UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

FORM 10-Q

(Mark One)

☑ QUARTERLY REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934
For the Quarterly Period Ended March 31, 2023

or

☐ TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934
For the transition period from to

Commission file number:
1-6523

Exact name of registrant as specified in its charter:
Bank of America Corporation

State or other jurisdiction of incorporation or organization:
Delaware

IRS Employer Identification No.:
56-0906609

Address of principal executive offices:
Bank of America Corporate Center
100 N. Tryon Street
Charlotte, North Carolina 28255

Registrant's telephone number, including area code:
(704) 386-5681

Former name, former address and former fiscal year, if changed since last report:

Securities registered pursuant to Section 12(b) of the Act:

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
Common Stock, par value $0.01 per share	BAC	New York Stock Exchange
Depositary Shares, each representing a 1/1,000th interest in a share of Floating Rate Non-Cumulative Preferred Stock, Series E	BAC PrE	New York Stock Exchange
Depositary Shares, each representing a 1/1,000th interest in a share of 6.000% Non-Cumulative Preferred Stock, Series GG	BAC PrB	New York Stock Exchange
Depositary Shares, each representing a 1/1,000th interest in a share of 5.875% Non-Cumulative Preferred Stock, Series HH	BAC PrK	New York Stock Exchange
7.25% Non-Cumulative Perpetual Convertible Preferred Stock, Series L	BAC PrL	New York Stock Exchange
Depositary Shares, each representing a 1/1,200th interest in a share of Bank of America Corporation Floating Rate Non-Cumulative Preferred Stock, Series 1	BML PrG	New York Stock Exchange

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
Depositary Shares, each representing a 1/1,200th interest in a share of Bank of America Corporation Floating Rate Non-Cumulative Preferred Stock, Series 2	BML PrH	New York Stock Exchange
Depositary Shares, each representing a 1/1,200th interest in a share of Bank of America Corporation Floating Rate Non-Cumulative Preferred Stock, Series 4	BML PrJ	New York Stock Exchange
Depositary Shares, each representing a 1/1,200th interest in a share of Bank of America Corporation Floating Rate Non-Cumulative Preferred Stock, Series 5	BML PrL	New York Stock Exchange
Floating Rate Preferred Hybrid Income Term Securities of BAC Capital Trust XIII (and the guarantee related thereto)	BAC/PF	New York Stock Exchange
5.63% Fixed to Floating Rate Preferred Hybrid Income Term Securities of BAC Capital Trust XIV (and the guarantee related thereto)	BAC/PG	New York Stock Exchange
Income Capital Obligation Notes initially due December 15, 2066 of Bank of America Corporation	MER PrK	New York Stock Exchange
Senior Medium-Term Notes, Series A, Step Up Callable Notes, due November 28, 2031 of BofA Finance LLC (and the guarantee of the Registrant with respect thereto)	BAC/31B	New York Stock Exchange
Depositary Shares, each representing a 1/1,000th interest in a share of 5.375% Non-Cumulative Preferred Stock, Series KK	BAC PrM	New York Stock Exchange
Depositary Shares, each representing a 1/1,000th interest in a share of 5.000% Non-Cumulative Preferred Stock, Series LL	BAC PrN	New York Stock Exchange
Depositary Shares, each representing a 1/1,000th interest in a share of 4.375% Non-Cumulative Preferred Stock, Series NN	BAC PrO	New York Stock Exchange
Depositary Shares, each representing a 1/1,000th interest in a share of 4.125% Non-Cumulative Preferred Stock, Series PP	BAC PrP	New York Stock Exchange
Depositary Shares, each representing a 1/1,000th interest in a share of 4.250% Non-Cumulative Preferred Stock, Series QQ	BAC PrQ	New York Stock Exchange
Depositary Shares, each representing a 1/1,000th interest in a share of 4.750% Non-Cumulative Preferred Stock, Series SS	BAC PrS	New York Stock Exchange

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days.

Yes ☑ No ☐

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§ 232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files).

Yes ☑ No ☐

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company, or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company," and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer ☑ Accelerated filer ☐ Non-accelerated filer ☐ Smaller reporting company ☐

Emerging growth company ☐

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act. ☐

Indicate by check mark whether the registrant is a shell company (as defined in Exchange Act Rule 12b-2).

Yes ☐ No ☑

On April 28, 2023, there were 7,969,152,819 shares of Bank of America Corporation Common Stock outstanding.

Bank of America Corporation and Subsidiaries
March 31, 2023
Form 10-Q

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Part I. Financial Information

Part II. Other Information

Item 2. Management's Discussion and Analysis of Financial Condition and Results of Operations

Bank of America Corporation (the "Corporation") and its management may make certain statements that constitute "forward-looking statements" within the meaning of the Private Securities Litigation Reform Act of 1995. These statements can be identified by the fact that they do not relate strictly to historical or current facts. Forward-looking statements often use words such as "anticipates," "targets," "expects," "hopes," "estimates," "intends," "plans," "goals," "believes," "continue" and other similar expressions or future or conditional verbs such as "will," "may," "might," "should," "would" and "could." Forward-looking statements represent the Corporation's current expectations, plans or forecasts of its future results, revenues, liquidity, provision for credit losses, expenses, efficiency ratio, capital measures, strategy, deposits, assets, and future business and economic conditions more generally, and other future matters. These statements are not guarantees of future results or performance and involve certain known and unknown risks, uncertainties and assumptions that are difficult to predict and are often beyond the Corporation's control. Actual outcomes and results may differ materially from those expressed in, or implied by, any of these forward-looking statements.

You should not place undue reliance on any forward-looking statement and should consider the following uncertainties and risks, as well as the risks and uncertainties more fully discussed under Item 1A. Risk Factors of the Corporation's 2022 Annual Report on Form 10-K and in any of the Corporation's subsequent Securities and Exchange Commission filings: the Corporation's potential judgments, orders, settlements, penalties, fines and reputational damage resulting from pending or future litigation and regulatory investigations, proceedings and enforcement actions, including as a result of our participation in and execution of government programs related to the Coronavirus Disease 2019 (COVID-19) pandemic, such as the processing of unemployment benefits for California and certain other states; the possibility that the Corporation's future liabilities may be in excess of its recorded liability and estimated range of possible loss for litigation, and regulatory and government actions; the possibility that the Corporation could face increased claims from one or more parties involved in mortgage securitizations; the Corporation's ability to resolve representations and warranties repurchase and related claims; the risks related to the discontinuation of the London Interbank Offered Rate and other reference rates, including increased expenses and litigation and the effectiveness of hedging strategies; uncertainties about the financial stability and growth rates of non-U.S. jurisdictions, the risk that those jurisdictions may face difficulties servicing their sovereign debt , and related stresses on financial markets, currencies and trade, and the Corporation's exposures to such risks, including direct, indirect and operational; the impact of U.S. and global interest rates, inflation, currency exchange rates, economic conditions, trade policies and tensions, including tariffs, and potential geopolitical instability; the impact of the interest rate, inflationary, macroeconomic, banking and regulatory environment on the Corporation's assets, business, financial condition and results of operations; the impact of adverse developments affecting the U.S. or global banking industry, including bank failures and liquidity concerns, which could cause continued or worsening economic and market volatility, and regulatory responses thereto; the possibility that future credit losses may be higher than currently expected due to changes in economic assumptions, customer behavior, adverse developments with respect to U.S. or global economic conditions and other uncertainties, including the impact of supply chain disruptions, inflationary pressures and labor shortages on economic conditions and our business; potential losses related to the Corporation's concentration of credit *risk; the Corporation's ability to achieve its expense targets and expectations regarding revenue, net interest income, provision for credit losses, net charge-offs, effective tax rate, loan growth or other projections; adverse changes to the Corporation's credit ratings from the major credit rating agencies; an inability to access capital markets or maintain deposits or borrowing costs; estimates of the fair value and other accounting values, subject to impairment assessments, of certain of the Corporation's assets and liabilities; the estimated or actual impact of changes in accounting standards or assumptions in applying those standards; uncertainty regarding the content, timing and impact of regulatory capital and liquidity requirements; the impact of adverse changes to total loss-absorbing capacity requirements, stress capital buffer requirements and/or global systemically important bank surcharges; the potential impact of actions of the Board of Governors of the Federal Reserve System on the Corporation's capital plans; the effect of changes in or interpretations of income tax laws and regulations; the impact of implementation and compliance with U.S. and international laws, regulations and regulatory interpretations, including, but not limited to, recovery and resolution planning requirements, Federal Deposit Insurance Corporation assessments, the Volcker Rule, fiduciary standards, derivatives regulations and the Coronavirus Aid, Relief, and Economic Security Act and any similar or related rules and regulations; a failure or disruption in or breach of the Corporation's operational or security systems or infrastructure, or those of third parties, including as a result of cyberattacks or campaigns; the risks related to the transition and physical* *impacts of climate change; our ability to achieve environmental, social and governance goals and commitments or the impact of any changes in the Corporation's sustainability strategy or commitments generally; the impact of any future federal government shutdown and uncertainty regarding the federal government's debt limit or changes in fiscal, monetary or regulatory policy; the emergence or continuation of widespread health emergencies or pandemics, including the magnitude and duration of the COVID-19 pandemic and its impact on U.S. and/or global financial market conditions and our business, results of operations, financial condition and prospects; the impact of natural disasters, extreme weather events, military conflict (including the Russia/Ukraine conflict, the possible expansion of such conflict and potential geopolitical consequences), terrorism or other geopolitical events; and other matters.*

Forward-looking statements speak only as of the date they are made, and the Corporation undertakes no obligation to update any forward-looking statement to reflect the impact of circumstances or events that arise after the date the forward-looking statement was made.

Notes to the Consolidated Financial Statements referred to in Management's Discussion and Analysis of Financial Condition and Results of Operations (MD&A) are incorporated by reference into the MD&A. Certain prior-period amounts have been reclassified to conform to current-period presentation. Throughout the MD&A, the Corporation uses certain acronyms and abbreviations which are defined in the Glossary.

Executive Summary

Business Overview

The Corporation is a Delaware corporation, a bank holding company (BHC) and a financial holding company. When used in this report, "Bank of America," "the Corporation," "we," "us" and "our" may refer to Bank of America Corporation individually, Bank of America Corporation and its subsidiaries, or certain of Bank of America Corporation's subsidiaries or affiliates. Our principal executive offices are located in Charlotte, North Carolina. Through our various bank and nonbank subsidiaries throughout the U.S. and in international markets, we provide a diversified range of banking and nonbank financial services and products through four business segments: *Consumer Banking*, *Global Wealth & Investment Management (GWIM)*, *Global Banking* and *Global Markets*, with the remaining operations recorded in *All Other*. We operate our banking activities primarily under the Bank of America, National Association (Bank of America, N.A. or BANA) charter. At March 31, 2023, the Corporation had $3.2 trillion in assets and a headcount of approximately 217,000 employees.

As of March 31, 2023, we served clients through operations across the U.S., its territories and more than 35 countries. Our retail banking footprint covers all major markets in the U.S., and we serve approximately 68 million consumer and small business clients with approximately 3,900 retail financial centers, approximately 15,000 ATMs, and leading digital banking platforms (www.bankofamerica.com) with approximately 45 million active users, including approximately 36 million active mobile users. We offer industry-leading support to approximately three million small business households. Our *GWIM* businesses, with client balances of $3.5 trillion, provide tailored solutions to meet client needs through a full set of investment management, brokerage, banking, trust and retirement products. We are a global leader in corporate and investment banking and trading across a broad range of asset classes serving corporations, governments, institutions and individuals around the world.

The Corporation's website is www.bankofamerica.com, and the Investor Relations portion of our website is https://investor.bankofamerica.com. We use our website to distribute company information, including as a means of disclosing material, non-public information and for complying with our disclosure obligations under Regulation FD. We routinely post and make accessible financial and other information, including environmental, social and governance (ESG) information, regarding the Corporation on our website. Investors should monitor our website, including the Investor Relations portion, in addition to our press releases, U.S. Securities and Exchange Commission (SEC) filings, public conference calls and webcasts. Notwithstanding the foregoing, the information contained on our website as referenced in this paragraph is not incorporated by reference into this Quarterly Report on Form 10-Q.

Recent Developments

Capital Management

On April 26, 2023, the Corporation's Board of Directors (the Board) declared a quarterly common stock dividend of $0.22 per share, payable on June 30, 2023 to shareholders of record as of June 2, 2023.

For more information on our capital resources, see Capital Management on page 17.

Financial Market Events

In March 2023, the global financial system experienced increased volatility due to the failure of certain financial institutions. At March 31, 2023, Bank of America's direct exposure to these financial institutions was not significant.

To help deploy financial strength and liquidity into the larger banking system, Bank of America and certain other U.S. financial institutions made uninsured deposits totaling $30 billion into First Republic Bank. The amount of Bank of America's uninsured deposit was $5 billion and is recorded in Time deposits placed and other short-term investments on the Consolidated Balance Sheet.

On May 1, 2023, the Federal Deposit Insurance Corporation (FDIC) announced that it was appointed as receiver of First Republic Bank and entered into a purchase and assumption agreement with JPMorgan Chase Bank, National Association (JPMorgan Chase Bank) to assume all of the deposits and substantially all of the assets of First Republic Bank. As a result, Bank of America has become a depositor of JPMorgan Chase Bank with regard to its $5 billion uninsured deposit originally deposited into First Republic Bank.

The potential impacts of rising interest rates and continued deposit outflows on global markets, financial institutions and macroeconomic conditions, generally, remain uncertain. Episodes of increased economic and market volatility may continue to occur and could worsen if there are additional instances of actual or threatened bank failures, which could adversely affect the Corporation's businesses, results of operations and financial condition. For more information on the risks related to rising interest rates, declining asset values and liquidity, see the Market, Liquidity and Credit sections within Item 1A. Risk Factors of the Corporation's 2022 Annual Report on Form 10-K.

U.S. Government Debt Ceiling

In response to the upcoming U.S. government's deadline to raise the debt ceiling, the Corporation has implemented protocols and processes to prepare for the impacts that could begin in the period leading up to a potential breach of the U.S. government's debt ceiling and increasing in severity if a default occurs. The Corporation is monitoring these potential events through regular routines. For more information on the risks related to a potential U.S. government debt ceiling breach, see the Market and Geopolitical sections within Item 1A. Risk Factors of the Corporation's 2022 Annual Report on Form 10-K.

LIBOR and Other Benchmark Rates

The Corporation and the global financial markets continue to make progress with respect to the transition away from the London Interbank Offered Rate (LIBOR) and other Interbank Offered Rates (IBORs) to alternative reference rates (ARRs). As previously disclosed, the remaining U.S. dollar (USD) LIBOR settings (i.e., overnight, one month, three month, six month and 12 month) will cease or become non-representative immediately after June 30, 2023, although the Financial Conduct Authority (FCA) announced on April 3, 2023 that it will require LIBOR's administrator, ICE Benchmark Administration Limited, to continue publication of the one-month, three-month and six-month USD LIBOR settings on a "synthetic" basis (calculated using the relevant CME Term SOFR Reference Rate plus the respective International Swaps and Derivatives Association (ISDA) fixed spread adjustment) for use in legacy contracts and that it intends for such publication to cease on September 30, 2024.

In April 2023, certain central counterparties (CCPs) completed processes to convert certain outstanding USD LIBOR-cleared derivatives to ARR positions, and the Corporation expects those CCPs will convert remaining USD LIBOR-cleared derivatives to ARR positions in the second quarter of 2023. In March 2023, the Corporation announced that after June 30, 2023, the relevant CME Term SOFR Reference Rate, plus the respective ISDA fixed spread adjustment, will be the replacement reference rate for certain outstanding floating rate and fixed-to-floating rate debt securities, preferred stock represented by depositary shares and trust preferred securities issued by the Corporation, BofA Finance LLC and certain other affiliated issuers (USD LIBOR Securities) that use USD LIBOR as the reference rate and are governed by New York and Delaware law. For more information on the Corporation's replacement of relevant USD LIBOR rates of certain USD LIBOR Securities, see the Corporation's Current Report on Form 8-K filed with the SEC on March 31, 2023. Additionally, as the Corporation continues to transition IBOR-based products to various ARRs, including the Secured Overnight Financing Rate (SOFR), it has increased the use of those ARRs in its baseline forecast of net interest income. For more information, see Interest Rate Risk Management for the Banking Book on page 40.

For more information on the expected replacement of LIBOR and other benchmark rates, including the Corporation's efforts and overall progress with respect to LIBOR transition, see Executive Summary – Recent Developments – LIBOR and Other Benchmark Rates in the MD&A and Item 1A. Risk Factors – Other of the Corporation's 2022 Annual Report on Form 10-K.

Financial Highlights

Table 1 Summary Income Statement and Selected Financial Data

	Three Months Ended March 31	
(Dollars in millions, except per share information)	**2023**	2022
Income statement		
Net interest income	**$ 14,448**	$ 11,572
Noninterest income	**11,810**	11,656
Total revenue, net of interest expense	**26,258**	23,228
Provision for credit losses	**931**	30
Noninterest expense	**16,238**	15,319
Income before income taxes	**9,089**	7,879
Income tax expense	**928**	812
Net income	**8,161**	7,067
Preferred stock dividends	**505**	467
Net income applicable to common shareholders	**$ 7,656**	$ 6,600
Per common share information		
Earnings	**$ 0.95**	$ 0.81
Diluted earnings	**0.94**	0.80
Dividends paid	**0.22**	0.21
Performance ratios		
Return on average assets [(1)]	**1.07 %**	0.89 %
Return on average common shareholders' equity [(1)]	**12.48**	11.02
Return on average tangible common shareholders' equity [(2)]	**17.38**	15.51
Efficiency ratio [(1)]	**61.84**	65.95
	March 31 2023	December 31 2022
Balance sheet		
Total loans and leases	**$ 1,046,406**	$ 1,045,747
Total assets	**3,194,657**	3,051,375
Total deposits	**1,910,402**	1,930,341
Total liabilities	**2,914,461**	2,778,178
Total common shareholders' equity	**251,799**	244,800
Total shareholders' equity	**280,196**	273,197

(1) For definitions, see Key Metrics on page 94.
(2) Return on average tangible common shareholders' equity is a non-GAAP financial measure. For more information and a corresponding reconciliation to the most closely related financial measures defined by accounting principles generally accepted in the United States of America (GAAP), see Non-GAAP Reconciliations on page 43.

Net income was $8.2 billion, or $0.94 per diluted share, for the three months ended March 31, 2023 compared to $7.1 billion, or $0.80 per diluted share, for the same period in 2022. The increase in net income was primarily due to higher net interest income, partially offset by higher noninterest expense and provision for credit losses.

Total assets increased $143.3 billion from December 31, 2022 to $3.2 trillion primarily driven by higher cash and cash equivalents due to securities financing activity to support balance sheet and liquidity positioning, as well as higher trading account assets to support *Global Markets* client activity.

