319

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[1]	U.S. plans	Non-U.S. plans
2022	$ 956	$ 958	$ 64	$ 71
2023	837	452	50	74
2024	844	460	47	78
2025	846	462	44	82
2026	838	467	41	86
2027–2031	3,946	2,428	164	493

(1) Estimated 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 plan will be withdrawing their pension plan assets. See Note 2 to the Consolidated Financial Statements for additional information.

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	**2021**	2020
Funded status of the plan at year end	**$ (41)**	$ (40)
Net amount recognized in *AOCI* (pretax)	**$ (15)**	$ (17)

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	**2021**	2020	2019
Net expense	**$ 10**	$ 9	$ 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 2021 and 2020, 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	**2021**	2020	2019
Company contributions	**$ 436**	$ 414	$ 404
	Non-U.S. plans		
In millions of dollars	**2021**	2020	2019
Company contributions	**$ 364**	$ 304	$ 281

9. INCOME TAXES

Income Tax Provision

Details of the Company's income tax provision are presented below:

In millions of dollars	2021	2020	2019
Current			
Federal	**$ 522**	$ 305	$ 365
Non-U.S.	**3,288**	4,113	4,352
State	**228**	440	323
Total current income taxes	**$ 4,038**	$ 4,858	$ 5,040
Deferred			
Federal	**$ 1,059**	$ (1,430)	$ (907)
Non-U.S.	**8**	(690)	10
State	**346**	(213)	287
Total deferred income taxes	**$ 1,413**	$ (2,333)	$ (610)
Provision for income tax on continuing operations before noncontrolling interests[1]	**$ 5,451**	$ 2,525	$ 4,430
Provision (benefit) for income taxes on discontinued operations	**—**	—	(27)
Income tax expense (benefit) reported in stockholders' equity related to:			
FX translation	**(146)**	23	(11)
Investment securities	**(1,367)**	1,214	648
Employee stock plans	**(6)**	(4)	(16)
Cash flow hedges	**(476)**	455	269
Benefit plans	**240**	(23)	(119)
FVO DVA	**64**	(141)	(337)
Excluded fair value hedges	**2**	(8)	8
Retained earnings[2]	**—**	(911)	46
Income taxes before noncontrolling interests	**$ 3,762**	$ 3,130	$ 4,891

(1) Includes the tax on realized investment gains and impairment losses resulting in a provision (benefit) of $169 million and $(57) million in 2021, $454 million and $(14) million in 2020 and $373 million and $(9) million in 2019, respectively.

(2) 2020 reflects the tax effect of ASU 2016-13 for current expected credit losses (CECL). 2019 reflects the tax effect of the accounting change for ASU 2016-02 for lease transactions.

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:

	2021	2020	2019
Federal statutory rate	**21.0 %**	21.0 %	21.0 %
State income taxes, net of federal benefit	**2.1**	1.3	1.9
Non-U.S. income tax rate differential	**1.6**	3.5	1.3
Nondeductible FDIC premiums	**0.6**	1.3	0.4
Tax advantaged investments	**(2.3)**	(4.4)	(2.3)
Valuation allowance releases[1]	**(1.7)**	(4.4)	(3.0)
Other, net	**(1.5)**	0.2	(0.8)
Effective income tax rate	**19.8 %**	18.5 %	18.5 %

(1) See "Deferred Tax Assets" below for a description of the components.

As set forth in the table above, Citi's effective tax rate for 2021 was 19.8%, compared to 18.5% in 2020, primarily due to the reduced effect of permanent differences, including the valuation allowance releases, on a much higher level of pretax income.

Deferred Income Taxes

Deferred income taxes at December 31 related to the following:

In millions of dollars	2021	2020
Deferred tax assets		
Credit loss deduction	**$ 5,330**	$ 6,791
Deferred compensation and employee benefits	**2,335**	2,510
U.S. tax on non-U.S. earnings	**1,138**	1,195
Investment and loan basis differences	**2,970**	1,486
Tax credit and net operating loss carry-forwards	**15,620**	17,416
Fixed assets and leases	**3,064**	2,935
Other deferred tax assets	**3,549**	3,832
Gross deferred tax assets	**$ 34,006**	$ 36,165
Valuation allowance	**$ 4,194**	$ 5,177
Deferred tax assets after valuation allowance	**$ 29,812**	$ 30,988
Deferred tax liabilities		
Intangibles and leases	**$ (2,446)**	$ (2,526)
Non-U.S. withholding taxes	**(987)**	(921)
Interest-related items	**—**	(597)
Other deferred tax liabilities	**(1,590)**	(2,104)
Gross deferred tax liabilities	**$ (5,023)**	$ (6,148)
Net deferred tax assets	**$ 24,789**	$ 24,840

Unrecognized Tax Benefits

The following is a rollforward of the Company's unrecognized tax benefits:

In millions of dollars	**2021**	2020	2019
Total unrecognized tax benefits at January 1	**$ 861**	$ 721	$ 607
Net amount of increases for current year's tax positions	**97**	51	50
Gross amount of increases for prior years' tax positions	**515**	217	151
Gross amount of decreases for prior years' tax positions	**(107)**	(74)	(44)
Amounts of decreases relating to settlements	**(64)**	(40)	(21)
Reductions due to lapse of statutes of limitation	**(2)**	(13)	(23)
Foreign exchange, acquisitions and dispositions	**(4)**	(1)	1
Total unrecognized tax benefits at December 31	**$ 1,296**	$ 861	$ 721

The portions of the total unrecognized tax benefits at December 31, 2021, 2020 and 2019 that, if recognized, would affect Citi's tax expense are $1.0 billion, $0.7 billion and $0.6 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*.

	2021		2020		2019	
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	**$ 118**	**$ 96**	$ 100	$ 82	$ 103	$ 85
Total interest and penalties in the Consolidated Statement of Income	**32**	**24**	14	10	(4)	(4)
Total interest and penalties on the Consolidated Balance Sheet at December 31[1]	**214**	**164**	118	96	100	82

(1) Includes $3 million, $4 million and $3 million for non-U.S. penalties in 2021, 2020 and 2019, respectively. Also includes $0 million, $1 million and $1 million for state penalties in 2021, 2020 and 2019, respectively.