Total liabilities increased $136.3 billion from December 31, 2022 to $2.9 trillion primarily driven by higher securities financing activity and short-term borrowings to support balance sheet and liquidity positioning, partially offset by lower deposits primarily due to customers' movement of balances to higher yielding investment alternatives.

Shareholders' equity increased $7.0 billion from December 31, 2022 primarily due to net income and market value increases on derivatives, partially offset by returns of capital to shareholders through common and preferred stock dividends and common stock repurchases.

Net Interest Income

Net interest income increased $2.9 billion to $14.4 billion for the three months ended March 31, 2023 compared to the same period in 2022. Net interest yield on a fully taxable-equivalent (FTE) basis increased 51 basis points (bps) to 2.20 percent. The increase was primarily driven by benefits from higher interest rates, including lower premium amortization expense and loan growth, partially offset by lower net interest income related to *Global Markets* activity, higher rates paid on deposits and lower debt securities. For more information on net interest yield and FTE basis, see Supplemental Financial Data on page 6, and for more information on interest rate risk management, see Interest Rate Risk Management for the Banking Book on page 40.

Noninterest Income

Table 2 Noninterest Income

(Dollars in millions)	Three Months Ended March 31 2023	2022
Fees and commissions:		
Card income	$ **1,469**	$ 1,403
Service charges	**1,410**	1,833
Investment and brokerage services	**3,852**	4,292
Investment banking fees	**1,163**	1,457
Total fees and commissions	**7,894**	8,985
Market making and similar activities	**4,712**	3,238
Other income	**(796)**	(567)
Total noninterest income	$ **11,810**	$ 11,656

Noninterest income increased $154 million to $11.8 billion for the three months ended March 31, 2023 compared to the same period in 2022. The following highlights the significant changes.

- Service charges decreased $423 million primarily driven by the impact of non-sufficient funds and overdraft policy changes as well as lower treasury service charges.
- Investment and brokerage services decreased $440 million primarily driven by lower market valuations and declines in assets under management (AUM) pricing, partially offset by the impact of positive AUM flows.
- Investment banking fees decreased $294 million primarily due to lower debt issuance, advisory and equity issuance fees.
- Market making and similar activities increased $1.5 billion primarily driven by improved performance in fixed income, currencies and commodities (FICC) and by the impact of higher interest rates on client financing activities in Equities.
- Other income decreased $229 million primarily due to losses on sales of available-for-sale (AFS) debt securities.

Provision for Credit Losses

The provision for credit losses increased $901 million to $931 million for the three months ended March 31, 2023 compared to the same period in 2022. The provision for credit losses for the current-year period was driven by our consumer portfolio primarily due to higher-than-expected credit card balances, partially offset by certain improved macroeconomic conditions that primarily benefited our commercial portfolio. The provision for credit losses in the prior-year period was $30 million, as asset quality improvement was offset by a reserve build related to our Russian exposure and loan growth. For more information on the provision for credit losses, see Allowance for Credit Losses on page 36.

Noninterest Expense

Table 3 Noninterest Expense

(Dollars in millions)	Three Months Ended March 31 2023	2022
Compensation and benefits	$ **9,918**	$ 9,482
Occupancy and equipment	**1,799**	1,760
Information processing and communications	**1,697**	1,540
Product delivery and transaction related	**890**	933
Marketing	**458**	397
Professional fees	**537**	450
Other general operating	**939**	757
Total noninterest expense	$ **16,238**	$ 15,319

Noninterest expense increased $919 million to $16.2 billion for the three months ended March 31, 2023 compared to the same period in 2022. The increase was primarily due to higher investments in people and technology and higher FDIC expense, partially offset by lower revenue-related incentive compensation.

Income Tax Expense

Table 4 Income Tax Expense

(Dollars in millions)	Three Months Ended March 31 2023	2022
Income before income taxes	$ **9,089**	$ 7,879
Income tax expense	**928**	812
Effective tax rate	**10.2 %**	10.3 %

The effective tax rates for the three months ended March 31, 2023 and 2022 were primarily driven by our recurring tax preference benefits that mainly consist of tax credits from ESG investments in affordable housing and renewable energy. Absent ESG tax credits and discrete tax benefits, the effective tax rates would have been approximately 26 percent and 25 percent.

Supplemental Financial Data

Non-GAAP Financial Measures

In this Form 10-Q, we present certain non-GAAP financial measures. Non-GAAP financial measures exclude certain items or otherwise include components that differ from the most directly comparable measures calculated in accordance with GAAP. Non-GAAP financial measures are provided as additional useful information to assess our financial condition, results of operations (including period-to-period operating performance) or compliance with prospective regulatory requirements. These non-GAAP financial measures are not intended as a substitute for GAAP financial measures and may not be defined or calculated the same way as non-GAAP financial measures used by other companies.

When presented on a consolidated basis, we view net interest income on an FTE basis as a non-GAAP financial measure. To derive the FTE basis, net interest income is adjusted to reflect tax-exempt income on an equivalent before-tax basis with a corresponding increase in income tax expense. For purposes of this calculation, we use the federal statutory tax rate of 21 percent and a representative state tax rate. Net interest yield, which measures the basis points we earn over the cost of funds, utilizes net interest income on an FTE basis. We believe that presentation of these items on an FTE basis allows for comparison of amounts from both taxable and tax-exempt sources and is consistent with industry practices.

We may present certain key performance indicators and ratios excluding certain items (e.g., debit valuation adjustment (DVA) gains (losses)), which result in non-GAAP financial measures. We believe that the presentation of measures that exclude these items is useful because such measures provide additional information to assess the underlying operational performance and trends of our businesses and to allow better comparison of period-to-period operating performance.

We also evaluate our business based on certain ratios that utilize tangible equity, a non-GAAP financial measure. Tangible equity represents shareholders' equity or common shareholders' equity reduced by goodwill and intangible assets (excluding mortgage servicing rights (MSRs)), net of related deferred tax liabilities ("adjusted" shareholders' equity or common shareholders' equity). These measures are used to evaluate our use of equity. In addition, profitability, relationship and investment models use both return on average tangible common shareholders' equity and return on average tangible shareholders' equity as key measures to support our overall growth objectives. These ratios are:

- Return on average tangible common shareholders' equity measures our net income applicable to common shareholders as a percentage of adjusted average common shareholders' equity. The tangible common equity ratio represents adjusted ending common shareholders' equity divided by total tangible assets.
- Return on average tangible shareholders' equity measures our net income as a percentage of adjusted average total shareholders' equity. The tangible equity ratio represents adjusted ending shareholders' equity divided by total tangible assets.
- Tangible book value per common share represents adjusted ending common shareholders' equity divided by ending common shares outstanding.

We believe ratios utilizing tangible equity provide additional useful information because they present measures of those assets that can generate income. Tangible book value per common share provides additional useful information about the level of tangible assets in relation to outstanding shares of common stock.

The aforementioned supplemental data and performance measures are presented in Table 5 on page 7.

For more information on the reconciliation of these non-GAAP financial measures to the corresponding GAAP financial measures, see Non-GAAP Reconciliations on page 43.

Key Performance Indicators

We present certain key financial and nonfinancial performance indicators (key performance indicators) that management uses when assessing our consolidated and/or segment results. We believe they are useful to investors because they provide additional information about our underlying operational performance and trends. These key performance indicators (KPIs) may not be defined or calculated in the same way as similar KPIs used by other companies. For information on how these metrics are defined, see Key Metrics on page 94.

Our consolidated key performance indicators, which include various equity and credit metrics, are presented in Table 1 on page 4 and Table 5 on page 7.

For information on key segment performance metrics, see Business Segment Operations on page 9.

Table 5 Selected Quarterly Financial Data

(In millions, except per share information)	2023 Quarter First	2022 Quarters Fourth	Third	Second	First
Income statement					
Net interest income	**$ 14,448**	$ 14,681	$ 13,765	$ 12,444	$ 11,572
Noninterest income	**11,810**	9,851	10,737	10,244	11,656
Total revenue, net of interest expense	**26,258**	24,532	24,502	22,688	23,228
Provision for credit losses	**931**	1,092	898	523	30
Noninterest expense	**16,238**	15,543	15,303	15,273	15,319
Income before income taxes	**9,089**	7,897	8,301	6,892	7,879
Income tax expense	**928**	765	1,219	645	812
Net income	**8,161**	7,132	7,082	6,247	7,067
Net income applicable to common shareholders	**7,656**	6,904	6,579	5,932	6,600
Average common shares issued and outstanding	**8,065.9**	8,088.3	8,107.7	8,121.6	8,136.8
Average diluted common shares issued and outstanding	**8,182.3**	8,155.7	8,160.8	8,163.1	8,202.1
Performance ratios					
Return on average assets [1]	**1.07 %**	0.92 %	0.90 %	0.79 %	0.89 %
Four-quarter trailing return on average assets [2]	**0.92**	0.88	0.87	0.89	0.99
Return on average common shareholders' equity [1]	**12.48**	11.24	10.79	9.93	11.02
Return on average tangible common shareholders' equity [3]	**17.38**	15.79	15.21	14.05	15.51
Return on average shareholders' equity [1]	**11.94**	10.38	10.37	9.34	10.64
Return on average tangible shareholders' equity [3]	**15.98**	13.98	13.99	12.66	14.40
Total ending equity to total ending assets	**8.77**	8.95	8.77	8.65	8.23
Common equity ratio [1]	**7.88**	8.02	7.82	7.71	7.40
Total average equity to total average assets	**8.95**	8.87	8.73	8.49	8.40
Dividend payout [1]	**23.17**	25.71	27.06	28.68	25.86
Per common share data					
Earnings	**$ 0.95**	$ 0.85	$ 0.81	$ 0.73	$ 0.81
Diluted earnings	**0.94**	0.85	0.81	0.73	0.80
Dividends paid	**0.22**	0.22	0.22	0.21	0.21
Book value [1]	**31.58**	30.61	29.96	29.87	29.70
Tangible book value [3]	**22.78**	21.83	21.21	21.13	20.99
Market capitalization	**$ 228,012**	$ 264,853	$ 242,338	$ 250,136	$ 332,320
Average balance sheet					
Total loans and leases	**$ 1,041,352**	$ 1,039,247	$ 1,034,334	$ 1,014,886	$ 977,793
Total assets	**3,096,058**	3,074,289	3,105,546	3,157,885	3,207,702
Total deposits	**1,893,649**	1,925,544	1,962,775	2,012,079	2,045,811
Long-term debt	**244,759**	243,871	250,204	245,781	246,042
Common shareholders' equity	**248,855**	243,647	241,882	239,523	242,865
Total shareholders' equity	**277,252**	272,629	271,017	268,197	269,309
Asset quality					
Allowance for credit losses [4]	**$ 13,951**	$ 14,222	$ 13,817	$ 13,434	$ 13,483
Nonperforming loans, leases and foreclosed properties [5]	**4,083**	3,978	4,156	4,326	4,778
Allowance for loan and lease losses as a percentage of total loans and leases outstanding [5]	**1.20 %**	1.22 %	1.20 %	1.17 %	1.23 %
Allowance for loan and lease losses as a percentage of total nonperforming loans and leases [5]	**319**	333	309	288	262
Net charge-offs	**$ 807**	$ 689	$ 520	$ 571	$ 392
Annualized net charge-offs as a percentage of average loans and leases outstanding [5]	**0.32 %**	0.26 %	0.20 %	0.23 %	0.16 %
Capital ratios at period end [6]					
Common equity tier 1 capital	**11.4 %**	11.2 %	11.0 %	10.5 %	10.4 %
Tier 1 capital	**13.1**	13.0	12.8	12.3	12.0
Total capital	**15.0**	14.9	14.7	14.2	14.0
Tier 1 leverage	**7.1**	7.0	6.8	6.5	6.3
Supplementary leverage ratio	**6.0**	5.9	5.8	5.5	5.4
Tangible equity [3]	**6.7**	6.8	6.6	6.5	6.2
Tangible common equity [3]	**5.8**	5.9	5.7	5.6	5.3
Total loss-absorbing capacity and long-term debt metrics					
Total loss-absorbing capacity to risk-weighted assets	**28.8 %**	29.0 %	28.9 %	27.8 %	27.2 %
Total loss-absorbing capacity to supplementary leverage exposure	**13.1**	13.2	13.0	12.6	12.2
Eligible long-term debt to risk-weighted assets	**14.8**	15.2	15.2	14.7	14.4
Eligible long-term debt to supplementary leverage exposure	**6.7**	6.9	6.8	6.6	6.5

(1) For definitions, see Key Metrics on page 94.
(2) Calculated as total net income for four consecutive quarters divided by annualized average assets for four consecutive quarters.
(3) Tangible equity ratios and tangible book value per share of common stock are non-GAAP financial measures. For more information on these ratios and corresponding reconciliations to GAAP financial measures, see Supplemental Financial Data on page 6 and Non-GAAP Reconciliations on page 43.
(4) Includes the allowance for loan and lease losses and the reserve for unfunded lending commitments.
(5) Balances and ratios do not include loans accounted for under the fair value option. For additional exclusions from nonperforming loans, leases and foreclosed properties, see Consumer Portfolio Credit Risk Management – Nonperforming Consumer Loans, Leases and Foreclosed Properties Activity on page 29 and corresponding Table 24 and Commercial Portfolio Credit Risk Management – Nonperforming Commercial Loans, Leases and Foreclosed Properties Activity on page 33 and corresponding Table 30.
(6) For more information, including which approach is used to assess capital adequacy, see Capital Management on page 17.

Table 6 Quarterly Average Balances and Interest Rates - FTE Basis

(Dollars in millions)	Average Balance	Interest Income/ Expense (1)	Yield/ Rate	Average Balance	Interest Income/ Expense (1)	Yield/ Rate
	First Quarter 2023			First Quarter 2022		
Earning assets						
Interest-bearing deposits with the Federal Reserve, non-U.S. central banks and other banks	$ 202,700	$ 1,999	4.00 %	$ 244,971	$ 86	0.14 %
Time deposits placed and other short-term investments	10,581	108	4.16	9,253	12	0.52
Federal funds sold and securities borrowed or purchased under agreements to resell (2)	287,532	3,712	5.24	299,404	(7)	(0.01)
Trading account assets	183,657	2,040	4.50	151,969	1,096	2.92
Debt securities	851,177	5,485	2.58	975,656	3,838	1.58
Loans and leases (3)						
Residential mortgage	229,275	1,684	2.94	223,979	1,525	2.73
Home equity	26,513	317	4.84	27,784	220	3.21
Credit card	91,775	2,426	10.72	78,409	1,940	10.03
Direct/Indirect and other consumer	105,657	1,186	4.55	104,632	579	2.25
Total consumer	453,220	5,613	5.00	434,804	4,264	3.96
U.S. commercial	376,852	4,471	4.81	346,510	2,127	2.49
Non-U.S. commercial	127,003	1,778	5.68	118,767	504	1.72
Commercial real estate (4)	70,591	1,144	6.57	63,065	387	2.49
Commercial lease financing	13,686	147	4.33	14,647	106	2.92
Total commercial	588,132	7,540	5.20	542,989	3,124	2.33
Total loans and leases	1,041,352	13,153	5.11	977,793	7,388	3.06
Other earning assets	94,427	2,292	9.82	120,798	587	1.97
Total earning assets	2,671,426	28,789	4.36	2,779,844	13,000	1.89
Cash and due from banks	27,784			28,082		
Other assets, less allowance for loan and lease losses	396,848			399,776		
Total assets	$ 3,096,058			$ 3,207,702		
Interest-bearing liabilities						
U.S. interest-bearing deposits						
Demand and money market deposits	$ 975,085	$ 2,790	1.16 %	$ 1,001,184	$ 80	0.03 %
Time and savings deposits	196,984	919	1.89	163,981	40	0.10
Total U.S. interest-bearing deposits	1,172,069	3,709	1.28	1,165,165	120	0.04
Non-U.S. interest-bearing deposits	91,603	605	2.68	81,879	44	0.22
Total interest-bearing deposits	1,263,672	4,314	1.38	1,247,044	164	0.05
Federal funds purchased and securities loaned or sold under agreements to repurchase	256,015	3,551	5.63	217,152	79	0.15
Short-term borrowings and other interest-bearing liabilities (2)	156,887	2,629	6.79	126,454	(191)	(0.61)
Trading account liabilities	43,953	504	4.65	64,240	364	2.30
Long-term debt	244,759	3,209	5.28	246,042	906	1.50
Total interest-bearing liabilities	1,965,286	14,207	2.93	1,900,932	1,322	0.28
Noninterest-bearing sources						
Noninterest-bearing deposits	629,977			798,767		
Other liabilities (5)	223,543			238,694		
Shareholders' equity	277,252			269,309		
Total liabilities and shareholders' equity	$ 3,096,058			$ 3,207,702		
Net interest spread			1.43 %			1.61 %
Impact of noninterest-bearing sources			0.77			0.08
Net interest income/yield on earning assets (6)		$ 14,582	2.20 %		$ 11,678	1.69 %

(1) Includes the impact of interest rate risk management contracts. For more information, see Interest Rate Risk Management for the Banking Book on page 40.
(2) For more information on negative interest, see *Note 1 – Summary of Significant Accounting Principles* to the Consolidated Financial Statements of the Corporation's 2022 Annual Report on Form 10-K.
(3) Nonperforming loans are included in the respective average loan balances. Income on these nonperforming loans is generally recognized on a cost recovery basis.
(4) Includes U.S. commercial real estate loans of $65.5 billion and $58.5 billion, and non-U.S. commercial real estate loans of $5.1 billion and $4.5 billion for the first quarter of 2023 and 2022.
(5) Includes $37.3 billion and $30.2 billion of structured notes and liabilities for the first quarter of 2023 and 2022.
(6) Net interest income includes FTE adjustments of $134 million and $106 million for the first quarter of 2023 and 2022.

Business Segment Operations

Segment Description and Basis of Presentation

We report our results of operations through four business segments: *Consumer Banking, GWIM, Global Banking* and *Global Markets*, with the remaining operations recorded in *All Other*. We manage our segments and report their results on an FTE basis. For more information, see Business Segment Operations in the MD&A of the Corporation's 2022 Annual Report on Form 10-K.

We periodically review capital allocated to our businesses and allocate capital annually during the strategic and capital planning processes. We utilize a methodology that considers the effect of regulatory capital requirements in addition to internal risk-based capital models. The capital allocated to the business segments is referred to as allocated capital. Allocated equity in the reporting units is comprised of allocated capital plus capital for the portion of goodwill and intangibles specifically assigned to the reporting unit. For more information, including the definition of a reporting unit, see *Note 7 – Goodwill and Intangible Assets* to the Consolidated Financial Statements.

For more information on our presentation of financial information on an FTE basis, see Supplemental Financial Data on page 6, and for reconciliations to consolidated total revenue, net income and period-end total assets, see *Note 17 – Business Segment Information* to the Consolidated Financial Statements.