As of December 31, 2021, 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	2016
New York State and City	2009
United Kingdom	2016
India	2017
Singapore	2019
Hong Kong	2015
Ireland	2017

Non-U.S. Earnings

Non-U.S. pretax earnings approximated $12.9 billion in 2021, $13.8 billion in 2020 and $16.7 billion in 2019. 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, 2021, $6.5 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 $1.8 billion would have to be provided if such assertions were reversed.

Income taxes are not provided for the Company's "savings bank base year bad debt reserves" that arose before 1988, because under current U.S. tax rules, such taxes will become payable only to the extent that such amounts are distributed in excess of limits prescribed by federal law. At December 31, 2021, the amount of the base year reserves totaled approximately $358 million (subject to a tax of $75 million).

Deferred Tax Assets
As of December 31, 2021, Citi had a valuation allowance of $4.2 billion, composed of valuation allowances of $0.8 billion on its general basket FTC carry-forwards, $1.7 billion on its branch basket FTC carry-forwards, $1.0 billion on its U.S. residual DTA related to its non-U.S. branches, $0.6 billion on local non-U.S. DTAs and $0.1 billion on state net operating loss carry-forwards. There was a decrease of $1.0 billion from the December 31, 2020 balance of $5.2 billion. The amount of Citi's valuation allowances (VA) may change in future years.

In 2021, Citi's VA for carry-forward FTCs in its branch basket decreased by $0.7 billion and the related VA for the U.S. tax effect on non-U.S. branch temporary differences was unchanged. Of this total branch-related change of $0.7 billion, $0.3 billion impacted the tax provision as discussed below. The remainder of the branch basket-related VA decrease of $0.4 billion was 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. The allocated ODL was enhanced by significant taxable income generated in the current year. In addition, the global interest rate environment and balance sheet requirements in non-U.S. branches resulted in a lower relative allocation of interest expense to non-U.S. branches. The combination of the factors enumerated resulted in a VA release of $0.2 billion in Citi's full-year effective tax rate. Citi also released branch basket VA of $0.1 billion with respect to future years, based upon Citi's Operating Plan and estimates of future branch basket factors, as outlined above.

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 VA for the general basket decreased by $0.2 billion to $0.8 billion, primarily due to audit adjustments. Citi continues to look for additional actions that may become prudent and feasible, taking into account client, regulatory and operational considerations.

The VA for U.S. residual DTA related to its non-U.S. branches was unchanged at $1.0 billion. In addition, the non-U.S. local VA was unchanged at $0.6 billion.

The following table summarizes Citi's DTAs:

In billions of dollars

Jurisdiction/component[1]	DTAs balance December 31, 2021	DTAs balance December 31, 2020
U.S. federal[2]		
Net operating losses (NOLs)[3]	**$ 3.2**	$ 3.0
Foreign tax credits (FTCs)	**2.8**	4.4
General business credits (GBCs)	**4.5**	3.6
Future tax deductions and credits	**8.4**	7.9
Total U.S. federal	**$ 18.9**	$ 18.9
State and local		
New York NOLs	**$ 1.2**	$ 1.5
Other state NOLs	**0.2**	0.1
Future tax deductions	**1.8**	1.7
Total state and local	**$ 3.2**	$ 3.3
Non-U.S.		
NOLs	**$ 0.5**	$ 0.6
Future tax deductions	**2.2**	2.0
Total non-U.S.	**$ 2.7**	$ 2.6
Total	**$ 24.8**	$ 24.8

(1) All amounts are net of valuation allowances.
(2) Included in the net U.S. federal DTAs of $18.9 billion as of December 31, 2021 were deferred tax liabilities of $2.7 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, 2021		December 31, 2020
U.S. tax return general basket foreign tax credit carry-forwards[(1)]				
2022	$	**0.5**	$	2.3
2023		**0.4**		0.4
2025		**1.5**		1.4
2027		**1.1**		1.2
Total U.S. tax return general basket foreign tax credit carry-forwards	$	**3.5**	$	5.3
U.S. tax return branch basket foreign tax credit carry-forwards[(1)]				
2021	$	**—**	$	0.7
2022		**1.0**		1.0
2028		**0.6**		0.6
2029		**0.2**		0.2
Total U.S. tax return branch basket foreign tax credit carry-forwards	$	**1.8**	$	2.5
U.S. tax return general business credit carry-forwards				
2032	$	**0.4**	$	0.3
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**		—
Total U.S. tax return general business credit carry-forwards	$	**4.5**	$	3.6
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**		1.5
2034		**2.0**		2.0
2035		**3.3**		3.3
2036		**2.1**		2.1
2037		**1.0**		1.0
Unlimited carry-forward period		**4.6**		3.9
Total U.S. subsidiary separate federal NOL carry-forwards[(2)]	$	**15.1**	$	14.3
New York State NOL carry-forwards[(2)]				
2034	$	**6.6**	$	8.1
New York City NOL carry-forwards[(2)]				
2034	$	**7.2**	$	8.7
Non-U.S. NOL carry-forwards[(1)]				
Various	$	**1.1**	$	1.2