Key Performance Indicators

We present certain key financial and nonfinancial performance indicators that management uses when evaluating segment results. We believe they are useful to investors because they provide additional information about our segments' operational performance, customer trends and business growth.

Consumer Banking

	Deposits		Consumer Lending		Total Consumer Banking		
			Three Months Ended March 31				
(Dollars in millions)	**2023**	2022	**2023**	2022	**2023**	2022	% Change
Net interest income	**$ 5,816**	$ 4,052	**$ 2,777**	$ 2,628	**$ 8,593**	$ 6,680	29 %
Noninterest income:							
Card income	**(10)**	(8)	**1,284**	1,193	**1,274**	1,185	8
Service charges	**598**	843	**1**	1	**599**	844	(29)
All other income	**197**	68	**43**	36	**240**	104	131
Total noninterest income	**785**	903	**1,328**	1,230	**2,113**	2,133	(1)
Total revenue, net of interest expense	**6,601**	4,955	**4,105**	3,858	**10,706**	8,813	21
Provision for credit losses	**183**	73	**906**	(125)	**1,089**	(52)	n/m
Noninterest expense	**3,415**	3,008	**2,058**	1,913	**5,473**	4,921	11
Income before income taxes	**3,003**	1,874	**1,141**	2,070	**4,144**	3,944	5
Income tax expense	**751**	459	**285**	507	**1,036**	966	7
Net income	**$ 2,252**	$ 1,415	**$ 856**	$ 1,563	**$ 3,108**	$ 2,978	4
Effective tax rate [(1)]					**25.0 %**	24.5 %	
Net interest yield	**2.31 %**	1.56 %	**3.76 %**	3.79 %	**3.27 %**	2.48 %	
Return on average allocated capital	**67**	44	**12**	23	**30**	30	
Efficiency ratio	**51.76**	60.71	**50.10**	49.58	**51.12**	55.84	

Balance Sheet

			Three Months Ended March 31				
Average	**2023**	2022	**2023**	2022	**2023**	2022	% Change
Total loans and leases	**$ 4,119**	$ 4,215	**$ 299,653**	$ 279,853	**$ 303,772**	$ 284,068	7 %
Total earning assets [(2)]	**1,022,445**	1,050,490	**299,794**	281,255	**1,065,202**	1,092,742	(3)
Total assets [(2)]	**1,056,007**	1,084,343	**306,275**	287,660	**1,105,245**	1,133,001	(2)
Total deposits	**1,021,374**	1,050,247	**4,868**	5,853	**1,026,242**	1,056,100	(3)
Allocated capital	**13,700**	13,000	**28,300**	27,000	**42,000**	40,000	5
Period end	**March 31 2023**	December 31 2022	**March 31 2023**	December 31 2022	**March 31 2023**	December 31 2022	% Change
Total loans and leases	**$ 4,065**	$ 4,148	**$ 300,415**	$ 300,613	**$ 304,480**	$ 304,761	— %
Total earning assets [(2)]	**1,038,545**	1,043,049	**300,595**	300,787	**1,081,780**	1,085,079	—
Total assets [(2)]	**1,074,571**	1,077,203	**307,227**	308,007	**1,124,438**	1,126,453	—
Total deposits	**1,039,744**	1,043,194	**5,024**	5,605	**1,044,768**	1,048,799	—

(1) Estimated at the segment level only.
(2) In segments and businesses where the total of liabilities and equity exceeds assets, we allocate assets from *All Other* to match the segments' and businesses' liabilities and allocated shareholders' equity. As a result, total earning assets and total assets of the businesses may not equal total *Consumer Banking*.
n/m = not meaningful

Consumer Banking, comprised of Deposits and Consumer Lending, offers a diversified range of credit, banking and investment products and services to consumers and small businesses. For more information about *Consumer Banking*, see Business Segment Operations in the MD&A of the Corporation's 2022 Annual Report on Form 10-K.

Consumer Banking Results

Net income for *Consumer Banking* increased $130 million to $3.1 billion for the three months ended March 31, 2023 compared to the same period in 2022 due to higher revenue, largely offset by an increase in provision for credit losses and higher noninterest expense. Net interest income increased $1.9 billion to $8.6 billion primarily driven by higher interest rates and loan balances. Noninterest income decreased $20 million to $2.1 billion, relatively unchanged from the same period a year ago.

The provision for credit losses increased $1.1 billion to $1.1 billion primarily driven by higher-than-expected credit card balances in the current-year period. Noninterest expense increased $552 million to $5.5 billion primarily driven by continued investments for business growth, including people and technology.

The return on average allocated capital was 30 percent, unchanged from the same period a year ago. For more information on capital allocated to the business segments, see Business Segment Operations on page 9.

Deposits

Net income for Deposits increased $837 million to $2.3 billion primarily due to higher revenue, partially offset by higher noninterest expense. Net interest income increased $1.8 billion to $5.8 billion primarily due to higher interest rates. Noninterest income decreased $118 million to $785 million primarily driven by the impact of non-sufficient funds and overdraft policy changes.

Noninterest expense increased $407 million to $3.4 billion primarily driven by continued investments for business growth, including people and technology.

Average deposits decreased $28.9 billion to $1.0 trillion primarily due to net outflows of $15.0 billion in money market savings and $11.5 billion in checking. The decline was largely driven by clients moving deposits to higher yielding investment alternatives and higher levels of consumer spending.

The table below provides key performance indicators for Deposits. Management uses these metrics, and we believe they are useful to investors because they provide additional information to evaluate our deposit profitability and digital/mobile trends.

Key Statistics – Deposits

	Three Months Ended March 31	
	2023	2022
Total deposit spreads (excludes noninterest costs) [1]	**2.54%**	1.65%
Period End		
Consumer investment assets (in millions) [2]	**$ 354,892**	$ 357,593
Active digital banking users (in thousands) [3]	**44,962**	42,269
Active mobile banking users (in thousands) [4]	**36,322**	33,589
Financial centers	**3,892**	4,056
ATMs	**15,407**	15,959

(1) Includes deposits held in Consumer Lending.
(2) Includes client brokerage assets, deposit sweep balances and AUM in *Consumer Banking*.
(3) Represents mobile and/or online active users over the past 90 days.
(4) Represents mobile active users over the past 90 days.

Consumer investment assets decreased $2.7 billion to $354.9 billion driven by market performance, partially offset by client flows. Active mobile banking users increased approximately three million, reflecting continuing changes in our clients' banking preferences. We had a net decrease of 164 financial centers and 552 ATMs as we continue to optimize our consumer banking network.

Consumer Lending

Net income for Consumer Lending decreased $707 million to $856 million primarily due to an increase in provision for credit losses. Net interest income increased $149 million to $2.8 billion due to higher interest rates and loan balances. Noninterest income increased $98 million to $1.3 billion primarily driven by card income.

The provision for credit losses increased $1.0 billion to $906 million primarily driven by higher-than-expected credit card balances in the current-year period. Noninterest expense increased $145 million to $2.1 billion largely driven by continued investments for business growth, including people and technology.

Average loans increased $19.8 billion to $299.7 billion primarily driven by an increase in credit card loans.

The table below provides key performance indicators for Consumer Lending. Management uses these metrics, and we believe they are useful to investors because they provide additional information about loan growth and profitability.

Key Statistics – Consumer Lending

	Three Months Ended March 31	
(Dollars in millions)	**2023**	2022
Total credit card [1]		
Gross interest yield [2]	**11.85 %**	9.90 %
Risk-adjusted margin [3]	**8.69**	10.40
New accounts (in thousands)	**1,187**	977
Purchase volumes	**$ 85,544**	$ 80,914
Debit card purchase volumes	**$ 124,376**	$ 117,584

(1) Includes *GWIM's* credit card portfolio.
(2) Calculated as the effective annual percentage rate divided by average loans.
(3) Calculated as the difference between total revenue, net of interest expense, and net credit losses divided by average loans.

During the three months ended March 31, 2023, the total risk-adjusted margin decreased 171 bps compared to the same period in 2022 driven by lower net interest margin, lower fee income and higher net credit losses. Total credit card purchase volumes increased $4.6 billion to $85.5 billion, and debit card purchase volumes increased $6.8 billion to $124.4 billion, reflecting higher levels of consumer spending.

Key Statistics – Loan Production [1]

	Three Months Ended March 31	
(Dollars in millions)	**2023**	2022
Consumer Banking:		
First mortgage	**$ 1,956**	$ 8,116
Home equity	**2,183**	1,725
Total [2]:		
First mortgage	**$ 3,937**	$ 16,353
Home equity	**2,596**	2,040

(1) The loan production amounts represent the unpaid principal balance of loans and, in the case of home equity, the principal amount of the total line of credit.
(2) In addition to loan production in *Consumer Banking*, there is also first mortgage and home equity loan production in *GWIM*.

First mortgage loan originations for *Consumer Banking* and the total Corporation decreased $6.2 billion and $12.4 billion during the three months ended March 31, 2023 compared to the same period in 2022 primarily driven by higher interest rates, resulting in lower customer demand.

Home equity production in *Consumer Banking* and the total Corporation increased $458 million and $556 million during the three months ended March 31, 2023 primarily driven by higher demand.

Global Wealth & Investment Management

(Dollars in millions)	Three Months Ended March 31 2023	2022	% Change
Net interest income	$ **1,876**	$ 1,668	12 %
Noninterest income:			
Investment and brokerage services	**3,238**	3,654	(11)
All other income	**201**	154	31
Total noninterest income	**3,439**	3,808	(10)
Total revenue, net of interest expense	**5,315**	5,476	(3)
Provision for credit losses	**25**	(41)	n/m
Noninterest expense	**4,067**	4,015	1
Income before income taxes	**1,223**	1,502	(19)
Income tax expense	**306**	368	(17)
Net income	$ **917**	$ 1,134	(19)
Effective tax rate	**25.0 %**	24.5 %	
Net interest yield	**2.20**	1.62	
Return on average allocated capital	**20**	26	
Efficiency ratio	**76.53**	73.31	

Balance Sheet

Average	Three Months Ended March 31 2023	2022	% Change
Total loans and leases	$ **221,448**	$ 210,937	5 %
Total earning assets	**346,384**	418,248	(17)
Total assets	**359,164**	431,040	(17)
Total deposits	**314,019**	384,902	(18)
Allocated capital	**18,500**	17,500	6

Period end	March 31 2023	December 31 2022	% Change
Total loans and leases	$ **217,804**	$ 223,910	(3)%
Total earning assets	**336,560**	355,461	(5)
Total assets	**349,888**	368,893	(5)
Total deposits	**301,471**	323,899	(7)

n/m = not meaningful

GWIM consists of two primary businesses: Merrill Wealth Management and Bank of America Private Bank. For more information about *GWIM*, see Business Segment Operations in the MD&A of the Corporation's 2022 Annual Report on Form 10-K.

Net income for *GWIM* decreased $217 million to $917 million for the three months ended March 31, 2023 compared to the same period in 2022 primarily driven by lower revenue. The operating margin was 23 percent compared to 27 percent a year ago.

Net interest income increased $208 million to $1.9 billion due to the impacts of higher interest rates and loan balances, partially offset by lower deposit balances.

Noninterest income, which primarily includes investment and brokerage services income, decreased $369 million to $3.4 billion primarily due to the impacts of lower market valuations and declines in AUM pricing, partially offset by the impact of positive AUM flows.

Noninterest expense increased $52 million to $4.1 billion primarily due to continued investments in the business, including strategic hiring and technology, largely offset by lower revenue-related incentives.

The return on average allocated capital was 20 percent, down from 26 percent, due to lower net income and an increase in allocated capital. For more information on capital allocated to the business segments, see Business Segment Operations on page 9.

Average loans increased $10.5 billion to $221.4 billion primarily due to residential mortgages and custom lending, partially offset by securities-based lending. Average deposits decreased $70.9 billion to $314.0 billion primarily driven by clients moving deposits to higher yielding investment alternatives.

Merrill Wealth Management revenue of $4.4 billion decreased four percent primarily driven by the impact of lower market valuations and declines in AUM pricing, partially offset by the impact of higher interest rates.

Bank of America Private Bank revenue of $918 million increased three percent primarily driven by the benefits of higher interest rates, partially offset by the impact of lower market valuations.

Key Indicators and Metrics

(Dollars in millions)	Three Months Ended March 31 2023	2022
Revenue by Business		
Merrill Wealth Management	**$ 4,397**	$ 4,589
Bank of America Private Bank	**918**	887
Total revenue, net of interest expense	**$ 5,315**	$ 5,476
Client Balances by Business, at period end		
Merrill Wealth Management	**$ 2,952,681**	$ 3,116,052
Bank of America Private Bank	**568,925**	598,100
Total client balances	**$ 3,521,606**	$ 3,714,152
Client Balances by Type, at period end		
Assets under management	**$ 1,467,242**	$ 1,571,605
Brokerage and other assets	**1,571,409**	1,592,802
Deposits	**301,471**	385,288
Loans and leases [(1)]	**220,633**	217,461
Less: Managed deposits in assets under management	**(39,149)**	(53,004)
Total client balances	**$ 3,521,606**	$ 3,714,152
Assets Under Management Rollforward		
Assets under management, beginning of period	**$ 1,401,474**	$ 1,638,782
Net client flows	**15,262**	15,537
Market valuation/other	**50,506**	(82,714)
Total assets under management, end of period	**$ 1,467,242**	$ 1,571,605
Total wealth advisors, at period end [(2)]	**19,243**	18,571

(1) Includes margin receivables which are classified in customer and other receivables on the Consolidated Balance Sheet.
(2) Includes advisors across all wealth management businesses in *GWIM* and *Consumer Banking*.

Client Balances

Client balances decreased $192.5 billion, or five percent, to $3.5 trillion at March 31, 2023 compared to March 31, 2022. The decrease in client balances was primarily due to the impact of lower market valuations, partially offset by positive client flows.

Global Banking

(Dollars in millions)	Three Months Ended March 31 2023	2022	% Change
Net interest income	**$ 3,907**	$ 2,344	67 %
Noninterest income:			
Service charges	**714**	886	(19)
Investment banking fees	**668**	880	(24)
All other income	**914**	1,084	(16)
Total noninterest income	**2,296**	2,850	(19)
Total revenue, net of interest expense	**6,203**	5,194	19
Provision for credit losses	**(237)**	165	n/m
Noninterest expense	**2,940**	2,683	10
Income before income taxes	**3,500**	2,346	49
Income tax expense	**945**	622	52
Net income	**$ 2,555**	$ 1,724	48
Effective tax rate	**27.0 %**	26.5 %	
Net interest yield	**3.03**	1.68	
Return on average allocated capital	**21**	16	
Efficiency ratio	**47.41**	51.65	

Balance Sheet

Average	Three Months Ended March 31 2023	2022	% Change
Total loans and leases	**$ 381,009**	$ 358,807	6 %
Total earning assets	**522,374**	566,277	(8)
Total assets	**588,886**	630,517	(7)
Total deposits	**492,577**	539,912	(9)
Allocated capital	**49,250**	44,500	11

Period End	**March 31 2023**	December 31 2022	% Change
Total loans and leases	**$ 383,491**	$ 379,107	1 %
Total earning assets	**524,299**	522,539	—
Total assets	**591,231**	588,466	—
Total deposits	**495,949**	498,661	(1)

n/m = not meaningful

Global Banking, which includes Global Corporate Banking, Global Commercial Banking, Business Banking and Global Investment Banking, provides a wide range of lending-related products and services, integrated working capital management and treasury solutions, and underwriting and advisory services through our network of offices and client relationship teams. For more information about *Global Banking,* see Business Segment Operations in the MD&A of the Corporation's 2022 Annual Report on Form 10-K.

Net income for Global Banking increased $831 million to $2.6 billion for the three months ended March 31, 2023 compared to the same period in 2022 driven by higher revenue and lower provision for credit losses, partially offset by higher noninterest expense.

Net interest income increased $1.6 billion to $3.9 billion primarily due to the benefit of higher interest rates, partially offset by the impact of lower deposit balances.

Noninterest income decreased $554 million to $2.3 billion driven by lower investment banking fees, lower treasury service charges due to higher earnings credit rates and lower revenue from ESG investment activities.

The provision for credit losses improved $402 million to a benefit of $237 million primarily driven by certain improved macroeconomic conditions.

Noninterest expense increased $257 million to $2.9 billion, primarily due to continued investments in the business, including strategic hiring in 2022.

The return on average allocated capital was 21 percent, up from 16 percent, due to higher net income, partially offset by higher allocated capital. For more information on capital allocated to the business segments, see Business Segment Operations on page 9.

Global Corporate, Global Commercial and Business Banking

The following table and discussion present a summary of the results, which exclude certain investment banking and Paycheck Protection Program (PPP) activities in *Global Banking*.

Global Corporate, Global Commercial and Business Banking

(Dollars in millions)	Global Corporate Banking		Global Commercial Banking		Business Banking		Total	
	Three Months Ended March 31							
	2023	2022	**2023**	2022	**2023**	2022	**2023**	2022
Revenue								
Business Lending	**$ 1,034**	$ 1,060	**$ 1,233**	$ 993	**$ 67**	$ 58	**$ 2,334**	$ 2,111
Global Transaction Services	**1,549**	949	**1,129**	896	**387**	243	**3,065**	2,088
Total revenue, net of interest expense	**$ 2,583**	$ 2,009	**$ 2,362**	$ 1,889	**$ 454**	$ 301	**$ 5,399**	$ 4,199
Balance Sheet								
Average								
Total loans and leases	**$ 175,293**	$ 166,994	**$ 192,796**	$ 177,483	**$ 12,618**	$ 12,837	**$ 380,707**	$ 357,314
Total deposits	**259,177**	257,903	**182,614**	223,741	**50,795**	58,268	**492,586**	539,912
Period end								
Total loans and leases	**$ 175,777**	$ 174,134	**$ 194,889**	$ 179,253	**$ 12,580**	$ 12,794	**$ 383,246**	$ 366,181
Total deposits	**263,131**	255,694	**181,315**	219,462	**51,511**	58,660	**495,957**	533,816

Business Lending revenue increased $223 million for the three months ended March 31, 2023 compared to the same period in 2022 primarily due to the benefits of higher interest rates, partially offset by lower ESG investment activities.

Global Transaction Services revenue increased $977 million for the three months ended March 31, 2023 driven by higher interest rates, partially offset by the impact of lower deposit balances and treasury service charges.

Average loans and leases increased seven percent for the three months ended March 31, 2023 due to client demand. Average deposits decreased nine percent due to declines in domestic balances.

Global Investment Banking

Client teams and product specialists underwrite and distribute debt, equity and loan products, and provide advisory services and tailored risk management solutions. The economics of certain investment banking and underwriting activities are shared primarily between *Global Banking* and *Global Markets* under an internal revenue-sharing arrangement. *Global Banking* originates certain deal-related transactions with our corporate and commercial clients that are executed and distributed by *Global Markets*. To provide a complete discussion of our consolidated investment banking fees, the table below presents total Corporation investment banking fees and the portion attributable to *Global Banking.*

Investment Banking Fees

(Dollars in millions)	Global Banking		Total Corporation	
	Three Months Ended March 31			
	2023	2022	**2023**	2022
Products				
Advisory	**$ 313**	$ 439	**$ 363**	$ 473
Debt issuance	**290**	359	**644**	831
Equity issuance	**65**	82	**168**	225
Gross investment banking fees	**668**	880	**1,175**	1,529
Self-led deals	**(4)**	(29)	**(12)**	(72)
Total investment banking fees	**$ 664**	$ 851	**$ 1,163**	$ 1,457

Total Corporation investment banking fees of $1.2 billion, which exclude self-led deals and are primarily included within *Global Banking* and *Global Markets,* decreased 20 percent for the three months ended March 31, 2023 compared to the same period in 2022. The decrease was primarily due to lower debt issuance, advisory and equity issuance fees.

Global Markets

(Dollars in millions)	Three Months Ended March 31 2023	2022	% Change
Net interest income	$ 109	$ 993	(89)%
Noninterest income:			
Investment and brokerage services	533	545	(2)
Investment banking fees	469	582	(19)
Market making and similar activities	4,398	3,190	38
All other income	117	(18)	n/m
Total noninterest income	5,517	4,299	28
Total revenue, net of interest expense	5,626	5,292	6
Provision for credit losses	(53)	5	n/m
Noninterest expense	3,351	3,117	8
Income before income taxes	2,328	2,170	7
Income tax expense	640	575	11
Net income	$ 1,688	$ 1,595	6
Effective tax rate	27.5 %	26.5 %	
Return on average allocated capital	15	15	
Efficiency ratio	59.56	58.90	

Balance Sheet

	Three Months Ended March 31 2023	2022	% Change
Average			
Trading-related assets:			
Trading account securities	$ 339,248	$ 301,285	13 %
Reverse repurchases	126,760	138,581	(9)
Securities borrowed	116,280	114,468	2
Derivative assets	43,747	41,820	5
Total trading-related assets	626,035	596,154	5
Total loans and leases	125,046	108,576	15
Total earning assets	627,935	610,926	3
Total assets	870,038	858,719	1
Total deposits	36,109	44,393	(19)
Allocated capital	45,500	42,500	7

Period end	March 31 2023	December 31 2022	% Change
Total trading-related assets	$ 599,841	$ 564,769	6 %
Total loans and leases	130,804	127,735	2
Total earning assets	632,873	587,772	8
Total assets	861,477	812,489	6
Total deposits	33,624	39,077	(14)

n/m = not meaningful

Global Markets offers sales and trading services and research services to institutional clients across fixed-income, credit, currency, commodity and equity businesses. *Global Markets* product coverage includes securities and derivative products in both the primary and secondary markets. For more information about *Global Markets*, see Business Segment Operations in the MD&A of the Corporation's 2022 Annual Report on Form 10-K.

The following explanations for current period-over-period changes for *Global Markets*, including those disclosed under Sales and Trading Revenue, are the same for amounts including and excluding net DVA. Amounts excluding net DVA are a non-GAAP financial measure. For more information on net DVA, see Supplemental Financial Data on page 6.

Net income for *Global Markets* increased $93 million to $1.7 billion for the three months ended March 31, 2023 compared to the same period in 2022. Net DVA gains were $14 million compared to $69 million in the same period in 2022. Excluding net DVA, net income increased $134 million to $1.7 billion. These increases were primarily driven by higher revenue, partially offset by higher noninterest expense.

Revenue increased $334 million to $5.6 billion primarily due to higher sales and trading revenue. Sales and trading revenue increased $348 million, and excluding net DVA, sales and trading revenue increased $403 million. These increases were driven by higher revenue in FICC, partially offset by lower revenue in Equities.

Noninterest expense increased $234 million to $3.4 billion primarily driven by continued investments in the business, including people and technology.

Average total assets increased $11.3 billion to $870.0 billion for the three months ended March 31, 2023 compared to the same period in 2022 driven by loan growth in FICC. Period-end total assets increased $49.0 billion from December 31, 2022 to $861.5 billion driven by increased securities financing activity and higher levels of inventory in FICC to satisfy client demand.

The return on average allocated capital was 15 percent, unchanged from the same period a year ago. For more information on capital allocated to the business segments, see Business Segment Operations on page 9.

Sales and Trading Revenue

For a description of sales and trading revenue, see Business Segment Operations in the MD&A of the Corporation's 2022 Annual Report on Form 10-K. The following table and related discussion present sales and trading revenue, substantially all of which is in *Global Markets,* with the remainder in *Global Banking*. In addition, the following table and related discussion also present sales and trading revenue, excluding net DVA, which is a non-GAAP financial measure. For more information on net DVA, see Supplemental Financial Data on page 6.

Sales and Trading Revenue [(1, 2, 3)]

	Three Months Ended March 31	
(Dollars in millions)	**2023**	2022
Sales and trading revenue		
Fixed income, currencies and commodities	**$ 3,440**	$ 2,708
Equities	**1,627**	2,011
Total sales and trading revenue	**$ 5,067**	$ 4,719
Sales and trading revenue, excluding net DVA [(4)]		
Fixed income, currencies and commodities	**$ 3,429**	$ 2,648
Equities	**1,624**	2,002
Total sales and trading revenue, excluding net DVA	**$ 5,053**	$ 4,650

(1) For more information on sales and trading revenue, see *Note 3 – Derivatives* to the Consolidated Financial Statements.
(2) Includes FTE adjustments of $90 million and $93 million for the three months ended March 31, 2023 and 2022.
(3) Includes *Global Banking* sales and trading revenue of $177 million and $179 million for the three months ended March 31, 2023 and 2022.
(4) FICC and Equities sales and trading revenue, excluding net DVA, is a non-GAAP financial measure. FICC net DVA gains were $11 million and $60 million for the three months ended March 31, 2023 and 2022. Equities net DVA gains were $3 million and $9 million for the three months ended March 31, 2023 and 2022.

Including and excluding net DVA, FICC revenue increased $732 million and $781 million for the three months ended March 31, 2023 compared to the same period in 2022 primarily driven by improved trading performance across mortgage, credit and municipal products and increased secured financing activity. Including and excluding net DVA, Equities revenue decreased $384 million and $378 million driven by weaker trading performance and lower client activity in derivatives and cash.

All Other

	Three Months Ended March 31		
(Dollars in millions)	**2023**	2022	% Change
Net interest income	**$ 97**	$ (7)	n/m
Noninterest income (loss)	**(1,555)**	(1,434)	8 %
Total revenue, net of interest expense	**(1,458)**	(1,441)	1
Provision for credit losses	**107**	(47)	n/m
Noninterest expense	**407**	583	(30)
Loss before income taxes	**(1,972)**	(1,977)	—
Income tax benefit	**(1,865)**	(1,613)	16
Net loss	**$ (107)**	$ (364)	(71)

Balance Sheet	Three Months Ended March 31		
Average	**2023**	2022	% Change
Total loans and leases	**$ 10,077**	$ 15,405	(35)%
Total assets [(1)]	**172,725**	154,425	12
Total deposits	**24,702**	20,504	20
	March 31	December 31	
Period end	**2023**	2022	% Change
Total loans and leases	**$ 9,827**	$ 10,234	(4)%
Total assets [(1)]	**267,623**	155,074	73
Total deposits	**34,590**	19,905	74

(1) In segments where the total of liabilities and equity exceeds assets, which are generally deposit-taking segments, we allocate assets from *All Other* to those segments to match liabilities (i.e., deposits) and allocated shareholders' equity. Average allocated assets were $1.0 trillion and $1.2 trillion for the three months ended March 31, 2023 and 2022, and period-end allocated assets were $1.0 trillion at both March 31, 2023 and December 31 2022.
n/m = not meaningful

All Other primarily consists of asset and liability management (ALM) activities, liquidating businesses and certain expenses not otherwise allocated to a business segment. ALM activities encompass interest rate and foreign currency risk management activities for which substantially all of the results are allocated to our business segments. For more information on our ALM activities, see *Note 17 – Business Segment Information* to the Consolidated Financial Statements.

The net loss in *All Other* decreased $257 million to a loss of $107 million primarily due to a higher income tax benefit, partially offset by lower noninterest income.

Noninterest income decreased $121 million primarily due to $220 million of losses on sales of AFS debt securities, primarily offset by derivative gains related to risk management activities.

The income tax benefit increased $252 million reflecting an increase in tax preference benefits primarily driven from income tax credits related to ESG investment activity. Both periods included income tax benefit adjustments to eliminate the FTE treatment of certain tax credits recorded in *Global Banking* and *Global Markets*.

Managing Risk

Risk is inherent in all our business activities. The seven key types of risk faced by the Corporation are strategic, credit, market, liquidity, compliance, operational and reputational. Sound risk management enables us to serve our customers and deliver for our shareholders. If not managed well, risk can result in financial loss, regulatory sanctions and penalties, and damage to our reputation, each of which may adversely impact our ability to execute our business strategies. We take a comprehensive approach to risk management with a defined Risk Framework and an articulated Risk Appetite Statement, which are approved annually by the Enterprise Risk Committee and the Board.

Our Risk Framework serves as the foundation for the consistent and effective management of risks facing the Corporation. The Risk Framework sets forth roles and responsibilities for the management of risk and provides a blueprint for how the Board, through delegation of authority to committees and executive officers, establishes risk appetite and associated limits for our activities.

Our risk appetite provides a common framework that includes a set of measures to assist senior management and the Board in assessing the Corporation's risk profile against our risk appetite and risk capacity. Our risk appetite is formally articulated in the Risk Appetite Statement, which includes both qualitative statements and quantitative limits.

For more information on the Corporation's risks, see Item 1A. Risk Factors of the Corporation's 2022 Annual Report on Form 10-K. These risks are being managed within our Risk Framework and supporting risk management programs. For more information on our Risk Framework, risk management activities and the key types of risk faced by the Corporation, see the Managing Risk section in the MD&A of the Corporation's 2022 Annual Report on Form 10-K.

Capital Management

The Corporation manages its capital position so that its capital is more than adequate to support its business activities and aligns with risk, risk appetite and strategic planning. For more information, including related regulatory requirements, see Capital Management in the MD&A of the Corporation's 2022 Annual Report on Form 10-K.

CCAR and Capital Planning

The Federal Reserve requires BHCs to submit a capital plan and planned capital actions on an annual basis, consistent with the rules governing the Comprehensive Capital Analysis and Review (CCAR) capital plan. Based on the results of our 2022 CCAR stress test, we are subject to a 3.4 percent stress capital buffer (SCB) from October 1, 2022 through September 30, 2023. In April 2023, we submitted our 2023 CCAR capital plan and related supervisory stress tests. The Federal Reserve has indicated that it will disclose CCAR capital plan supervisory stress test results by June 30, 2023.

In October 2021, the Board authorized the Corporation's $25 billion common stock repurchase program. Additionally, the Board authorized common stock repurchases to offset shares awarded under the Corporation's equity-based compensation plans. Pursuant to the Board's authorizations, during the first quarter of 2023, we repurchased $2.2 billion of common stock, including repurchases to offset shares awarded under equity-based compensation plans.

The timing and amount of common stock repurchases are subject to various factors, including the Corporation's capital position, liquidity, financial performance and alternative uses of capital, stock trading price, regulatory requirements and general market conditions, and may be suspended at any time. Such repurchases may be effected through open market purchases or privately negotiated transactions, including repurchase plans that satisfy the conditions of Rule 10b5-1 of the Securities Exchange Act of 1934, as amended (Exchange Act).

Regulatory Capital

As a financial services holding company, we are subject to regulatory capital rules, including Basel 3, issued by U.S. banking regulators. The Corporation's depository institution subsidiaries are also subject to the Prompt Corrective Action (PCA) framework. The Corporation and its primary affiliated banking entity, BANA, are Advanced approaches institutions under Basel 3 and are required to report regulatory risk-based capital ratios and risk-weighted assets (RWA) under both the Standardized and Advanced approaches. The lower of the capital ratios under Standardized or Advanced approaches compared to their respective regulatory capital ratio requirements is used to assess capital adequacy, including under the PCA framework. As of March 31, 2023, the Common equity tier 1 (CET1), Tier 1 capital and Total capital ratios under the Standardized approach were the binding ratios.

Minimum Capital Requirements

In order to avoid restrictions on capital distributions and discretionary bonus payments, the Corporation must meet risk-based capital ratio requirements that include a capital conservation buffer of 2.5 percent (under the Advanced approaches only), an SCB (under the Standardized approach only), plus any applicable countercyclical capital buffer and a global systemically important bank (G-SIB) surcharge. The buffers and surcharge must be comprised solely of CET1 capital. For the period from October 1, 2022 through September 30, 2023, the Corporation's minimum CET1 capital ratio requirements are 10.4 percent under the Standardized approach and 9.5 percent under the Advanced approaches.

The Corporation is required to calculate its G-SIB surcharge on an annual basis under two methods and is subject to the higher of the resulting two surcharges. Method 1 is consistent with the approach prescribed by the Basel Committee's assessment methodology and is calculated using specified indicators of systemic importance. Method 2 modifies the Method 1 approach by, among other factors, including a measure of the Corporation's reliance on short-term wholesale funding. The Corporation's G-SIB surcharge, which is higher under Method 2, is expected to increase to 3.0 percent from 2.5 percent on January 1, 2024, which will increase our minimum CET1 capital ratio requirement. At March 31, 2023, the Corporation's CET1 capital ratio of 11.4 percent under the Standardized approach exceeded its current CET1 capital ratio requirement as well as the minimum requirement expected to be in place as of January 1, 2024 due to the anticipated increase in our G-SIB surcharge.

The Corporation is also required to maintain a minimum supplementary leverage ratio (SLR) of 3.0 percent plus a leverage buffer of 2.0 percent in order to avoid certain restrictions on capital distributions and discretionary bonus payments. Our insured depository institution subsidiaries are required to maintain a minimum 6.0 percent SLR to be considered well capitalized under the PCA framework.

Capital Composition and Ratios

Table 7 presents Bank of America Corporation's capital ratios and related information in accordance with Basel 3 Standardized and Advanced approaches as measured at March 31, 2023 and December 31, 2022. For the periods presented herein, the Corporation met the definition of well capitalized under current regulatory requirements.

Table 7 Bank of America Corporation Regulatory Capital under Basel 3

(Dollars in millions, except as noted)	Standardized Approach (1)	Advanced Approaches (1)	Regulatory Minimum (2)
	March 31, 2023		
Risk-based capital metrics:			
Common equity tier 1 capital	**$ 184,432**	**$ 184,432**	
Tier 1 capital	**212,825**	**212,825**	
Total capital (3)	**242,743**	**233,877**	
Risk-weighted assets (in billions)	**1,622**	**1,427**	
Common equity tier 1 capital ratio	**11.4 %**	**12.9 %**	**10.4 %**
Tier 1 capital ratio	**13.1**	**14.9**	**11.9**
Total capital ratio	**15.0**	**16.4**	**13.9**
Leverage-based metrics:			
Adjusted quarterly average assets (in billions) (4)	**$ 3,018**	**$ 3,018**	
Tier 1 leverage ratio	**7.1 %**	**7.1 %**	**4.0**
Supplementary leverage exposure (in billions)		**$ 3,555**	
Supplementary leverage ratio		**6.0 %**	**5.0**
	December 31, 2022		
Risk-based capital metrics:			
Common equity tier 1 capital	$ 180,060	$ 180,060	
Tier 1 capital	208,446	208,446	
Total capital (3)	238,773	230,916	
Risk-weighted assets (in billions)	1,605	1,411	
Common equity tier 1 capital ratio	11.2 %	12.8 %	10.4 %
Tier 1 capital ratio	13.0	14.8	11.9
Total capital ratio	14.9	16.4	13.9
Leverage-based metrics:			
Adjusted quarterly average assets (in billions) (4)	$ 2,997	$ 2,997	
Tier 1 leverage ratio	7.0 %	7.0 %	4.0
Supplementary leverage exposure (in billions)		$ 3,523	
Supplementary leverage ratio		5.9 %	5.0

(1) Capital ratios as of March 31, 2023 and December 31, 2022 are calculated using the regulatory capital rule that allows a five-year transition period related to the adoption of the current expected credit losses (CECL) accounting standard on January 1, 2020.

(2) The CET1 capital regulatory minimum is the sum of the CET1 capital ratio minimum of 4.5 percent, our G-SIB surcharge of 2.5 percent and our capital conservation buffer of 2.5 percent (under the Advanced approaches) or the SCB of 3.4 percent (under the Standardized approach), as applicable, at both March 31, 2023 and December 31, 2022. The Corporation's SCB under the Standardized approach was 3.4 percent, the G-SIB surcharge was 2.5 percent and the countercyclical capital buffer was zero for both periods. The SLR regulatory minimum includes a leverage buffer of 2.0 percent.

(3) Total capital under the Advanced approaches differs from the Standardized approach due to differences in the amount permitted in Tier 2 capital related to the qualifying allowance for credit losses.

(4) Reflects total average assets adjusted for certain Tier 1 capital deductions.

At March 31, 2023, CET1 capital was $184.4 billion, an increase of $4.4 billion from December 31, 2022, primarily due to earnings, partially offset by dividends and common stock repurchases. Tier 1 capital increased $4.4 billion primarily driven by the same factors as CET1 capital. Total capital under the Standardized approach increased $4.0 billion primarily due to the same factors driving the increase in Tier 1 capital and an increase in the adjusted allowance for credit losses included in Tier 2 capital, partially offset by a decrease in subordinated debt. RWA under the Standardized approach, which yielded the lower CET1 capital ratio at March 31, 2023, increased $17.0 billion during the three months ended March 31, 2023 to $1,622 billion primarily due to higher counterparty exposures in *Global Markets*. Supplementary leverage exposure at March 31, 2023 increased $31.4 billion primarily due to higher trading assets from increased business activities and higher cash held at central banks, partially offset by lower derivative exposures and debt securities balances.

Table 8 shows the capital composition at March 31, 2023 and December 31, 2022.