(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 $24.8 billion at December 31, 2021 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 $15 billion as of December 31, 2021 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 $2.8 billion ($5.3 billion before VA) as of December 31, 2021, compared to $4.4 billion as of December 31, 2020. 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		**2021**		2020		2019
Earnings per common share						
Income from continuing operations before attribution of noncontrolling interests	**$**	**22,018**	$	11,107	$	19,471
Less: Noncontrolling interests from continuing operations		**73**		40		66
Net income from continuing operations (for EPS purposes)	**$**	**21,945**	$	11,067	$	19,405
Loss from discontinued operations, net of taxes		**7**		(20)		(4)
Citigroup's net income	**$**	**21,952**	$	11,047	$	19,401
Less: Preferred dividends[1]		**1,040**		1,095		1,109
Net income available to common shareholders	**$**	**20,912**	$	9,952	$	18,292
Less: Dividends and undistributed earnings allocated to employee restricted and deferred shares with rights to dividends, applicable to basic EPS		**154**		73		121
Net income allocated to common shareholders for basic EPS	**$**	**20,758**	$	9,879	$	18,171
Weighted-average common shares outstanding applicable to basic EPS *(in millions)*		**2,033.0**		2,085.8		2,249.2
Basic earnings per share[2]						
Income from continuing operations	**$**	**10.21**	$	4.75	$	8.08
Discontinued operations		**—**		(0.01)		—
Net income per share—basic	**$**	**10.21**	$	4.74	$	8.08
Diluted earnings per share						
Net income allocated to common shareholders for basic EPS	**$**	**20,758**	$	9,879	$	18,171
Add back: Dividends allocated to employee restricted and deferred shares with rights to dividends that are forfeitable		**31**		30		33
Net income allocated to common shareholders for diluted EPS	**$**	**20,789**	$	9,909	$	18,204
Weighted-average common shares outstanding applicable to basic EPS *(in millions)*	**$**	**2,033.0**	$	2,085.8	$	2,249.2
Effect of dilutive securities						
Options[3]		**—**		0.1		0.1
Other employee plans		**16.4**		13.1		16.0
Adjusted weighted-average common shares outstanding applicable to diluted EPS *(in millions)*[4]		**2,049.4**		2,099.0		2,265.3
Diluted earnings per share[2]						
Income from continuing operations	**$**	**10.14**	$	4.73	$	8.04
Discontinued operations		**—**		(0.01)		—
Net income per share—diluted	**$**	**10.14**	$	4.72	$	8.04

(1) See Note 20 to the Consolidated Financial Statements 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 2021, there were no weighted-average options outstanding. During 2021, no significant options to purchase shares of common stock were 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:

In millions of dollars	December 31, 2021	2020
Securities purchased under agreements to resell	**$ 236,252**	$ 204,655
Deposits paid for securities borrowed	**91,042**	90,067
Total, net[(1)]	**$ 327,294**	$ 294,722
Allowance for credit losses on securities purchased and borrowed[(2)]	**(6)**	(10)
Total, net of allowance	**$ 327,288**	$ 294,712

Securities loaned and sold under agreements to repurchase, at their respective carrying values, consisted of the following:

In millions of dollars	December 31, 2021	2020
Securities sold under agreements to repurchase	**$ 174,255**	$ 181,194
Deposits received for securities loaned	**17,030**	18,331
Total, net[(1)]	**$ 191,285**	$ 199,525

(1) The above tables do not include securities-for-securities lending transactions of $3.6 billion and $6.8 billion at December 31, 2021 and 2020, 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 to the Consolidated Financial Statements 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 described in Notes 24 and 25 to the Consolidated Financial Statements. 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 25 to the Consolidated Financial Statements. 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 obtains or posts 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, 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**

	As of December 31, 2020				
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	$ 362,025	$ 157,370	$ 204,655	$ 159,232	$ 45,423
Deposits paid for securities borrowed	96,425	6,358	90,067	13,474	76,593
Total	$ 458,450	$ 163,728	$ 294,722	$ 172,706	$ 122,016

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	$ 338,564	$ 157,370	$ 181,194	$ 95,563	$ 85,631
Deposits received for securities loaned	24,689	6,358	18,331	7,982	10,349
Total	$ 363,253	$ 163,728	$ 199,525	$ 103,545	$ 95,980

(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, 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**

	As of December 31, 2020				
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	$ 160,754	$ 98,226	$ 41,679	$ 37,905	$ 338,564
Deposits received for securities loaned	17,038	3	2,770	4,878	24,689
Total	$ 177,792	$ 98,229	$ 44,449	$ 42,783	$ 363,253

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, 2021		
In millions of dollars	**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**

	As of December 31, 2020		
In millions of dollars	Repurchase agreements	Securities lending agreements	Total
U.S. Treasury and federal agency securities	$ 112,437	$ —	$ 112,437
State and municipal securities	664	2	666
Foreign government securities	130,017	194	130,211
Corporate bonds	20,149	78	20,227
Equity securities	21,497	24,149	45,646
Mortgage-backed securities	45,566	—	45,566
Asset-backed securities	3,307	—	3,307
Other	4,927	266	5,193
Total	$ 338,564	$ 24,689	$ 363,253

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	**2021**	2020
Receivables from customers, net	**$ 26,403**	$ 18,097
Receivables from brokers, dealers and clearing organizations	**27,937**	26,709
Total brokerage receivables[(1)]	**$ 54,340**	$ 44,806
Payables to customers	**$ 52,158**	$ 39,319
Payables to brokers, dealers and clearing organizations	**9,272**	11,165
Total brokerage payables[(1)]	**$ 61,430**	$ 50,484

(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:

In millions of dollars	December 31, 2021	2020
Debt securities available-for-sale (AFS)	**$ 288,522**	$ 335,084
Debt securities held-to-maturity (HTM)(1)	**216,963**	104,943
Marketable equity securities carried at fair value(2)	**543**	515
Non-marketable equity securities carried at fair value(2)	**489**	551
Non-marketable equity securities measured using the measurement alternative(3)	**1,413**	962
Non-marketable equity securities carried at cost(4)	**4,892**	5,304
Total investments	**$ 512,822**	$ 447,359

(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.

The following table presents interest and dividend income on investments:

In millions of dollars	2021	2020	2019
Taxable interest	**$ 6,975**	$ 7,554	$ 9,269
Interest exempt from U.S. federal income tax	**279**	301	404
Dividend income	**134**	134	187
Total interest and dividend income on investments	**$ 7,388**	$ 7,989	$ 9,860

The following table presents realized gains and losses on the sales of investments, which exclude impairment losses:

In millions of dollars	2021	2020	2019
Gross realized investment gains	**$ 860**	$ 1,895	$ 1,599
Gross realized investment losses	**(195)**	(139)	(125)
Net realized gains on sales of investments	**$ 665**	$ 1,756	$ 1,474

Debt Securities Available-for-Sale

The amortized cost and fair value of AFS debt securities were as follows:

	December 31, 2021					December 31, 2020				
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	**$ 33,064**	**$ 453**	**$ 301**	**$ —**	**$ 33,216**	$ 42,836	$ 1,134	$ 52	$ —	$ 43,918
Non-U.S. residential	**380**	**1**	**1**	**—**	**380**	568	3	—	—	571
Commercial	**25**	**—**	**—**	**—**	**25**	49	1	—	—	50
Total mortgage-backed securities	**$ 33,469**	**$ 454**	**$ 302**	**$ —**	**$ 33,621**	$ 43,453	$ 1,138	$ 52	$ —	$ 44,539
U.S. Treasury and federal agency securities										
U.S. Treasury	**$ 122,669**	**$ 615**	**$ 844**	**$ —**	**$ 122,440**	$ 144,094	$ 2,108	$ 49	$ —	$ 146,153
Agency obligations	**—**	**—**	**—**	**—**	**—**	50	1	—	—	51
Total U.S. Treasury and federal agency securities	**$ 122,669**	**$ 615**	**$ 844**	**$ —**	**$ 122,440**	$ 144,144	$ 2,109	$ 49	$ —	$ 146,204
State and municipal	**$ 2,643**	**$ 79**	**$ 101**	**$ —**	**$ 2,621**	$ 3,753	$ 123	$ 157	$ —	$ 3,719
Foreign government	**119,426**	**337**	**1,023**	**—**	**118,740**	123,467	1,623	122	—	124,968
Corporate	**5,972**	**33**	**77**	**8**	**5,920**	10,444	152	91	5	10,500
Asset-backed securities[(1)]	**304**	**—**	**1**	**—**	**303**	277	5	4	—	278
Other debt securities	**4,880**	**1**	**4**	**—**	**4,877**	4,871	5	—	—	4,876
Total debt securities AFS	**$ 289,363**	**$ 1,519**	**$ 2,352**	**$ 8**	**$ 288,522**	$ 330,409	$ 5,155	$ 475	$ 5	$ 335,084

(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. For mortgage- and asset-backed securitizations in which the Company has other involvement, see Note 21 to the Consolidated Financial Statements.

At December 31, 2021, the amortized cost of fixed income securities exceeded their fair value by $2,352 million. Of the $2,352 million, $1,895 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, 77% were rated investment grade; and $457 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 $457 million, $197 million represents foreign government 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, 2021						
Debt securities AFS						
Mortgage-backed securities						
U.S. government-sponsored agency guaranteed	**$ 17,039**	**$ 270**	**$ 698**	**$ 31**	**$ 17,737**	**$ 301**
Non-U.S. 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**
December 31, 2020						
Debt securities AFS						
Mortgage-backed securities						
U.S. government-sponsored agency guaranteed	$ 3,588	$ 30	$ 298	$ 22	$ 3,886	$ 52
Non-U.S. residential	1	—	—	—	1	—
Commercial	7	—	4	—	11	—
Total mortgage-backed securities	$ 3,596	$ 30	$ 302	$ 22	$ 3,898	$ 52
U.S. Treasury and federal agency securities						
U.S. Treasury	$ 25,031	$ 49	$ —	$ —	$ 25,031	$ 49
Agency obligations	50	—	—	—	50	—
Total U.S. Treasury and federal agency securities	$ 25,081	$ 49	$ —	$ —	$ 25,081	$ 49
State and municipal	$ 836	$ 34	$ 893	$ 123	$ 1,729	$ 157
Foreign government	29,344	61	3,502	61	32,846	122
Corporate	1,083	90	24	1	1,107	91
Asset-backed securities	194	3	39	1	233	4
Other debt securities	182	—	—	—	182	—
Total debt securities AFS	$ 60,316	$ 267	$ 4,760	$ 208	$ 65,076	$ 475

The following table presents the amortized cost and fair value of AFS debt securities by contractual maturity dates:

	December 31,				
	2021			2020	
In millions of dollars	**Amortized cost**	**Fair value**	**Weighted average yield**[1]	Amortized cost	Fair value
Mortgage-backed securities[2]					
Due within 1 year	**$ 188**	**$ 189**	**0.79 %**	$ 27	$ 27
After 1 but within 5 years	**211**	**211**	**1.07**	567	571
After 5 but within 10 years	**523**	**559**	**3.41**	688	757
After 10 years	**32,547**	**32,662**	**2.73**	42,171	43,184
Total	**$ 33,469**	**$ 33,621**	**2.72 %**	$ 43,453	$ 44,539
U.S. Treasury and federal agency securities					
Due within 1 year	**$ 34,321**	**$ 34,448**	**1.05 %**	$ 34,834	$ 34,951
After 1 but within 5 years	**87,987**	**87,633**	**0.81**	108,160	110,091
After 5 but within 10 years	**361**	**359**	**1.42**	1,150	1,162
After 10 years	**—**	**—**	**—**	—	—
Total	**$ 122,669**	**$ 122,440**	**0.87 %**	$ 144,144	$ 146,204
State and municipal					
Due within 1 year	**$ 40**	**$ 40**	**2.09 %**	$ 427	$ 428
After 1 but within 5 years	**121**	**124**	**3.16**	189	198
After 5 but within 10 years	**156**	**161**	**3.18**	276	267
After 10 years	**2,326**	**2,296**	**3.15**	2,861	2,826
Total	**$ 2,643**	**$ 2,621**	**3.14 %**	$ 3,753	$ 3,719
Foreign government					
Due within 1 year	**$ 49,263**	**$ 49,223**	**2.53 %**	$ 48,133	$ 48,258
After 1 but within 5 years	**64,555**	**63,961**	**3.14**	67,365	68,586
After 5 but within 10 years	**3,736**	**3,656**	**1.72**	5,908	6,011
After 10 years	**1,872**	**1,900**	**1.52**	2,061	2,113
Total	**$ 119,426**	**$ 118,740**	**2.82 %**	$ 123,467	$ 124,968
All other[3]					
Due within 1 year	**$ 5,175**	**$ 5,180**	**0.94 %**	$ 6,661	$ 6,665
After 1 but within 5 years	**5,177**	**5,149**	**1.91**	7,814	7,891
After 5 but within 10 years	**750**	**750**	**2.08**	1,018	1,034
After 10 years	**54**	**21**	**4.28**	99	64
Total	**$ 11,156**	**$ 11,100**	**1.48 %**	$ 15,592	$ 15,654
Total debt securities AFS	**$ 289,363**	**$ 288,522**	**1.94 %**	$ 330,409	$ 335,084