Table 8 Capital Composition under Basel 3

(Dollars in millions)	March 31 2023	December 31 2022
Total common shareholders' equity	$ 251,799	$ 244,800
CECL transitional amount [1]	1,254	1,881
Goodwill, net of related deferred tax liabilities	(68,644)	(68,644)
Deferred tax assets arising from net operating loss and tax credit carryforwards	(7,835)	(7,776)
Intangibles, other than mortgage servicing rights, net of related deferred tax liabilities	(1,538)	(1,554)
Defined benefit pension plan net assets	(882)	(867)
Cumulative unrealized net (gain) loss related to changes in fair value of financial liabilities attributable to own creditworthiness, net-of-tax	484	496
Accumulated net (gain) loss on certain cash flow hedges [2]	9,886	11,925
Other	(92)	(201)
Common equity tier 1 capital	184,432	180,060
Qualifying preferred stock, net of issuance cost	28,396	28,396
Other	(3)	(10)
Tier 1 capital	212,825	208,446
Tier 2 capital instruments	17,845	18,751
Qualifying allowance for credit losses [3]	12,449	11,739
Other	(376)	(163)
Total capital under the Standardized approach	242,743	238,773
Adjustment in qualifying allowance for credit losses under the Advanced approaches [3]	(8,866)	(7,857)
Total capital under the Advanced approaches	$ 233,877	$ 230,916

(1) Includes the impact of the Corporation's adoption of the CECL accounting standard on January 1, 2020 and 25 percent of the increase in reserves since the initial adoption.
(2) Includes amounts in accumulated other comprehensive income (OCI) related to the hedging of items that are not recognized at fair value on the Consolidated Balance Sheet.
(3) Includes the impact of transition provisions related to the CECL accounting standard.

Table 9 shows the components of RWA as measured under Basel 3 at March 31, 2023 and December 31, 2022.

Table 9 Risk-weighted Assets under Basel 3

	Standardized Approach	Advanced Approaches	Standardized Approach	Advanced Approaches
(Dollars in billions)	March 31, 2023		December 31, 2022	
Credit risk	$ 1,558	$ 958	$ 1,538	$ 939
Market risk	64	63	67	67
Operational risk	n/a	364	n/a	364
Risks related to credit valuation adjustments	n/a	42	n/a	41
Total risk-weighted assets	$ 1,622	$ 1,427	$ 1,605	$ 1,411

n/a = not applicable

Bank of America, N.A. Regulatory Capital

Table 10 presents regulatory capital information for BANA in accordance with Basel 3 Standardized and Advanced approaches as measured at March 31, 2023 and December 31, 2022. BANA met the definition of well capitalized under the PCA framework for both periods.

Table 10 Bank of America, N.A. Regulatory Capital under Basel 3

(Dollars in millions, except as noted)	Standardized Approach (1)	Advanced Approaches (1)	Regulatory Minimum (2)
	March 31, 2023		
Risk-based capital metrics:			
Common equity tier 1 capital	$ 185,410	$ 185,410	
Tier 1 capital	185,410	185,410	
Total capital (3)	199,325	190,730	
Risk-weighted assets (in billions)	1,389	1,104	
Common equity tier 1 capital ratio	13.3 %	16.8 %	7.0 %
Tier 1 capital ratio	13.3	16.8	8.5
Total capital ratio	14.3	17.3	10.5
Leverage-based metrics:			
Adjusted quarterly average assets (in billions) (4)	$ 2,365	$ 2,365	
Tier 1 leverage ratio	7.8 %	7.8 %	5.0
Supplementary leverage exposure (in billions)		$ 2,799	
Supplementary leverage ratio		6.6 %	6.0
	December 31, 2022		
Risk-based capital metrics:			
Common equity tier 1 capital	$ 181,089	$ 181,089	
Tier 1 capital	181,089	181,089	
Total capital (3)	194,254	186,648	
Risk-weighted assets (in billions)	1,386	1,087	
Common equity tier 1 capital ratio	13.1 %	16.7 %	7.0 %
Tier 1 capital ratio	13.1	16.7	8.5
Total capital ratio	14.0	17.2	10.5
Leverage-based metrics:			
Adjusted quarterly average assets (in billions) (4)	$ 2,358	$ 2,358	
Tier 1 leverage ratio	7.7 %	7.7 %	5.0
Supplementary leverage exposure (in billions)		$ 2,785	
Supplementary leverage ratio		6.5 %	6.0

(1) Capital ratios as of March 31, 2023 and December 31, 2022 are calculated using the regulatory capital rule that allows a five-year transition period related to the adoption of the CECL accounting standard on January 1, 2020.

(2) Risk-based capital regulatory minimums at both March 31, 2023 and December 31, 2022 are the minimum ratios under Basel 3 including a capital conservation buffer of 2.5 percent. The regulatory minimums for the leverage ratios as of both period ends are the percent required to be considered well capitalized under the PCA framework.

(3) Total capital under the Advanced approaches differs from the Standardized approach due to differences in the amount permitted in Tier 2 capital related to the qualifying allowance for credit losses.

(4) Reflects total average assets adjusted for certain Tier 1 capital deductions.

Total Loss-Absorbing Capacity Requirements

Total loss-absorbing capacity (TLAC) consists of the Corporation's Tier 1 capital and eligible long-term debt issued directly by the Corporation. Eligible long-term debt for TLAC ratios is comprised of unsecured debt that has a remaining maturity of at least one year and satisfies additional requirements as prescribed in the TLAC final rule. As with the risk-based capital ratios and SLR, the Corporation is required to maintain TLAC ratios in excess of minimum requirements plus applicable buffers to avoid restrictions on capital distributions and discretionary bonus payments. Table 11 presents the Corporation's TLAC and long-term debt ratios and related information as of March 31, 2023 and December 31, 2022.

Table 11 Bank of America Corporation Total Loss-Absorbing Capacity and Long-Term Debt

(Dollars in millions)	TLAC [1]	Regulatory Minimum [2]	Long-term Debt	Regulatory Minimum [3]
	March 31, 2023			
Total eligible balance	$ 466,319		$ 239,255	
Percentage of risk-weighted assets [4]	28.8 %	22.0 %	14.8 %	8.5 %
Percentage of supplementary leverage exposure	13.1	9.5	6.7	4.5
	December 31, 2022			
Total eligible balance	$ 465,451		$ 243,833	
Percentage of risk-weighted assets [4]	29.0 %	22.0 %	15.2 %	8.5 %
Percentage of supplementary leverage exposure	13.2	9.5	6.9	4.5

(1) As of March 31, 2023 and December 31, 2022, TLAC ratios are calculated using the regulatory capital rule that allows a five-year transition period related to the adoption of CECL.
(2) The TLAC RWA regulatory minimum consists of 18.0 percent plus a TLAC RWA buffer comprised of 2.5 percent plus the Method 1 G-SIB surcharge of 1.5 percent. The countercyclical buffer is zero for both periods. The TLAC supplementary leverage exposure regulatory minimum consists of 7.5 percent plus a 2.0 percent TLAC leverage buffer. The TLAC RWA and leverage buffers must be comprised solely of CET1 capital and Tier 1 capital, respectively.
(3) The long-term debt RWA regulatory minimum is comprised of 6.0 percent plus an additional 2.5 percent requirement based on the Corporation's Method 2 G-SIB surcharge. The long-term debt leverage exposure regulatory minimum is 4.5 percent.
(4) The approach that yields the higher RWA is used to calculate TLAC and long-term debt ratios, which was the Standardized approach as of March 31, 2023 and December 31, 2022.

Regulatory Capital and Securities Regulation

The Corporation's principal U.S. broker-dealer subsidiaries are BofA Securities, Inc. (BofAS), Merrill Lynch Professional Clearing Corp. (MLPCC) and Merrill Lynch, Pierce, Fenner & Smith Incorporated (MLPF&S). The Corporation's principal European broker-dealer subsidiaries are Merrill Lynch International (MLI) and BofA Securities Europe SA (BofASE).

The U.S. broker-dealer subsidiaries are subject to the net capital requirements of Rule 15c3-1 under the Exchange Act. BofAS computes its minimum capital requirements as an alternative net capital broker-dealer under Rule 15c3-1e, and MLPCC and MLPF&S compute their minimum capital requirements in accordance with the alternative standard under Rule 15c3-1. BofAS and MLPCC are also registered as futures commission merchants and are subject to Commodity Futures Trading Commission (CFTC) Regulation 1.17. The U.S. broker-dealer subsidiaries are also registered with the Financial Industry Regulatory Authority, Inc. (FINRA). Pursuant to FINRA Rule 4110, FINRA may impose higher net capital requirements than Rule 15c3-1 under the Exchange Act with respect to each of the broker-dealers.

BofAS provides institutional services, and in accordance with the alternative net capital requirements, is required to maintain tentative net capital in excess of $5.0 billion and net capital in excess of the greater of $1.0 billion or a certain percentage of its reserve requirement in addition to a certain percentage of securities-based swap risk margin. BofAS must also notify the SEC in the event its tentative net capital is less than $6.0 billion. BofAS is also required to hold a certain percentage of its customers' and affiliates' risk-based margin in order to meet its CFTC minimum net capital requirement. At March 31, 2023, BofAS had tentative net capital of $19.3 billion. BofAS also had regulatory net capital of $17.1 billion, which exceeded the minimum requirement of $4.5 billion.

MLPCC is a fully-guaranteed subsidiary of BofAS and provides clearing and settlement services as well as prime brokerage and arranged financing services for institutional clients. At March 31, 2023, MLPCC's regulatory net capital of $7.1 billion exceeded the minimum requirement of $1.5 billion.

MLPF&S provides retail services. At March 31, 2023, MLPF&S' regulatory net capital was $6.3 billion, which exceeded the minimum requirement of $137 million.

Our European broker-dealers are subject to requirements from U.S. and non-U.S. regulators. MLI, a U.K. investment firm, is regulated by the Prudential Regulation Authority and the FCA and is subject to certain regulatory capital requirements. At March 31, 2023, MLI's capital resources were $33.5 billion, which exceeded the minimum Pillar 1 requirement of $11.7 billion.

BofASE, an authorized credit institution with its head office located in France, is regulated by the Autorité de Contrôle Prudentiel et de Résolution and the Autorité des Marchés Financiers, and supervised under the Single Supervisory Mechanism by the European Central Bank. At March 31, 2023, BofASE's capital resources were $9.1 billion, which exceeded the minimum Pillar 1 requirement of $3.3 billion.

In addition, MLI and BofASE became conditionally registered with the SEC as security-based swap dealers in the fourth quarter of 2021, and maintained net liquid assets at March 31, 2023 that exceeded the applicable minimum requirements under the Exchange Act.

Liquidity Risk

Funding and Liquidity Risk Management

Our primary liquidity risk management objective is to meet expected or unexpected cash flow and collateral requirements, including payments under long-term debt agreements, commitments to extend credit and customer deposit withdrawals, while continuing to support our businesses and customers under a range of economic conditions. To achieve that objective, we analyze and monitor our liquidity risk under expected and stressed conditions, maintain liquidity and access to diverse funding sources, including our stable deposit base, and seek to align liquidity-related incentives and risks. These liquidity risk management practices have allowed us to effectively manage the market stress from increased volatility due to the failure of certain financial institutions in March 2023. For more information, see Executive Summary – Recent Developments – Financial Market Events on page 3. Our practices have also allowed us to effectively manage market fluctuations from the rising interest rate environment, inflationary pressures and changes in the macroeconomic environment.

We define liquidity as readily available assets, limited to cash and high-quality, liquid, unencumbered securities that we can use to meet our contractual and contingent financial obligations as they arise. We manage our liquidity position through line-of-business and ALM activities, as well as through our legal entity funding strategy, on both a forward and current (including intraday) basis under both expected and stressed conditions. We believe that a centralized approach to funding and liquidity management enhances our ability to monitor liquidity requirements, maximizes access to funding sources, minimizes borrowing costs and facilitates timely responses to liquidity events. For more information on the Corporation's liquidity risks, see the Liquidity section within Item 1A. Risk Factors of the Corporation's 2022 Annual Report on Form 10-K. For more information regarding global funding and liquidity risk management, as well as liquidity sources, liquidity arrangements, contingency planning and credit ratings discussed below, see Liquidity Risk in the MD&A of the Corporation's 2022 Annual Report on Form 10-K.

NB Holdings Corporation

Bank of America Corporation, as the parent company (the Parent), which is a separate and distinct legal entity from our bank and nonbank subsidiaries, has an intercompany arrangement with our wholly-owned holding company subsidiary, NB Holdings Corporation (NB Holdings). We have transferred, and agreed to transfer, additional Parent assets not required to satisfy anticipated near-term expenditures to NB Holdings. The Parent is expected to continue to have access to the same flow of dividends, interest and other amounts of cash necessary to service its debt, pay dividends and perform other obligations as it would have had it not entered into these arrangements and transferred any assets. These arrangements support our preferred single point of entry resolution strategy, under which only the Parent would be resolved under the U.S. Bankruptcy Code.

Global Liquidity Sources and Other Unencumbered Assets

We maintain liquidity available to the Corporation, including the Parent and selected subsidiaries, in the form of cash and high-quality, liquid, unencumbered securities. Our liquidity buffer, referred to as Global Liquidity Sources (GLS), is comprised of assets that are readily available to the Parent and selected subsidiaries, including holding company, bank and broker-dealer subsidiaries, even during stressed market conditions. Our cash is primarily on deposit with the Federal Reserve Bank and, to a lesser extent, central banks outside of the U.S. We limit the composition of high-quality, liquid, unencumbered securities to U.S. government securities, U.S. agency securities, U.S. agency mortgage-backed securities and other investment-grade securities, and a select group of non-U.S. government securities. We can obtain cash for these securities, even in stressed conditions, through repurchase agreements or outright sales. We hold our GLS in legal entities that allow us to meet the liquidity requirements of our global businesses, and we consider the impact of potential regulatory, tax, legal and other restrictions that could limit the transferability of funds among entities.

Table 12 presents average GLS for the three months ended March 31, 2023 and December 31, 2022.

Table 12 Average Global Liquidity Sources

(Dollars in billions)	Three Months Ended March 31 2023	Three Months Ended December 31 2022
Bank entities	$ 683	$ 694
Nonbank and other entities [(1)]	171	174
Total Average Global Liquidity Sources	**$ 854**	$ 868

(1) Nonbank includes Parent, NB Holdings and other regulated entities.

Our bank subsidiaries' liquidity is primarily driven by deposit and lending activity, as well as securities valuation and net debt activity. Bank subsidiaries can also generate incremental liquidity by pledging a range of unencumbered loans and securities to certain Federal Home Loan Banks (FHLBs) and the Federal Reserve Discount Window. The cash we could have obtained by borrowing against this pool of specifically-identified eligible assets was $319 billion and $348 billion at March 31, 2023 and December 31, 2022. We have established operational procedures to enable us to borrow against these assets, including regularly monitoring our total pool of eligible loans and securities collateral. Eligibility is defined in guidelines from the FHLBs and the Federal Reserve and is subject to change at their discretion. Due to regulatory restrictions, liquidity generated by the bank subsidiaries can generally be used only to fund obligations within the bank subsidiaries, and transfers to the Parent or nonbank subsidiaries may be subject to prior regulatory approval.

Liquidity is also held in nonbank entities, including the Parent, NB Holdings and other regulated entities. The Parent and NB Holdings liquidity is typically in the form of cash deposited at BANA, which is excluded from the liquidity at bank subsidiaries, and high-quality, liquid, unencumbered securities. Liquidity held in other regulated entities, comprised primarily of broker-dealer subsidiaries, is primarily available to meet the obligations of that entity, and transfers to the Parent or to any other subsidiary may be subject to prior regulatory approval due to regulatory restrictions and minimum requirements. Our other regulated entities also hold unencumbered investment-grade securities and equities that we believe could be used to generate additional liquidity.

Table 13 presents the composition of average GLS for the three months ended March 31, 2023 and December 31, 2022.

Table 13 Average Global Liquidity Sources Composition

(Dollars in billions)	Three Months Ended March 31 2023	Three Months Ended December 31 2022
Cash on deposit	$ 204	$ 174
U.S. Treasury securities	225	252
U.S. agency securities, mortgage-backed securities, and other investment-grade securities	411	427
Non-U.S. government securities	14	15
Total Average Global Liquidity Sources	**$ 854**	$ 868

Our GLS are substantially the same in composition to what qualifies as High Quality Liquid Assets (HQLA) under the final U.S. Liquidity Coverage Ratio (LCR) rules. However, HQLA for purposes of calculating LCR is not reported at market value, but at a lower value that incorporates regulatory deductions and the exclusion of excess liquidity held at certain subsidiaries. The LCR is calculated as the amount of a financial institution's unencumbered HQLA relative to the estimated net cash outflows the institution could encounter over a 30-day period of significant liquidity stress, expressed as a percentage. Our average consolidated HQLA, on a net basis, was $591 billion and $605 billion for the three months ended March 31, 2023 and December 31, 2022. For the same periods, the average consolidated LCR was 117 percent and 120 percent. Our LCR fluctuates due to normal business flows from customer activity.

Liquidity Stress Analysis

We utilize liquidity stress analysis to assist us in determining the appropriate amounts of liquidity to maintain at the Parent and our subsidiaries to meet contractual and contingent cash outflows under a range of scenarios. For more information on liquidity stress analysis, see Liquidity Risk –Liquidity Stress Analysis in the MD&A of the Corporation's 2022 Annual Report on Form 10-K.

Net Stable Funding Ratio

The Net Stable Funding Ratio (NSFR) is a liquidity requirement for large banks to maintain a minimum level of stable funding over a one-year period. The requirement is intended to support the ability of banks to lend to households and businesses in both normal and adverse economic conditions and is complementary to the LCR, which focuses on short-term liquidity risks. The U.S. NSFR applies to the Corporation on a consolidated basis and to our insured depository institutions. At March 31, 2023, the Corporation and its insured depository institutions were in compliance with this requirement.

Diversified Funding Sources

We fund our assets primarily with a mix of deposits, and secured and unsecured liabilities through a centralized, globally coordinated funding approach diversified across products, programs, markets, currencies and investor groups. We fund a substantial portion of our lending activities through our deposits, which were $1.91 trillion and $1.93 trillion at March 31, 2023 and December 31, 2022. Our trading activities in other regulated entities are primarily funded on a secured basis through securities lending and repurchase agreements, and these amounts will vary based on customer activity and market conditions.

Deposits

Our deposit base is well-diversified by clients, geography and product type across our business segments. At March 31, 2023, 55 percent of our deposits were in *Consumer Banking*, 16 percent in *GWIM* and 26 percent in *Global Banking*. We consider a substantial portion of our deposit base to be a stable, low-cost and consistent source of liquidity. At March 31, 2023, approximately 67 percent of consumer and small business deposits and 80 percent of U.S. deposits in *Global Banking* were held by clients who have had accounts with us for 10 or more years. In addition, at March 31, 2023 and December 31, 2022, 33 percent and 34 percent of our deposits were noninterest-bearing and included operating accounts of our consumer and commercial clients. Deposits at March 31, 2023 decreased $19.9 billion, or one percent, from December 31, 2022 primarily due to clients in *GWIM* moving deposits into higher yielding investment alternatives. Period-end deposits for *Consumer Banking* and *Global Banking* were relatively stable at March 31, 2023 compared to December 31, 2022.