(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, 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[(3)]	**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**
December 31, 2020				
Debt securities HTM				
Mortgage-backed securities[(2)]				
U.S. government-sponsored agency guaranteed	$ 49,004	$ 2,162	$ 15	$ 51,151
Non-U.S. residential	1,124	3	1	1,126
Commercial	825	1	1	825
Total mortgage-backed securities	$ 50,953	$ 2,166	$ 17	$ 53,102
U.S. Treasury securities[(4)]	$ 21,293	$ 4	$ 55	$ 21,242
State and municipal	9,185	755	11	9,929
Foreign government	1,931	91	—	2,022
Asset-backed securities[(2)]	21,581	6	92	21,495
Total debt securities HTM	$ 104,943	$ 3,022	$ 175	$ 107,790

(1) Amortized cost is reported net of ACL of $87 million and $86 million at December 31, 2021 and December 31, 2020, 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. For mortgage- and asset-backed securitizations in which the Company has other involvement, see Note 21 to the Consolidated Financial Statements.
(3) In February 2021, the Company transferred $237 million of state and municipal bonds from AFS classification to HTM classification in accordance with ASC 320. At the time of transfer, the securities were in an unrealized gain position of $14 million. The gain amounts will remain in *AOCI* and will be amortized over the remaining life of the securities.
(4) In August 2020, Citibank transferred $13.1 billion of investments in U.S. Treasury securities from AFS classification to HTM classification in accordance with ASC 320. At the time of transfer, the securities were in an unrealized gain position of $144 million. The gain amounts will remain in *AOCI* and will be amortized over the remaining life of the securities.

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:

In millions of dollars	December 31, 2021 Amortized cost(1)	2021 Fair value	2021 Weighted average yield(2)	2020 Amortized cost(1)	2020 Fair value
Mortgage-backed securities					
Due within 1 year	**$ 152**	**$ 151**	**1.70 %**	$ 81	$ 81
After 1 but within 5 years	**684**	**725**	**3.01**	463	477
After 5 but within 10 years	**1,655**	**1,739**	**2.74**	1,699	1,873
After 10 years	**63,200**	**63,232**	**2.55**	48,710	50,671
Total	**$ 65,691**	**$ 65,847**	**2.56 %**	$ 50,953	$ 53,102
U.S. Treasury securities					
After 1 but within 5 years	**$ 65,498**	**$ 64,516**	**0.69 %**	$ 18,955	$ 19,127
After 5 but within 10 years	**46,321**	**45,701**	**1.15**	2,338	2,115
After 10 years	**—**	**—**	**—**	—	—
Total	**$ 111,819**	**$ 110,217**	**0.88 %**	$ 21,293	$ 21,242
State and municipal					
Due within 1 year	**$ 51**	**$ 50**	**3.82 %**	$ 6	$ 6
After 1 but within 5 years	**166**	**170**	**2.82**	139	142
After 5 but within 10 years	**908**	**951**	**3.23**	818	869
After 10 years	**7,798**	**8,329**	**2.65**	8,222	8,912
Total	**$ 8,923**	**$ 9,500**	**2.72 %**	$ 9,185	$ 9,929
Foreign government					
Due within 1 year	**$ 292**	**$ 291**	**7.86 %**	$ 361	$ 360
After 1 but within 5 years	**1,359**	**1,328**	**6.30**	1,570	1,662
After 5 but within 10 years	**—**	**—**	**—**	—	—
After 10 years	**—**	**—**	**—**	—	—
Total	**$ 1,651**	**$ 1,619**	**6.58 %**	$ 1,931	$ 2,022
All other(3)					
Due within 1 year	**$ —**	**$ —**	**— %**	$ —	$ —
After 1 but within 5 years	**—**	**—**	**—**	—	—
After 5 but within 10 years	**11,520**	**11,515**	**2.78**	11,795	15,020
After 10 years	**17,359**	**17,340**	**1.34**	9,786	6,475
Total	**$ 28,879**	**$ 28,855**	**1.92 %**	$ 21,581	$ 21,495
Total debt securities HTM	**$ 216,963**	**$ 216,038**	**1.65 %**	$ 104,943	$ 107,790

(1) Amortized cost is reported net of ACL of $87 million and $86 million at December 31, 2021 and December 30, 2020, 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, 2021 and 2020.

There were no purchased credit-deteriorated HTM debt securities held by the Company as of December 31, 2021 and 2020.

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, 2021.

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, the full impairment is recognized in earnings. For AFS state and municipal bonds where Citi has no intent to sell and it is more-likely-than-not that the Company will not 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 24 to the Consolidated Financial Statements).

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 tables present total impairment on *Investments* recognized in earnings:

In millions of dollars	Year ended December 31, 2021		
	AFS	**Other assets**	**Total**
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	**181**	—	**181**
Total impairment losses recognized in earnings	**$ 181**	**$ —**	**$ 181**

In millions of dollars	Year ended December 31, 2020			
	AFS	HTM	Other assets	Total
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	109	—	—	109
Total impairment losses recognized in earnings	$ 109	$ —	$ —	$ 109

In millions of dollars	Year ended December 31, 2019			
	AFS	HTM	Other assets	Total
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	$ 1	$ —	$ 1	$ 2
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	$ 1	$ —	$ 1	$ 2
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	20	—	1	21
Total impairment losses recognized in earnings	$ 21	$ —	$ 2	$ 23

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, 2021 and 2020:

Allowance for Credit Losses on AFS Debt Securities

	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**

	Year ended December 31, 2020					
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	$ —	$ —	$ —	$ —	$ —	$ —
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, 2021 and 2020:

In millions of dollars	**December 31, 2021**	December 31, 2020
Measurement alternative:		
Carrying value	**$ 1,413**	$ 962

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	**2021**	2020
Measurement alternative[(1)]:		
Impairment losses	**$ 25**	$ 56
Downward changes for observable prices	**—**	19
Upward changes for observable prices	**406**	144

(1) See Note 24 to the Consolidated Financial Statements for additional information on these nonrecurring fair value measurements.

	Life-to-date amounts on securities still held
In millions of dollars	**December 31, 2021**
Measurement alternative:	
Impairment losses	**$ 87**
Downward changes for observable prices	**3**
Upward changes for observable prices	**699**

A similar impairment analysis is performed for non-marketable equity securities carried at cost. For the years ended December 31, 2021 and 2020, there was no impairment loss recognized in earnings for non-marketable equity securities carried at cost.

Investments in Alternative Investment Funds That Calculate Net Asset Value

The Company holds investments in certain alternative investment funds that calculate net asset value (NAV), or its equivalent, including private equity funds, funds of funds and real estate funds, as provided by third-party asset managers. Investments in such funds are generally classified as non-marketable equity securities carried at fair value. The fair values of these investments are estimated using the NAV of the Company's ownership interest in the funds. Some of these investments are in "covered funds" for purposes of the Volcker Rule, which prohibits certain proprietary investment activities and limits the ownership of, and relationships with, covered funds. On April 21, 2017, Citi's request for extension of the permitted holding period under the Volcker Rule for certain of its investments in illiquid funds was approved, allowing the Company to hold such investments until the earlier of five years from the July 21, 2017 expiration date of the general conformance period or the date such investments mature or are otherwise conformed with the Volcker Rule.

	Fair value		Unfunded commitments		Redemption frequency (if currently eligible) monthly, quarterly, annually	Redemption notice period
In millions of dollars	**December 31, 2021**	December 31, 2020	**December 31, 2021**	December 31, 2020		
Private equity funds[1][2]	**$ 123**	$ 123	**$ 60**	$ 62	—	—
Real estate funds[2][3]	**2**	9	**1**	20	—	—
Mutual/collective investment funds	**20**	20	**—**	—		
Total	**$ 145**	$ 152	**$ 61**	$ 82	—	—

(1) Private equity funds include funds that invest in infrastructure, emerging markets and venture capital.

(2) With respect to the Company's investments in private equity funds and real estate funds, distributions from each fund will be received as the underlying assets held by these funds are liquidated. It is estimated that the underlying assets of these funds will be liquidated over a period of several years as market conditions allow. Private equity and real estate funds do not allow redemption of investments by their investors. Investors are permitted to sell or transfer their investments, subject to the approval of the general partner or investment manager of these funds, which generally may not be unreasonably withheld.

(3) Includes several real estate funds that invest primarily in commercial real estate in the U.S., Europe and Asia.

14. LOANS

Citigroup loans are reported in two categories: consumer and corporate. These categories are classified primarily according to the operating segment and business that manage the loans.

Consumer Loans

Consumer loans represent loans and leases managed primarily by *GCB* and *Corporate/Other*.

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 following tables provide Citi's consumer loans by type:

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]	≥ 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]	**$ 42,894**	**$ 245**	**$ 280**	**$ 394**	**$ 43,813**	**$ 134**	**$ 339**	**$ 473**	**$ 282**
Home equity loans[8][9]	**4,899**	**43**	**159**	**—**	**5,101**	**63**	**206**	**269**	**—**
Credit cards	**132,050**	**947**	**871**	**—**	**133,868**	**—**	**—**	**—**	**871**
Personal, small business and other	**3,091**	**19**	**10**	**38**	**3,158**	**2**	**15**	**17**	**28**
Total	**$ 182,934**	**$ 1,254**	**$ 1,320**	**$ 432**	**$ 185,940**	**$ 199**	**$ 560**	**$ 759**	**$ 1,181**
In offices outside North America[6]									
Residential mortgages[7]	**$ 34,289**	**$ 159**	**$ 153**	**$ —**	**$ 34,601**	**$ —**	**$ 403**	**$ 403**	**$ —**
Credit cards	**17,428**	**192**	**188**	**—**	**17,808**	**—**	**140**	**140**	**120**
Personal, small business and other	**32,662**	**144**	**81**	**—**	**32,887**	**—**	**200**	**200**	**22**
Total	**$ 84,379**	**$ 495**	**$ 422**	**$ —**	**$ 85,296**	**$ —**	**$ 743**	**$ 743**	**$ 142**
Total Citigroup[10]	**$ 267,313**	**$ 1,749**	**$ 1,742**	**$ 432**	**$ 271,236**	**$ 199**	**$ 1,303**	**$ 1,502**	**$ 1,323**

Consumer Loans, Delinquencies and Non-Accrual Status at December 31, 2020

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]	$ 46,471	$ 402	$ 381	$ 524	$ 47,778	$ 136	$ 509	$ 645	$ 332
Home equity loans[8][9]	6,829	78	221	—	7,128	72	307	379	—
Credit cards	127,827	1,228	1,330	—	130,385	—	—	—	1,330
Personal, small business and other	4,472	27	10	—	4,509	2	33	35	—
Total	$ 185,599	$ 1,735	$ 1,942	$ 524	$ 189,800	$ 210	$ 849	$ 1,059	$ 1,662
In offices outside North America[6]									
Residential mortgages[7]	$ 39,557	$ 213	$ 199	$ —	$ 39,969	$ —	$ 486	$ 486	$ —
Credit cards	21,718	429	545	—	22,692	—	384	384	324
Personal, small business and other	35,925	319	134	—	36,378	—	212	212	52
Total	$ 97,200	$ 961	$ 878	$ —	$ 99,039	$ —	$ 1,082	$ 1,082	$ 376
Total Citigroup[10]	$ 282,799	$ 2,696	$ 2,820	$ 524	$ 288,839	$ 210	$ 1,931	$ 2,141	$ 2,038

(1) Loans less than 30 days past due are presented as current.
(2) Includes $12 million and $14 million at December 31, 2021 and 2020, respectively, of residential first mortgages recorded at fair value.
(3) Excludes loans guaranteed by U.S. government-sponsored agencies.
(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 by the customer). Consumer relief programs in Asia and Mexico largely expired during the fourth quarter of 2020 and began to age at that time.
(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 $0.2 billion and 90 days or more past due of $0.3 billion and $0.3 billion at December 31, 2021 and 2020, respectively.
(6) North America includes the U.S., Canada and Puerto Rico. Mexico is included in offices outside North America.
(7) Includes approximately $0.1 billion and $0.1 billion at December 31, 2021 and 2020, respectively, of residential first mortgage loans in process of foreclosure.
(8) Includes approximately $0.1 billion and $0.1 billion at December 31, 2021 and 2020, 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) Consumer loans are net of unearned income of $659 million and $749 million at December 31, 2021 and 2020, respectively. Unearned income on consumer loans primarily represents unamortized origination fees and costs, premiums and discounts.