Long-term Debt

During the three months ended March 31, 2023, we issued $14.3 billion of long-term debt consisting of $3.8 billion of notes issued by Bank of America Corporation, which were largely TLAC compliant, $4.4 billion of notes issued by Bank of America, N.A. and $6.1 billion of other debt.

During the three months ended March 31, 2023, we had total long-term debt maturities and redemptions in the aggregate of $11.3 billion consisting of $8.9 billion for Bank of America Corporation, $500 million for Bank of America, N.A. and $1.9 billion of other debt. Table 14 presents the carrying value of aggregate annual contractual maturities of long-term debt at March 31, 2023.

Table 14 Long-term Debt by Maturity

(Dollars in millions)	Remainder of 2023	2024	2025	2026	2027	Thereafter	Total
Bank of America Corporation							
Senior notes [1]	$ 3,702	$ 18,207	$ 24,909	$ 24,274	$ 19,248	$ 113,206	**$ 203,546**
Senior structured notes	763	562	573	956	628	9,575	**13,057**
Subordinated notes	—	3,160	5,163	4,926	2,148	10,341	**25,738**
Junior subordinated notes	—	—	—	—	188	556	**744**
Total Bank of America Corporation	4,465	21,929	30,645	30,156	22,212	133,678	**243,085**
Bank of America, N.A.							
Senior notes	—	5,970	—	—	—	—	**5,970**
Subordinated notes	—	—	—	—	—	1,514	**1,514**
Advances from Federal Home Loan Banks	100	1,000	14	9	4	52	**1,179**
Securitizations and other Bank VIEs [2]	999	999	2,248	—	—	52	**4,298**
Other	219	719	71	33	70	—	**1,112**
Total Bank of America, N.A.	1,318	8,688	2,333	42	74	1,618	**14,073**
Other debt							
Structured Liabilities	3,999	3,203	2,519	3,272	2,002	11,137	**26,132**
Nonbank VIEs [2]	—	—	—	—	—	583	**583**
Total other debt	3,999	3,203	2,519	3,272	2,002	11,720	**26,715**
Total long-term debt	**$ 9,782**	**$ 33,820**	**$ 35,497**	**$ 33,470**	**$ 24,288**	**$ 147,016**	**$ 283,873**

(1) Total includes $180.8 billion of outstanding notes that are both TLAC eligible and callable one year before their stated maturities, including $12.2 billion during the remainder of 2023, and $21.6 billion, $21.6 billion, $19.2 billion and $24.8 billion during each year of 2024 through 2027, respectively, and $81.4 billion thereafter. For more information on our TLAC eligible and callable outstanding notes, see Liquidity Risk – Diversified Funding Sources in the MD&A of the Corporation's 2022 Annual Report on Form 10-K.

(2) Represents liabilities of consolidated variable interest entities (VIEs) included in total long-term debt on the Consolidated Balance Sheet.

Total long-term debt increased $7.9 billion to $283.9 billion during the three months ended March 31, 2023 primarily due to debt issuances and valuation adjustments, partially offset by debt maturities and redemptions. We may, from time to time, purchase outstanding debt instruments in various transactions, depending on market conditions, liquidity and other factors. Our other regulated entities may also make markets in our debt instruments to provide liquidity for investors.

During the three months ended March 31, 2023, we issued $4.0 billion of structured notes, which are debt obligations that pay investors returns linked to other debt or equity securities, indices, currencies or commodities. These structured notes are typically issued to meet client demand, and notes with certain attributes may also be TLAC eligible. We typically hedge the returns we are obligated to pay on these liabilities with derivatives and/or investments in the underlying instruments, so that from a funding perspective, the cost is similar to our other unsecured long-term debt. We could be required to settle certain structured note obligations for cash or other securities prior to maturity under certain circumstances, which we consider for liquidity planning purposes. We believe, however, that a portion of such borrowings will remain outstanding beyond the earliest put or redemption date.

Substantially all of our senior and subordinated debt obligations contain no provisions that could trigger a requirement for an early repayment, require additional collateral support, result in changes to terms, accelerate maturity or create additional financial obligations upon an adverse change in our credit ratings, financial ratios, earnings, cash flows or stock price. For more information on long-term debt funding, including issuances and maturities and redemptions, see *Note 11 – Long-term Debt* to the Consolidated Financial Statements of the Corporation's 2022 Annual Report on Form 10-K.

We use derivative transactions to manage the duration, interest rate and currency risks of our borrowings, considering the characteristics of the assets they are funding. For more information on our ALM activities, see Interest Rate Risk Management for the Banking Book on page 40.

Credit Ratings

Credit ratings and outlooks are opinions expressed by rating agencies on our creditworthiness and that of our obligations or securities, including long-term debt, short-term borrowings, preferred stock and other securities, including asset securitizations. Table 15 presents the Corporation's current long-term/short-term senior debt ratings and outlooks expressed by the rating agencies.

The ratings and outlooks from Fitch Ratings for the Corporation and its subsidiaries have not changed from those disclosed in the Corporation's 2022 Annual Report on Form 10-K.

On March 31, 2023, Standard & Poor's Global Ratings (S&P) affirmed the current ratings of the Corporation and its subsidiaries, while at the same time revising its rating outlook to Stable from Positive. S&P concurrently changed its outlooks on three other large U.S. bank holding companies to Stable from Positive, noting that the agency has reduced its upside expectations for bank ratings in the near term.

On January 23, 2023, Moody's Investors Service (Moody's) placed the long-term rating of the Corporation as well as the long-term rating of its rated subsidiaries, including BANA, on review for upgrade. The agency cited the Corporation's strengthened capital ratios, improved earnings profile and continued commitment to maintaining a restrained risk appetite as drivers of the review. Moody's concurrently affirmed all Prime-1 short-term ratings of the Corporation and rated subsidiaries. A review for upgrade indicates that those ratings are under consideration for a change in the near term and typically concludes within 90 days. As of May 1, 2023, Moody's had not yet announced the completion of its review of the long-term ratings.

For more information on additional collateral and termination payments that could be required in connection with certain over-the-counter derivative contracts and other trading agreements in the event of a credit rating downgrade, see *Note 3 – Derivatives* to the Consolidated Financial Statements herein and Item 1A. Risk Factors of the Corporation's 2022 Annual Report on Form 10-K.

Table 15 Senior Debt Ratings

	Moody's Investors Service			Standard & Poor's Global Ratings			Fitch Ratings		
	Long-term	Short-term	Outlook	Long-term	Short-term	Outlook	Long-term	Short-term	Outlook
Bank of America Corporation	A2	P-1	Review for Upgrade	A-	A-2	Stable	AA-	F1+	Stable
Bank of America, N.A.	Aa2	P-1	Review for Upgrade	A+	A-1	Stable	AA	F1+	Stable
Bank of America Europe Designated Activity Company	NR	NR	NR	A+	A-1	Stable	AA	F1+	Stable
Merrill Lynch, Pierce, Fenner & Smith Incorporated	NR	NR	NR	A+	A-1	Stable	AA	F1+	Stable
BofA Securities, Inc.	NR	NR	NR	A+	A-1	Stable	AA	F1+	Stable
Merrill Lynch International	NR	NR	NR	A+	A-1	Stable	AA	F1+	Stable
BofA Securities Europe SA	NR	NR	NR	A+	A-1	Stable	AA	F1+	Stable

NR = not rated

Finance Subsidiary Issuers and Parent Guarantor

BofA Finance LLC, a Delaware limited liability company (BofA Finance), is a consolidated finance subsidiary of the Corporation that has issued and sold, and is expected to continue to issue and sell, its senior unsecured debt securities (Guaranteed Notes) that are fully and unconditionally guaranteed by the Corporation. The Corporation guarantees the due and punctual payment, on demand, of amounts payable on the Guaranteed Notes if not paid by BofA Finance. In addition, each of BAC Capital Trust XIII, BAC Capital Trust XIV and BAC Capital Trust XV, Delaware statutory trusts (collectively, the Trusts), is a 100 percent owned finance subsidiary of the Corporation that has issued and sold trust preferred securities (the Trust Preferred Securities) or capital securities (the Capital Securities and, together with the Guaranteed Notes and the Trust Preferred Securities, the Guaranteed Securities), as applicable, that remained outstanding at March 31, 2023. The Corporation has fully and unconditionally guaranteed (or effectively provided for the full and unconditional guarantee of) all such securities issued by such finance subsidiaries. For more information regarding such guarantees by the Corporation, see Liquidity Risk– Finance Subsidiary Issuers and Parent Guarantor in the MD&A of the Corporation's 2022 Annual Report on Form 10-K.

Representations and Warranties Obligations

For information on representations and warranties obligations in connection with the sale of mortgage loans, see *Note 12 – Commitments and Contingencies* to the Consolidated Financial Statements of the Corporation's 2022 Annual Report on Form 10-K.

Credit Risk Management

For information on our credit risk management activities, see the following: Consumer Portfolio Credit Risk Management, Commercial Portfolio Credit Risk Management on page 29, Non-U.S. Portfolio on page 35, Allowance for Credit Losses on page 36, and *Note 5 – Outstanding Loans and Leases and Allowance for Credit Losses* to the Consolidated Financial Statements. For information on the Corporation's loan modification programs, see *Note 1 – Summary of Significant Accounting Principles* and *Note 5 – Outstanding Loans and Leases and Allowance for Credit Losses* to the Consolidated Financial Statements.

During the three months ended March 31, 2023, our asset quality remained relatively healthy. Our net charge-off ratio increased primarily driven by credit card loans, as delinquency trends continue to slowly increase off of historic lows; however, they remain below pre-pandemic levels. Nonperforming loans increased modestly compared to December 31, 2022 driven by office, while commercial reservable criticized exposure increased driven by both office as well as other industries that have been impacted by the current environment. Uncertainty remains regarding broader economic impacts as a result of inflationary pressures, rising rates and the current geopolitical environment and could lead to adverse impacts to credit quality metrics in future periods.

Consumer Portfolio Credit Risk Management

Credit risk management for the consumer portfolio begins with initial underwriting and continues throughout a borrower's credit cycle. Statistical techniques in conjunction with experiential judgment are used in all aspects of portfolio management including underwriting, product pricing, risk appetite, setting credit limits, and establishing operating processes and metrics to quantify and balance risks and returns. Statistical models are built using detailed behavioral information from external sources, such as credit bureaus, and/or internal historical experience and are a component of our consumer credit risk management process. These models are used in part to assist in making both new and ongoing credit decisions as well as portfolio management strategies, including authorizations and line management, collection practices and strategies, and determination of the allowance for loan and lease losses and allocated capital for credit risk.

Consumer Credit Portfolio

During the three months ended March 31, 2023, the U.S. unemployment rate remained relatively stable and home prices continued to decline modestly. During the three months ended March 31, 2023, net charge-offs increased $313 million to $653 million compared to the same period in 2022, as late-stage delinquent credit card loans were charged off.

The consumer allowance for loan and lease losses increased $124 million during the three months ended March 31, 2023 to $7.4 billion. For more information, see Allowance for Credit Losses on page 36.

For more information on our accounting policies regarding delinquencies, nonperforming status, charge-offs and loan modifications for the consumer portfolio, see *Note 1 – Summary of Significant Accounting Principles* to the Consolidated Financial Statements of the Corporation's 2022 Annual Report on Form 10-K and *Note 5 – Outstanding Loans and Leases and Allowance for Credit Losses* to the Consolidated Financial Statements.

Table 16 presents our outstanding consumer loans and leases, consumer nonperforming loans and accruing consumer loans past due 90 days or more.

Table 16 Consumer Credit Quality

	Outstandings		Nonperforming		Accruing Past Due 90 Days or More	
(Dollars in millions)	**March 31 2023**	December 31 2022	**March 31 2023**	December 31 2022	**March 31 2023**	December 31 2022
Residential mortgage [1]	**$ 228,827**	$ 229,670	**$ 2,125**	$ 2,167	**$ 338**	$ 368
Home equity	**25,868**	26,563	**488**	510	**—**	—
Credit card	**92,469**	93,421	**n/a**	n/a	**828**	717
Direct/Indirect consumer [2]	**104,540**	106,236	**101**	77	**2**	2
Other consumer	**120**	156	**—**	—	**—**	—
Consumer loans excluding loans accounted for under the fair value option	**$ 451,824**	$ 456,046	**$ 2,714**	$ 2,754	**$ 1,168**	$ 1,087
Loans accounted for under the fair value option [3]	**334**	339				
Total consumer loans and leases	**$ 452,158**	$ 456,385				
Percentage of outstanding consumer loans and leases [4]	**n/a**	n/a	**0.60 %**	0.60 %	**0.26 %**	0.24 %
Percentage of outstanding consumer loans and leases, excluding fully-insured loan portfolios [4]	**n/a**	n/a	**0.62**	0.62	**0.19**	0.16

(1) Residential mortgage loans accruing past due 90 days or more are fully-insured loans. At March 31, 2023 and December 31 2022, residential mortgage included $232 million and $260 million of loans on which interest had been curtailed by the Federal Housing Administration (FHA), and therefore were no longer accruing interest, although principal was still insured, and $106 million and $108 million of loans on which interest was still accruing.

(2) Outstandings primarily includes auto and specialty lending loans and leases of $52.7 billion and $51.8 billion, U.S. securities-based lending loans of $48.1 billion and $50.4 billion at March 31, 2023 and December 31 2022, and non-U.S. consumer loans of $2.8 billion and $3.0 billion at March 31, 2023 and December 31 2022.

(3) For more information on the fair value option, see *Note 15 – Fair Value Option* to the Consolidated Financial Statements.

(4) Excludes consumer loans accounted for under the fair value option. At both March 31, 2023 and December 31 2022, $7 million of loans accounted for under the fair value option were past due 90 days or more and not accruing interest.

n/a = not applicable

Table 17 presents net charge-offs and related ratios for consumer loans and leases.

Table 17 Consumer Net Charge-offs and Related Ratios

	Net Charge-offs		Net Charge-off Ratios [1]	
	Three Months Ended March 31			
(Dollars in millions)	**2023**	2022	**2023**	2022
Residential mortgage	**$ 1**	$ (10)	**— %**	(0.02)%
Home equity	**(12)**	(30)	**(0.18)**	(0.44)
Credit card	**501**	297	**2.21**	1.53
Direct/Indirect consumer	**1**	4	**—**	0.02
Other consumer	**162**	79	**n/m**	n/m
Total	**$ 653**	$ 340	**0.58**	0.32

[1] Net charge-off ratios are calculated as annualized net charge-offs divided by average outstanding loans and leases, excluding loans accounted for under the fair value option.
n/m = not meaningful

We believe that the presentation of information adjusted to exclude the impact of the fully-insured loan portfolio and loans accounted for under the fair value option is more representative of the ongoing operations and credit quality of the business. As a result, in the following tables and discussions of the residential mortgage and home equity portfolios, we exclude loans accounted for under the fair value option and provide information that excludes the impact of the fully-insured loan portfolio in certain credit quality statistics.

Residential Mortgage

The residential mortgage portfolio made up the largest percentage of our consumer loan portfolio at 51 percent of consumer loans and leases at March 31, 2023. Approximately 51 percent of the residential mortgage portfolio was in *Consumer Banking,* 45 percent was in *GWIM* and the remaining portion was in *All Other*.

Outstanding balances in the residential mortgage portfolio decreased $843 million during the three months ended March 31, 2023, as paydowns outpaced new originations.

At March 31, 2023 and December 31, 2022, the residential mortgage portfolio included $11.4 billion and $11.7 billion of outstanding fully-insured loans, of which $2.1 billion and $2.2 billion had FHA insurance, with the remainder protected by Fannie Mae long-term standby agreements.

Table 18 presents certain residential mortgage key credit statistics on both a reported basis and excluding the fully-insured loan portfolio. The following discussion presents the residential mortgage portfolio excluding the fully-insured loan portfolio.

Table 18 Residential Mortgage – Key Credit Statistics

	Reported Basis [1]		Excluding Fully-insured Loans [1]	
(Dollars in millions)	**March 31 2023**	December 31 2022	**March 31 2023**	December 31 2022
Outstandings	**$ 228,827**	$ 229,670	**$ 217,445**	$ 217,976
Accruing past due 30 days or more	**1,304**	1,471	**724**	844
Accruing past due 90 days or more	**338**	368	**—**	—
Nonperforming loans [2]	**2,125**	2,167	**2,125**	2,167
Percent of portfolio				
Refreshed LTV greater than 90 but less than or equal to 100	**1%**	1 %	**1%**	1 %
Refreshed LTV greater than 100	**—**	—	**—**	—
Refreshed FICO below 620	**1**	1	**1**	1

[1] Outstandings, accruing past due, nonperforming loans and percentages of portfolio exclude loans accounted for under the fair value option.
[2] Includes loans that are contractually current that have not yet demonstrated a sustained period of payment performance following a modification.

Nonperforming outstanding balances in the residential mortgage portfolio decreased $42 million during the three months ended March 31, 2023 primarily due to returns to performing and paydowns outpacing new additions. Of the nonperforming residential mortgage loans at March 31, 2023, $1.3 billion, or 63 percent, were current on contractual payments. Loans accruing past due 30 days or more decreased $120 million.

Of the $217.4 billion in total residential mortgage loans outstanding at March 31, 2023, 28 percent were originated as interest-only loans. The outstanding balance of interest-only residential mortgage loans that had entered the amortization period was $3.4 billion, or six percent, at March 31, 2023. Residential mortgage loans that have entered the amortization period generally experience a higher rate of early stage delinquencies and nonperforming status compared to the residential mortgage portfolio as a whole. At March 31, 2023, $64 million, or two percent, of outstanding interest-only residential mortgages that had entered the amortization period were accruing past due 30 days or more compared to $724 million, or less than one percent, for the entire residential mortgage portfolio. In addition, at March 31, 2023, $185 million, or five percent, of outstanding interest-only residential mortgage loans that had entered the amortization period were nonperforming, of which $67 million were contractually current. Loans that have yet to enter the amortization period in our interest-only residential mortgage portfolio are primarily well-collateralized loans to our wealth management clients and have an interest-only period of 3 to 10 years. Approximately 96 percent of these loans that have yet to enter the amortization period will not be required to make a fully-amortizing payment until 2025 or later.

Table 19 presents outstandings, nonperforming loans and net charge-offs by certain state concentrations for the residential mortgage portfolio. The Los Angeles-Long Beach-Santa Ana Metropolitan Statistical Area (MSA) within California represented 14 percent of outstandings at both March 31, 2023 and December 31, 2022. In the New York area, the New York-Northern New Jersey-Long Island MSA made up 15 percent of outstandings at both March 31, 2023 and December 31, 2022.

Table 19 Residential Mortgage State Concentrations

(Dollars in millions)	Outstandings[1] March 31 2023	Outstandings[1] December 31 2022	Nonperforming[1] March 31 2023	Nonperforming[1] December 31 2022	Net Charge-offs Three Months Ended March 31 2023	Net Charge-offs Three Months Ended March 31 2022
California	**$ 80,629**	$ 80,878	**$ 649**	$ 656	**$ —**	$ (3)
New York	**26,191**	26,228	**329**	328	**2**	—
Florida	**15,241**	15,225	**136**	145	**(2)**	(1)
Texas	**9,399**	9,399	**84**	88	**—**	—
New Jersey	**8,772**	8,810	**94**	96	**—**	—
Other	**77,213**	77,436	**833**	854	**1**	(6)
Residential mortgage loans	**$ 217,445**	$ 217,976	**$ 2,125**	$ 2,167	**$ 1**	$ (10)
Fully-insured loan portfolio	**11,382**	11,694				
Total residential mortgage loan portfolio	**$ 228,827**	$ 229,670				

(1) Outstandings and nonperforming loans exclude loans accounted for under the fair value option.

Home Equity

At March 31, 2023, the home equity portfolio made up six percent of the consumer portfolio and was comprised of home equity lines of credit (HELOCs), home equity loans and reverse mortgages. HELOCs generally have an initial draw period of 10 years, and after the initial draw period ends, the loans generally convert to 15- or 20-year amortizing loans. We no longer originate home equity loans or reverse mortgages.

At March 31, 2023, 82 percent of the home equity portfolio was in *Consumer Banking*, eight percent was in *All Other* and the remainder of the portfolio was primarily in *GWIM*. Outstanding balances in the home equity portfolio decreased $695 million during the three months ended March 31, 2023 primarily due to paydowns outpacing draws on existing lines and new originations. Of the total home equity portfolio at March 31, 2023 and December 31, 2022, $10.7 billion and $11.1 billion, or 41 percent and 42 percent, were in first-lien positions. At March 31, 2023, outstanding balances in the home equity portfolio that were in a second-lien or more junior-lien position and where we also held the first-lien loan totaled $4.4 billion, or 17 percent of our total home equity portfolio.

Unused HELOCs totaled $44.0 billion and $42.4 billion at March 31, 2023 and December 31, 2022. The HELOC utilization rate was 36 percent and 38 percent at March 31, 2023 and December 31, 2022.

Table 20 presents certain home equity portfolio key credit statistics.

Table 20 Home Equity – Key Credit Statistics[1]

(Dollars in millions)	March 31 2023	December 31 2022
Outstandings	**$ 25,868**	$ 26,563
Accruing past due 30 days or more	**93**	96
Nonperforming loans[2]	**488**	510
Percent of portfolio		
Refreshed CLTV greater than 90 but less than or equal to 100	**—%**	— %
Refreshed CLTV greater than 100	**—**	—
Refreshed FICO below 620	**2**	2

(1) Outstandings, accruing past due, nonperforming loans and percentages of the portfolio exclude loans accounted for under the fair value option.
(2) Includes loans that are contractually current that have not yet demonstrated a sustained period of payment performance following a modification.

Nonperforming outstanding balances in the home equity portfolio decreased $22 million to $488 million at March 31, 2023, primarily driven by returns to performing status and paydowns outpacing new additions. Of the nonperforming home equity loans at March 31, 2023, $265 million, or 54 percent, were current on contractual payments, and $144 million, or 29 percent, were 180 days or more past due and had been written down to the estimated fair value of the collateral, less costs to sell. Accruing loans that were 30 days or more past due remained relatively unchanged during the three months ended March 31, 2023.

Net recoveries decreased $18 million to $12 million during the three months ended March 31, 2023 compared to the same period in 2022.

Of the $25.9 billion in total home equity portfolio outstandings at March 31, 2023, as shown in Table 20, 12 percent require interest-only payments. The outstanding balance of HELOCs that had reached the end of their draw period and entered the amortization period was $4.9 billion at March 31, 2023. The HELOCs that have entered the amortization period have experienced a higher percentage of early stage delinquencies and nonperforming status when compared to the HELOC portfolio as a whole. At March 31, 2023, $50 million, or one percent, of outstanding HELOCs that had entered the amortization period were accruing past due 30 days or more. In addition, at March 31, 2023, $329 million, or seven percent, were nonperforming.

For our interest-only HELOC portfolio, we do not actively track how many of our home equity customers pay only the minimum amount due on their home equity loans and lines; however, we can infer some of this information through a review of our HELOC portfolio that we service and is still in its revolving period. During the three months ended March 31, 2023, 23 percent of these customers with an outstanding balance did not pay any principal on their HELOCs.

Table 21 presents outstandings, nonperforming balances and net recoveries by certain state concentrations for the home equity portfolio. In the New York area, the New York-Northern New Jersey-Long Island MSA made up 12 percent of the outstanding home equity portfolio at both March 31, 2023 and December 31, 2022. The Los Angeles-Long Beach-Santa Ana MSA within California made up 11 percent of the outstanding home equity portfolio at both March 31, 2023 and December 31, 2022.

Table 21 Home Equity State Concentrations

	Outstandings [1]		Nonperforming [1]		Net Charge-Offs	
	March 31	December 31	March 31	December 31	Three Months Ended March 31	
(Dollars in millions)	2023	2022	2023	2022	2023	2022
California	$ 7,208	$ 7,406	$ 113	$ 119	$ (1)	$ (6)
Florida	2,667	2,743	60	63	(3)	(7)
New Jersey	1,964	2,047	50	53	—	(2)
New York	1,733	1,806	77	80	(2)	(2)
Massachusetts	1,293	1,347	15	23	—	(1)
Other	11,003	11,214	173	172	(6)	(12)
Total home equity loan portfolio	$ 25,868	$ 26,563	$ 488	$ 510	$ (12)	$ (30)

[1] Outstandings and nonperforming loans exclude loans accounted for under the fair value option.

Credit Card

At March 31, 2023, 97 percent of the credit card portfolio was managed in *Consumer Banking* with the remainder in *GWIM*. Outstandings in the credit card portfolio decreased $952 million during the three months ended March 31, 2023 to $92.5 billion primarily driven by a seasonal decline in purchase volumes. Net charge-offs increased $204 million to $501 million during the three months ended March 31, 2023 compared to the same period in 2022, as late-stage credit card delinquencies were charged off. Credit card loans 30 days or more past due and still accruing interest increased $169 million, and 90 days or more past due and still accruing interest increased $111 million.

Unused lines of credit for credit card increased to $381.1 billion at March 31, 2023 from $370.1 billion at December 31, 2022.

Table 22 presents certain state concentrations for the credit card portfolio.

Table 22 Credit Card State Concentrations

	Outstandings		Accruing Past Due 90 Days or More		Net Charge-offs	
	March 31	December 31	March 31	December 31	Three Months Ended March 31	
(Dollars in millions)	2023	2022	2023	2022	2023	2022
California	$ 15,235	$ 15,363	$ 145	$ 126	$ 88	$ 50
Florida	9,504	9,512	110	100	69	42
Texas	8,124	8,125	81	72	48	27
New York	5,339	5,381	71	56	39	22
Washington	4,777	4,844	26	21	14	7
Other	49,490	50,196	395	342	243	149
Total credit card portfolio	$ 92,469	$ 93,421	$ 828	$ 717	$ 501	$ 297

Direct/Indirect Consumer

At March 31, 2023, 51 percent of the direct/indirect portfolio was included in *Consumer Banking* (consumer auto and recreational vehicle lending) and 49 percent was included in *GWIM* (principally securities-based lending loans). Outstandings in the direct/indirect portfolio decreased $1.7 billion during the three months ended March 31, 2023 to $104.5 billion driven by declines in securities-based lending stemming from higher paydown activity due to higher interest rates, partially offset by growth in our auto portfolio.

Table 23 presents certain state concentrations for the direct/indirect consumer loan portfolio.

Table 23 Direct/Indirect State Concentrations

	Outstandings		Nonperforming		Net Charge-offs	
	March 31	December 31	March 31	December 31	Three Months Ended March 31	
(Dollars in millions)	2023	2022	2023	2022	2023	2022
California	$ 15,438	$ 15,516	$ 16	$ 12	$ 2	$ 1
Florida	13,420	13,783	12	10	—	1
Texas	9,818	9,837	11	9	—	1
New York	7,548	7,891	7	5	—	—
New Jersey	4,378	4,456	3	3	—	—
Other	53,938	54,753	52	38	(1)	1
Total direct/indirect loan portfolio	$ 104,540	$ 106,236	$ 101	$ 77	$ 1	$ 4

Other Consumer

Other consumer primarily consists of deposit overdraft balances. Net charge-offs increased $83 million to $162 million during the three months ended March 31, 2023 compared to the same period in 2022, primarily driven by higher overdraft losses due to industry-wide check fraud activity.

Nonperforming Consumer Loans, Leases and Foreclosed Properties Activity

Table 24 presents nonperforming consumer loans, leases and foreclosed properties activity for the three months ended March 31, 2023 and 2022. During the three months ended March 31, 2023, nonperforming consumer loans decreased $40 million to $2.7 billion primarily due to returns to performing status and paydowns outpacing new additions during the first quarter of 2023.

At March 31, 2023, $550 million, or 20 percent, of nonperforming loans were 180 days or more past due and had been written down to their estimated property value less costs 7to sell. In addition, at March 31, 2023, $1.6 billion, or 60 percent, of nonperforming consumer loans were current and classified as nonperforming loans in accordance with applicable policies.

Foreclosed properties decreased $4 million during the three months ended March 31, 2023 to $117 million.

Table 24 Nonperforming Consumer Loans, Leases and Foreclosed Properties Activity

	Three Months Ended March 31	
(Dollars in millions)	**2023**	2022
Nonperforming loans and leases, January 1	**$ 2,754**	$ 2,989
Additions	**253**	644
Reductions:		
Paydowns and payoffs	**(103)**	(175)
Sales	**(2)**	(131)
Returns to performing status [(1)]	**(170)**	(202)
Charge-offs	**(12)**	(15)
Transfers to foreclosed properties	**(6)**	(6)
Total net additions/(reductions) to nonperforming loans and leases	**(40)**	115
Total nonperforming loans and leases, March 31	**2,714**	3,104
Foreclosed properties, March 31	**117**	118
Nonperforming consumer loans, leases and foreclosed properties, March 31	**$ 2,831**	$ 3,222
Nonperforming consumer loans and leases as a percentage of outstanding consumer loans and leases [(2)]	**0.60 %**	0.71 %
Nonperforming consumer loans, leases and foreclosed properties as a percentage of outstanding consumer loans, leases and foreclosed properties [(2)]	**0.63**	0.74

(1) Consumer loans may be returned to performing status when all principal and interest is current and full repayment of the remaining contractual principal and interest is expected, or when the loan otherwise becomes well-secured and is in the process of collection.
(2) Outstanding consumer loans and leases exclude loans accounted for under the fair value option.

Commercial Portfolio Credit Risk Management

Commercial credit risk is evaluated and managed with the goal that concentrations of credit exposure continue to be aligned with our risk appetite. We review, measure and manage concentrations of credit exposure by industry, product, geography, customer relationship and loan size. We also review, measure and manage commercial real estate loans by geographic location and property type. In addition, within our non-U.S. portfolio, we evaluate exposures by region and by country. Tables 29, 31 and 34 summarize our concentrations. We also utilize syndications of exposure to third parties, loan sales, hedging and other risk mitigation techniques to manage the size and risk profile of the commercial credit portfolio. For more information on our industry concentrations, see Table 31 and Commercial Portfolio Credit Risk Management – Industry Concentrations on page 33.

For more information on our accounting policies regarding delinquencies, nonperforming status, net charge-offs and loan modifications for the commercial portfolio, see *Note 1 – Summary of Significant Accounting Principles* to the Consolidated Financial Statements of the Corporation’s 2022 Annual Report on Form 10-K and *Note 5 – Outstanding Loans and Leases and Allowance for Credit Losses* to the Consolidated Financial Statements.

Commercial Credit Portfolio

Outstanding commercial loans and leases increased $4.9 billion during the three months ended March 31, 2023 due to growth in commercial real estate and our U.S. commercial and industrial portfolio, primarily in *Global Banking*. During the three months ended March 31, 2023, commercial credit quality deteriorated and nonperforming commercial loans and reservable criticized utilized exposure increased; however, the commercial net charge off ratio of 0.11 percent for the three months ended March 31, 2023 remained low. For more information, see Commercial Real Estate on page 31.

With the exception of the office property type, which is further discussed in the Commercial Real Estate section herein, credit quality of commercial real estate borrowers has remained relatively stable since December 31, 2022; however, we are closely monitoring borrower performance in the increased rate environment and emerging trends. Many commercial real estate markets are still experiencing disruptions in demand, supply chain challenges, tenant difficulties and challenging capital markets. Recent demand for office space has been stagnant, and future demand for office space continues to be uncertain as companies evaluate space needs with employment models that utilize a mix of remote and conventional office use.

The commercial allowance for loan and lease losses decreased $292 million during the three months ended March 31, 2023 to $5.2 billion, primarily driven by certain improved macroeconomic conditions. For more information, see Allowance for Credit Losses on page 36.

Total commercial utilized credit exposure decreased $4.2 billion during the three months ended March 31, 2023 to $700.7 billion primarily driven by lower derivative assets, partially offset by higher loans and leases. The utilization rate for loans and leases, standby letters of credit (SBLCs) and financial guarantees, and commercial letters of credit, in the aggregate, was 56 percent at both March 31, 2023 and at December 31, 2022.

Table 25 presents commercial credit exposure by type for utilized, unfunded and total binding committed credit exposure. Commercial utilized credit exposure includes SBLCs and financial guarantees and commercial letters of credit that have been issued and for which we are legally bound to advance funds under prescribed conditions during a specified time period, and excludes exposure related to trading account assets. Although funds have not yet been advanced, these exposure types are considered utilized for credit risk management purposes.

Table 25 Commercial Credit Exposure by Type

	Commercial Utilized (1)		Commercial Unfunded (2, 3, 4)		Total Commercial Committed	
(Dollars in millions)	**March 31 2023**	December 31 2022	**March 31 2023**	December 31 2022	**March 31 2023**	December 31 2022
Loans and leases	**$ 594,248**	$ 589,362	**$ 487,291**	$ 487,772	**$ 1,081,539**	$ 1,077,134
Derivative assets (5)	**40,947**	48,642	**—**	—	**40,947**	48,642
Standby letters of credit and financial guarantees	**32,952**	33,376	**1,513**	1,266	**34,465**	34,642
Debt securities and other investments	**19,378**	20,195	**2,872**	2,551	**22,250**	22,746
Loans held-for-sale	**5,895**	6,112	**3,953**	3,729	**9,848**	9,841
Operating leases	**5,474**	5,509	**—**	—	**5,474**	5,509
Commercial letters of credit	**1,020**	973	**43**	28	**1,063**	1,001
Other	**800**	698	**—**	—	**800**	698
Total	**$ 700,714**	$ 704,867	**$ 495,672**	$ 495,346	**$ 1,196,386**	$ 1,200,213

(1) Commercial utilized exposure includes loans of $4.1 billion and $5.4 billion accounted for under the fair value option at March 31, 2023 and December 31, 2022.
(2) Commercial unfunded exposure includes commitments accounted for under the fair value option with a notional amount of $3.1 billion and $3.0 billion at March 31, 2023 and December 31, 2022.
(3) Excludes unused business card lines, which are not legally binding.
(4) Includes the notional amount of unfunded legally binding lending commitments, net of amounts distributed (i.e., syndicated or participated) to other financial institutions. The distributed amounts were $10.1 billion and $10.4 billion at March 31, 2023 and December 31, 2022.
(5) Derivative assets are carried at fair value, reflect the effects of legally enforceable master netting agreements and have been reduced by cash collateral of $29.0 billion and $33.8 billion at March 31, 2023 and December 31, 2022. Not reflected in utilized and committed exposure is additional non-cash derivative collateral held of $51.0 billion and $51.6 billion at March 31, 2023 and December 31, 2022, which consists primarily of other marketable securities.

Nonperforming commercial loans increased $150 million primarily in commercial real estate, partially offset by non-U.S. commercial. Table 26 presents our commercial loans and leases portfolio and related credit quality information at March 31, 2023 and December 31, 2022.

Table 26 Commercial Credit Quality

	Outstandings		Nonperforming		Accruing Past Due 90 Days or More	
(Dollars in millions)	**March 31 2023**	December 31 2022	**March 31 2023**	December 31 2022	**March 31 2023**	December 31 2022
Commercial and industrial:						
U.S. commercial	**$ 360,655**	$ 358,481	**$ 559**	$ 553	**$ 112**	$ 190
Non-U.S. commercial	**124,827**	124,479	**125**	212	**92**	25
Total commercial and industrial	**485,482**	482,960	**684**	765	**204**	215
Commercial real estate	**73,051**	69,766	**502**	271	**35**	46
Commercial lease financing	**13,448**	13,644	**4**	4	**6**	8
	571,981	566,370	**1,190**	1,040	**245**	269
U.S. small business commercial (1)	**18,204**	17,560	**14**	14	**261**	355
Commercial loans excluding loans accounted for under the fair value option	**$ 590,185**	$ 583,930	**$ 1,204**	$ 1,054	**$ 506**	$ 624
Loans accounted for under the fair value option (2)	**4,063**	5,432				
Total commercial loans and leases	**$ 594,248**	$ 589,362				

(1) Includes card-related products.
(2) Commercial loans accounted for under the fair value option includes U.S. commercial of $2.2 billion and $2.9 billion and non-U.S. commercial of $1.9 billion and $2.5 billion at March 31, 2023 and December 31, 2022. For more information on the fair value option, see *Note 15 – Fair Value Option* to the Consolidated Financial Statements.

Table 27 presents net charge-offs and related ratios for our commercial loans and leases for the three months ended March 31, 2023 and 2022.

Table 27 Commercial Net Charge-offs and Related Ratios

	Net Charge-offs		Net Charge-off Ratios [1]	
	Three Months Ended March 31			
(Dollars in millions)	**2023**	2022	**2023**	2022
Commercial and industrial:				
U.S. commercial	**$ 47**	$ (14)	**0.05 %**	(0.02%)
Non-U.S. commercial	**20**	1	**0.07**	—
Total commercial and industrial	**67**	(13)	**0.06**	(0.01)
Commercial real estate	**22**	23	**0.12**	0.15
Commercial lease financing	**(1)**	—	**(0.01)**	—
	88	10	**0.06**	0.01
U.S. small business commercial	**66**	42	**1.48**	0.94
Total commercial	**$ 154**	$ 52	**0.11**	0.04

(1) Net charge-off ratios are calculated as annualized net charge-offs divided by average outstanding loans and leases, excluding loans accounted for under the fair value option.

Table 28 presents commercial reservable criticized utilized exposure by loan type. Criticized exposure corresponds to the Special Mention, Substandard and Doubtful asset categories as defined by regulatory authorities. Total commercial reservable criticized utilized exposure increased $515 million during the three months ended March 31, 2023 driven by U.S. commercial and commercial real estate office, partially offset by non-U.S. commercial. At March 31, 2023 and December 31, 2022, 87 percent and 88 percent of commercial reservable criticized utilized exposure was secured.