Interest Income Recognized for Non-Accrual Consumer Loans

In millions of dollars	For the years ended	
	December 31, 2021	December 31, 2020
In North America offices[1]		
Residential first mortgages	**$ 13**	$ 15
Home equity loans	**7**	8
Credit cards	**—**	—
Personal, small business and other	**—**	—
Total	**$ 20**	$ 23
In offices outside North America[1]		
Residential mortgages	**$ 1**	$ —
Credit cards	**—**	—
Personal, small business and other	**—**	—
Total	**$ 1**	$ —
Total Citigroup	**$ 21**	$ 23

(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, 2021 and 2020, the Company sold and/or reclassified to HFS $1,473 million and $414 million of consumer loans, respectively. Loans of businesses that are HFS are not included in the above. For additional information, see Note 2 to the Consolidated Financial Statements.

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.

FICO score distribution in U.S. portfolio[1][2]	**December 31, 2021**				
In millions of dollars	**Less than 680**	**680 to 760**	**Greater than 760**	**FICO not available**	**Total loans**
Residential first mortgages					
2021	**$ 201**	**$ 3,415**	**$ 7,363**		
2020	**200**	**2,732**	**7,339**		
2019	**140**	**1,178**	**3,082**		
2018	**196**	**431**	**747**		
2017	**240**	**625**	**1,143**		
Prior	**1,507**	**3,817**	**7,903**		
Total residential first mortgages	**$ 2,484**	**$12,198**	**$27,577**	**$ 1,554**	**$ 43,813**
Home equity loans (pre-reset)	**$ 222**	**$ 836**	**$ 1,309**		
Home equity loans (post-reset)	**609**	**989**	**1,095**		
Total home equity loans	**$ 831**	**$ 1,825**	**$ 2,404**	**$ 41**	**$ 5,101**
Credit cards[3]	**$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	**$ 284**	**$ 517**	**$ 640**	**$ 1,717**	**$ 3,158**
Total	**$26,714**	**$67,447**	**$85,758**	**$ 5,504**	**$185,423**

FICO score distribution in U.S. portfolio[1][2]	December 31, 2020				
In millions of dollars	Less than 680	680 to 760	Greater than 760	FICO not available	Total loans
Residential first mortgages					
2020	$ 187	$ 3,741	$ 9,052		
2019	150	1,857	5,384		
2018	246	655	1,227		
2017	298	846	1,829		
2016	323	1,368	3,799		
Prior	1,708	4,133	9,105		
Total residential first mortgages	$ 2,912	$ 12,600	$ 30,396	$ 1,870	$ 47,778
Home equity loans (pre-reset)	$ 292	$ 1,014	$ 1,657		
Home equity loans (post-reset)	1,055	1,569	1,524		
Total home equity loans	$ 1,347	$ 2,583	$ 3,181	$ 17	$ 7,128
Credit cards[3]	$ 26,227	$ 52,778	$ 49,767	$ 1,041	$ 129,813
Personal, small business and other					
2020	$ 23	$ 58	$ 95		
2019	79	106	134		
2018	82	80	84		
2017	26	27	30		
2016	10	9	8		
Prior	214	393	529		
Total personal, small business and other	$ 434	$ 673	$ 880	$ 2,522	$ 4,509
Total	$ 30,920	$ 68,634	$ 84,224	$ 5,450	$ 189,228

(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) Excludes $517 million and $572 million of balances related to Canada for December 31, 2021 and December 31, 2020, respectively.

Loan to Value (LTV) Ratios

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 in 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**	**Total**
Residential first mortgages					
2021	**$10,515**	**$ 474**	**$ 1**		
2020	**10,206**	**75**	**—**		
2019	**4,372**	**35**	**1**		
2018	**1,300**	**74**	**5**		
2017	**1,986**	**27**	**2**		
Prior	**13,271**	**34**	**8**		
Total residential first mortgages	**$41,650**	**$ 719**	**$ 17**	**$ 1,427**	**$43,813**
Home equity loans (pre-reset)	**$ 2,315**	**$ 26**	**$ 9**		
Home equity loans (post-reset)	**2,608**	**48**	**25**		
Total home equity loans	**$ 4,923**	**$ 74**	**$ 34**	**$ 70**	**$ 5,101**
Total	**$46,573**	**$ 793**	**$ 51**	**$ 1,497**	**$48,914**

LTV distribution in U.S. portfolio	December 31, 2020				
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 first mortgages					
2020	$11,447	$ 1,543	$ —		
2019	7,029	376	2		
2018	1,617	507	11		
2017	2,711	269	4		
2016	5,423	84	2		
Prior	14,966	66	16		
Total residential first mortgages	$43,193	$ 2,845	$ 35	$ 1,705	$47,778
Home equity loans (pre-reset)	$ 2,876	$ 50	$ 16		
Home equity loans (post-reset)	3,782	290	58		
Total home equity loans	$ 6,658	$ 340	$ 74	$ 56	$ 7,128
Total	$49,851	$ 3,185	$ 109	$ 1,761	$54,906

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, 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	**$ 1,457**	**$ 1,531**	**$ 87**	**$ 1,548**	**$ 87**
Home equity loans	**188**	**342**	**(1)**	**335**	**9**
Credit cards	**1,582**	**1,609**	**594**	**1,795**	**116**
Personal, small business and other	**454**	**461**	**120**	**505**	**52**
Total	**$ 3,681**	**$ 3,943**	**$ 800**	**$ 4,183**	**$ 264**

	At and for the year ended December 31, 2020				
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	$ 1,787	$ 1,962	$ 157	$ 1,661	$ 68
Home equity loans	478	651	60	527	13
Credit cards	1,982	2,135	918	1,926	106
Personal, small business and other	552	552	210	463	63
Total	$ 4,799	$ 5,300	$ 1,345	$ 4,577	$ 250

(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, 2021, $190 million of residential first mortgages and $94 million of home equity loans do not have a specific allowance. For December 31, 2020, $211 million of residential first mortgages and $147 million of home equity loans do not have a specific allowance.
(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[1]

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][3]**	**Deferred principal[4]**	**Contingent principal forgiveness[5]**	**Principal forgiveness[6]**	**Average interest rate reduction**
North America						
Residential first mortgages	**1,333**	**$ 227**	**$ —**	**$ —**	**$ —**	**1 %**
Home equity loans	**187**	**12**	**—**	**—**	**—**	**1**
Credit cards	**165,098**	**794**	**—**	**—**	**—**	**18**
Personal, small business and other	**1,000**	**13**	**—**	**—**	**—**	**3**
Total[7]	**167,618**	**$ 1,046**	**$ —**	**$ —**	**$ —**	
International						
Residential mortgages	**1,975**	**$ 86**	**$ —**	**$ —**	**$ —**	**— %**
Credit cards	**74,202**	**339**	**—**	**—**	**13**	**13**
Personal, small business and other	**28,206**	**201**	**—**	**—**	**7**	**10**
Total[7]	**104,383**	**$ 626**	**$ —**	**$ —**	**$ 20**	

In millions of dollars, except number of loans modified	For the year ended December 31, 2020[1]					
	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	1,225	$ 209	$ —	$ —	$ —	— %
Home equity loans	296	27	—	—	—	1
Credit cards	215,466	1,038	—	—	—	17
Personal, small business and other	2,452	28	—	—	—	5
Total[7]	219,439	$ 1,302	$ —	$ —	$ —	
International						
Residential mortgages	2,542	$ 141	$ 3	$ —	$ —	2 %
Credit cards	90,694	401	—	—	12	15
Personal, small business and other	41,079	301	—	—	8	10
Total[7]	134,315	$ 843	$ 3	$ —	$ 20	

(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 $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.
(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) The above tables reflect activity for restructured loans that were considered TDRs during the year.
(8) Post-modification balances in *North America* include $13 million of residential first mortgages to borrowers who have gone through Chapter 7 bankruptcy in the year ended December 31, 2020. These amounts include $9 million of residential first mortgages that were newly classified as TDRs during 2020, based on previously received OCC guidance.

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	**2021**	2020
North America		
Residential first mortgages	**$ 57**	$ 71
Home equity loans	**8**	14
Credit cards	**252**	317
Personal, small business and other	**4**	4
Total	**$ 321**	$ 406
International		
Residential mortgages	**$ 38**	$ 26
Credit cards	**152**	178
Personal, small business and other	**96**	78
Total	**$ 286**	$ 282

Purchased Credit-Deteriorated Assets

	Years ended December 31,					
	2021			2020		
In millions of dollars	**Credit cards**	**Mortgages[(1)]**	**Installment and other**	Credit cards	Mortgages[(1)]	Installment and other
Purchase price	**$ —**	**$ 23**	**$ —**	$ 4	$ 49	$ —
Allowance for credit losses at acquisition date	**—**	**—**	**—**	4	—	—
Discount or premium attributable to non-credit factors	**—**	**—**	**—**	—	—	—
Par value (amortized cost basis)	**$ —**	**$ 23**	**$ —**	$ 8	$ 49	$ —

(1) Includes loans sold to agencies that were bought back at par due to repurchase agreements.

Corporate Loans

Corporate loans represent loans and leases managed by *ICG*. The following table presents information by corporate loan type:

In millions of dollars	**December 31, 2021**	December 31, 2020
In North America offices[1]		
Commercial and industrial	**$ 51,999**	$ 57,731
Financial institutions	**66,936**	55,809
Mortgage and real estate[2]	**63,357**	60,675
Installment and other	**29,143**	26,744
Lease financing	**413**	673
Total	**$ 211,848**	$ 201,632
In offices outside North America[1]		
Commercial and industrial	**$ 103,167**	$ 104,072
Financial institutions	**32,203**	32,334
Mortgage and real estate[2]	**10,412**	11,371
Installment and other	**34,436**	33,759
Lease financing	**42**	65
Governments and official institutions	**4,423**	3,811
Total	**$ 184,683**	$ 185,412
Corporate loans, net of unearned income[3]	**$ 396,531**	$ 387,044

(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 ($799) million and ($844) million at December 31, 2021 and 2020, respectively. Unearned income on corporate loans primarily represents interest received in advance, but not yet earned, on loans originated on a discounted basis.

The Company sold and/or reclassified to held-for-sale $5.9 billion and $2.2 billion of corporate loans during the years ended December 31, 2021 and 2020, respectively. The Company did not have significant purchases of corporate loans classified as held-for-investment for the years ended December 31, 2021 or 2020.

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 $0.5 billion of lease financing receivables, as of December 31, 2021, 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, 2021 was not material.

The Company's leases have an average remaining maturity of approximately three and a half years. In certain cases, Citi obtains residual value insurance from third parties and/or the lessee to manage the risk associated with the residual value of the leased assets. The receivable related to the residual value of the leased assets is $0.2 billion as of December 31, 2021, while the amount covered by residual value guarantees is nil.

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 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 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. 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, 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	**$ 1,100**	**$ 249**	**$ 1,349**	**$ 1,264**	**$ 148,459**	**$ 151,072**
Financial institutions	**505**	**233**	**738**	**33**	**98,172**	**98,943**
Mortgage and real estate	**283**	**1**	**284**	**419**	**73,066**	**73,769**
Lease financing	**—**	**—**	**—**	**14**	**441**	**455**
Other	**128**	**26**	**154**	**147**	**65,921**	**66,222**
Loans at fair value						**6,070**
Total	**$ 2,016**	**$ 509**	**$ 2,525**	**$ 1,877**	**$ 386,059**	**$ 396,531**

Corporate Loan Delinquencies and Non-Accrual Details at December 31, 2020

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	$ 400	$ 109	$ 509	$ 2,795	$ 153,036	$ 156,340
Financial institutions	668	65	733	92	86,864	87,689
Mortgage and real estate	450	247	697	505	70,836	72,038
Lease financing	62	12				