Table 28 Commercial Reservable Criticized Utilized Exposure [1, 2]

(Dollars in millions)	March 31, 2023		December 31, 2022	
Commercial and industrial:				
U.S. commercial	**$ 11,132**	**2.87 %**	$ 10,724	2.78%
Non-U.S. commercial	**2,363**	**1.81**	2,665	2.04
Total commercial and industrial	**13,495**	**2.60**	13,389	2.59
Commercial real estate	**5,579**	**7.49**	5,201	7.30
Commercial lease financing	**222**	**1.65**	240	1.76
	19,296	**3.18**	18,830	3.13
U.S. small business commercial	**493**	**2.17**	444	2.53
Total commercial reservable criticized utilized exposure	**$ 19,789**	**3.17**	$ 19,274	3.12

(1) Total commercial reservable criticized utilized exposure includes loans and leases of $19.0 billion and $18.5 billion and commercial letters of credit of $820 million and $817 million at March 31, 2023 and December 31, 2022.
(2) Percentages are calculated as commercial reservable criticized utilized exposure divided by total commercial reservable utilized exposure for each exposure category.

Commercial and Industrial

Commercial and industrial loans include U.S. commercial and non-U.S. commercial portfolios.

U.S. Commercial

At March 31, 2023, 64 percent of the U.S. commercial loan portfolio, excluding small business, was managed in *Global Banking,* 21 percent in *Global Markets*, 14 percent in *GWIM* (loans that provide financing for asset purchases, business investments and other liquidity needs for high net worth clients) and the remainder primarily in *Consumer Banking*. U.S. commercial loans increased $2.2 billion, or one percent, during the three months ended March 31, 2023 primarily driven by *Global Markets*. Reservable criticized utilized exposure increased $408 million, or four percent, driven by increases across a broad range of industries.

Non-U.S. Commercial

At March 31, 2023, 65 percent of the non-U.S. commercial loan portfolio was managed in *Global Banking,* 34 percent in *Global Markets* and the remainder in *GWIM*. Non-U.S. commercial loans remained relatively unchanged during the three months ended March 31, 2023. Reservable criticized utilized exposure decreased $302 million, or 11 percent, primarily due to paydowns and sales of Russian exposure. For information on the non-U.S. commercial portfolio, see Non-U.S. Portfolio on page 35.

Commercial Real Estate

Commercial real estate primarily includes commercial loans secured by non-owner-occupied real estate and is dependent on the sale or lease of the real estate as the primary source of repayment. Outstanding loans increased $3.3 billion, or five percent, during the three months ended March 31, 2023 to $73.1 billion with increases across multiple property types. The commercial real estate portfolio is primarily managed in *Global Banking* and consists of loans made primarily to public and private developers, and commercial real estate firms. The portfolio remains diversified across property types and geographic regions. California represented the largest state concentration at 19 percent of the commercial real estate portfolio at both March 31, 2023 and December 31, 2022.

Reservable criticized utilized exposure increased $378 million, or seven percent, primarily driven by office loans. Office loans represented the largest property type concentration, at 26 percent of the commercial real estate portfolio at March 31, 2023, but only represented approximately two percent of total loans for the Corporation. This property type is roughly 75 percent Class A and has origination loan-to-value of approximately 55 percent. Reservable criticized exposure for the office property type was $3.7 billion at March 31, 2023 and approximately $9.8 billion of office loans are scheduled to mature by the end of 2024. Although we have seen collateral value declines in this property type, these loans remain well secured as of March 31, 2023.

During the three months ended March 31, 2023, we continued to see low default rates. We use a number of proactive risk mitigation initiatives to reduce adversely rated exposure in the commercial real estate portfolio, including transfers of deteriorating exposures for management by independent special asset officers and the pursuit of loan restructurings or asset sales to achieve the best results for our customers and the Corporation.

Table 29 presents outstanding commercial real estate loans by geographic region, based on the geographic location of the collateral, and by property type.

Table 29 Outstanding Commercial Real Estate Loans

(Dollars in millions)	March 31 2023	December 31 2022
By Geographic Region		
Northeast	$ 16,281	$ 15,601
California	13,824	13,360
Southwest	9,051	8,723
Southeast	8,436	7,713
Florida	5,345	5,374
Illinois	3,606	3,327
Midwest	3,394	3,419
Midsouth	2,752	2,716
Northwest	1,992	1,959
Non-U.S.	5,815	5,518
Other	2,555	2,056
Total outstanding commercial real estate loans	$ 73,051	$ 69,766
By Property Type		
Non-residential		
Office	$ 18,682	$ 18,230
Industrial / Warehouse	14,178	13,775
Multi-family rental	10,883	10,412
Shopping centers /Retail	6,018	5,830
Hotel / Motels	5,732	5,696
Multi-use	2,720	2,403
Other	13,511	12,241
Total non-residential	71,724	68,587
Residential	1,327	1,179
Total outstanding commercial real estate loans	$ 73,051	$ 69,766

U.S. Small Business Commercial

The U.S. small business commercial loan portfolio is comprised of small business card loans and small business loans primarily managed in *Consumer Banking,* and included $749 million and $1.0 billion of PPP loans outstanding at March 31, 2023 and December 31, 2022. The decline of $259 million in PPP loans during the three months ended March 31, 2023 was primarily due to repayment of the loans by the Small Business Administration (SBA) under the terms of the program. Excluding PPP, credit card-related products were 55 percent and 53 percent of the U.S. small business commercial portfolio at March 31, 2023 and December 31, 2022 and represented 99 percent of the net charge-offs for the three months ended March 31, 2023 compared to 100 percent for the three months ended March 31, 2022. The increase of $94 million in accruing past due 90 days or more for the three months ended March 31, 2023 was driven by PPP loans, which are fully guaranteed by the SBA.

Nonperforming Commercial Loans, Leases and Foreclosed Properties Activity

Table 30 presents the nonperforming commercial loans, leases and foreclosed properties activity during the three months ended March 31, 2023 and 2022. Nonperforming loans do not include loans accounted for under the fair value option. During the three months ended March 31, 2023, nonperforming commercial loans and leases increased $150 million to $1.2 billion. At March 31, 2023, 97 percent of commercial nonperforming loans, leases and foreclosed properties were secured, and 58 percent were contractually current. Commercial nonperforming loans were carried at 84 percent of their unpaid principal balance, as the carrying value of these loans has been reduced to the estimated collateral value less costs to sell.

Table 30 Nonperforming Commercial Loans, Leases and Foreclosed Properties Activity [1, 2]

(Dollars in millions)	Three Months Ended March 31 2023	2022
Nonperforming loans and leases, January 1	**$ 1,054**	$ 1,578
Additions	**419**	183
Reductions:		
Paydowns	**(72)**	(159)
Sales	**—**	(25)
Returns to performing status [3]	**(52)**	(5)
Charge-offs	**(88)**	(12)
Transfers to loans held-for-sale	**(57)**	(39)
Total net reductions to nonperforming loans and leases	**150**	(57)
Total nonperforming loans and leases, March 31	**1,204**	1,521
Foreclosed properties, March 31	**48**	35
Nonperforming commercial loans, leases and foreclosed properties, March 31	**$ 1,252**	$ 1,556
Nonperforming commercial loans and leases as a percentage of outstanding commercial loans and leases [4]	**0.20 %**	0.28 %
Nonperforming commercial loans, leases and foreclosed properties as a percentage of outstanding commercial loans, leases and foreclosed properties [4]	**0.21**	0.28

(1) Balances do not include nonperforming loans held-for-sale of $250 million and $336 million at March 31, 2023 and 2022.
(2) Includes U.S. small business commercial activity. Small business card loans are excluded as they are not classified as nonperforming.
(3) Commercial loans and leases may be returned to performing status when all principal and interest is current and full repayment of the remaining contractual principal and interest is expected, when the loan otherwise becomes well-secured and is in the process of collection, or when a modified loan demonstrates a sustained period of payment performance.
(4) Outstanding commercial loans exclude loans accounted for under the fair value option.

Industry Concentrations

Table 31 presents commercial committed and utilized credit exposure by industry. For information on net notional credit protection purchased to hedge funded and unfunded exposures for which we elected the fair value option, as well as certain other credit exposures, see Commercial Portfolio Credit Risk Management – Risk Mitigation.

Commercial credit exposure is diversified across a broad range of industries. Total commercial committed exposure decreased $3.8 billion during the three months ended March 31, 2023 to $1.2 trillion and was primarily driven by derivative asset activity.

For information on industry limits, see Commercial Portfolio Credit Risk Management – Industry Concentrations in the MD&A of the Corporation's 2022 Annual Report on Form 10-K.

Asset managers and funds, our largest industry concentration with committed exposure of $164.5 billion, decreased $607 million during the three months ended March 31, 2023.

Real estate, our second largest industry concentration with committed exposure of $101.1 billion, increased $1.4 billion, or one percent, during the three months ended March 31, 2023. For more information on the commercial real estate and related portfolios, see Commercial Portfolio Credit Risk Management – Commercial Real Estate on page 31.

Capital goods, our third largest industry concentration with committed exposure of $88.1 billion, increased $746 million, or one percent, during the three months ended March 31, 2023. The increase in committed exposure occurred primarily as a result of increases in Trading companies and distributors and Aerospace and defense, partially offset by a decrease in Electric equipment.

There is uncertainty in the U.S. and global economies due to various macroeconomic challenges including geopolitical, inflationary pressures and elevated interest rates, and a number of industries will likely continue to be adversely impacted due to these conditions. We continue to monitor all industries, particularly higher risk industries that are experiencing or could experience a more significant impact to their financial condition.

Table 31 Commercial Credit Exposure by Industry [1]

(Dollars in millions)	Commercial Utilized March 31 2023	Commercial Utilized December 31 2022	Total Commercial Committed [2] March 31 2023	Total Commercial Committed [2] December 31 2022
Asset managers & funds	$ 102,345	$ 106,842	$ 164,480	$ 165,087
Real estate [3]	73,515	72,180	101,072	99,722
Capital goods	48,146	45,580	88,060	87,314
Finance companies	58,226	55,248	81,811	79,546
Healthcare equipment and services	34,245	33,554	59,280	58,761
Materials	27,224	26,304	56,244	55,589
Retailing	26,021	24,785	54,127	53,714
Consumer services	27,475	26,980	48,491	47,372
Government & public education	33,443	34,861	46,931	48,134
Food, beverage and tobacco	24,307	23,232	46,838	47,486
Individuals and trusts	31,874	34,897	43,488	45,572
Commercial services and supplies	24,136	23,628	41,711	41,596
Utilities	19,118	20,292	39,209	40,164
Energy	13,667	15,132	34,923	36,043
Transportation	22,051	22,273	33,846	33,858
Technology hardware and equipment	10,500	11,441	29,807	29,825
Global commercial banks	26,910	27,217	29,047	29,293
Media	15,102	14,781	29,006	28,216
Software and services	11,678	12,961	25,300	25,633
Consumer durables and apparel	10,167	10,009	21,784	21,389
Pharmaceuticals and biotechnology	6,581	7,547	21,419	26,208
Vehicle dealers	13,281	12,909	21,237	20,638
Insurance	10,007	10,224	19,109	19,444
Telecommunication services	9,646	9,679	17,666	17,349
Automobiles and components	8,163	8,774	15,910	16,911
Food and staples retailing	7,331	7,157	12,507	11,908
Financial markets infrastructure (clearinghouses)	3,013	3,913	8,526	8,752
Religious and social organizations	2,542	2,467	4,557	4,689
Total commercial credit exposure by industry	**$ 700,714**	$ 704,867	**$ 1,196,386**	$ 1,200,213

(1) Includes U.S. small business commercial exposure.
(2) Includes the notional amount of unfunded legally binding lending commitments, net of amounts distributed (i.e., syndicated or participated) to other financial institutions. The distributed amounts were $10.1 billion and $10.4 billion at March 31, 2023 and December 31, 2022.
(3) Industries are viewed from a variety of perspectives to best isolate the perceived risks. For purposes of this table, the real estate industry is defined based on the primary business activity of the borrowers or counterparties using operating cash flows and primary source of repayment as key factors.

Risk Mitigation

We purchase credit protection to cover the funded portion as well as the unfunded portion of certain credit exposures. To lower the cost of obtaining our desired credit protection levels, we may add credit exposure within an industry, borrower or counterparty group by selling protection.

At March 31, 2023 and December 31, 2022, net notional credit default protection purchased in our credit derivatives portfolio to hedge our funded and unfunded exposures for which we elected the fair value option, as well as certain other credit exposures, was $9.8 billion and $9.0 billion. We recorded net losses of $77 million for the three months ended March 31, 2023 compared to net losses of $9 million for the three months ended March 31, 2022. The gains and losses on these instruments were largely offset by gains and losses on the related exposures. The Value-at-Risk (VaR) results for these exposures are included in the fair value option portfolio information in Table 37. For more information, see Trading Risk Management on page 38.

Tables 32 and 33 present the maturity profiles and the credit exposure debt ratings of the net credit default protection portfolio at March 31, 2023 and December 31, 2022.

Table 32 Net Credit Default Protection by Maturity

	March 31 2023	December 31 2022
Less than or equal to one year	**10 %**	14 %
Greater than one year and less than or equal to five years	**87**	85
Greater than five years	**3**	1
Total net credit default protection	**100 %**	100 %

Table 33 Net Credit Default Protection by Credit Exposure Debt Rating

(Dollars in millions)	Net Notional [1] March 31, 2023	Percent of Total March 31, 2023	Net Notional [1] December 31, 2022	Percent of Total December 31, 2022
Ratings [2, 3]				
AAA	**$ (479)**	**4.9 %**	$ (379)	4.0 %
AA	**(870)**	**8.9**	(867)	10.0
A	**(4,269)**	**43.6**	(3,257)	36.0
BBB	**(2,216)**	**22.6**	(2,476)	28.0
BB	**(894)**	**9.1**	(1,049)	12.0
B	**(852)**	**8.7**	(676)	7.0
CCC and below	**(120)**	**1.2**	(93)	1.0
NR [4]	**(99)**	**1.0**	(182)	2.0
Total net credit default protection	**$ (9,799)**	**100.0 %**	$ (8,979)	100.0 %

(1) Represents net credit default protection purchased.
(2) Ratings are refreshed on a quarterly basis.
(3) Ratings of BBB- or higher are considered to meet the definition of investment grade.
(4) NR is comprised of index positions held and any names that have not been rated.

For more information on credit derivatives and counterparty credit risk valuation adjustments, see *Note 3 – Derivatives* to the Consolidated Financial Statements of the Corporation's 2022 Annual Report on Form 10-K.

Non-U.S. Portfolio

Our non-U.S. credit and trading portfolios are subject to country risk. We define country risk as the risk of loss from unfavorable economic and political conditions, currency fluctuations, social instability and changes in government policies. A risk management framework is in place to measure, monitor and manage non-U.S. risk and exposures. In addition to the direct risk of doing business in a country, we also are exposed to indirect country risks (e.g., related to the collateral received on secured financing transactions or related to client clearing activities). These indirect exposures are managed in the normal course of business through credit, market and operational risk governance rather than through country risk governance. For more information on our non-U.S. credit and trading portfolios, see Non-U.S. Portfolio in the MD&A of the Corporation's 2022 Annual Report on Form 10-K. For more information on risks related to our non-U.S. portfolio, see the Geopolitical section within Item 1A. Risk Factors of the Corporation's 2022 Annual Report on Form 10-K.

Table 34 presents our 20 largest non-U.S. country exposures at March 31, 2023. These exposures accounted for 89 percent of our total non-U.S. exposure at both March 31, 2023 and December 31, 2022. Net country exposure for these 20 countries decreased $23.7 billion in 2023 primarily driven by decreases in Germany, Japan and France.

Table 34 Top 20 Non-U.S. Countries Exposure

(Dollars in millions)	Funded Loans and Loan Equivalents	Unfunded Loan Commitments	Net Counterparty Exposure	Securities/ Other Investments	Country Exposure at March 31 2023	Hedges and Credit Default Protection	**Net Country Exposure at March 31 2023**	Increase (Decrease) from December 31 2022
United Kingdom	$ 27,566	$ 16,909	$ 11,117	$ 1,629	$ 57,221	$ (2,376)	**$ 54,845**	$ (500)
Germany	26,231	9,029	1,487	1,561	38,308	(2,197)	**36,111**	(9,615)
Canada	11,289	9,558	1,459	3,461	25,767	(415)	**25,352**	(221)
France	14,459	7,975	1,366	1,414	25,214	(2,163)	**23,051**	(3,542)
Australia	14,128	4,080	673	2,120	21,001	(241)	**20,760**	543
Japan	13,834	1,768	1,246	1,258	18,106	(787)	**17,319**	(5,768)
Brazil	8,554	1,293	691	4,192	14,730	(84)	**14,646**	2,146
India	7,374	484	466	3,620	11,944	(76)	**11,868**	1,099
China	6,118	289	568	2,604	9,579	(261)	**9,318**	(1,490)
South Korea	6,300	737	633	1,676	9,346	(61)	**9,285**	159
Switzerland	5,610	3,223	318	230	9,381	(832)	**8,549**	(2,139)
Ireland	6,855	1,240	105	282	8,482	(31)	**8,451**	(639)
Singapore	3,908	681	45	3,851	8,485	(36)	**8,449**	(1,158)
Netherlands	2,893	4,756	716	1,097	9,462	(1,365)	**8,097**	(1,186)
Mexico	4,102	1,745	439	1,601	7,887	(65)	**7,822**	430
Hong Kong	4,392	344	443	1,105	6,284	(17)	**6,267**	(1,004)
Spain	2,604	1,866	278	1,257	6,005	(445)	**5,560**	(281)
Italy	3,613	1,729	233	255	5,830	(1,472)	**4,358**	(1,310)
Belgium	1,397	1,491	1,102	415	4,405	(178)	**4,227**	364
Sweden	1,207	1,804	111	232	3,354	(380)	**2,974**	370
Total top 20 non-U.S. countries exposure	$ 172,434	$ 71,001	$ 23,496	$ 33,860	$ 300,791	$ (13,482)	**$ 287,309**	$ (23,742)

Our largest non-U.S. country exposure at March 31, 2023 was the United Kingdom with net exposure of $54.8 billion, which represents a decrease of $500 million from December 31, 2022. The decline was driven by decreased exposure across a mix of clients offset by increased net counterparty exposure with central clearing counterparties. Our second largest non-U.S. country exposure was Germany with net exposure of $36.1 billion at March 31, 2023, a decrease of $9.6 billion from December 31, 2022. The decrease was primarily driven by lower deposits with the central bank.

Allowance for Credit Losses

The allowance for credit losses decreased $271 million from December 31, 2022 to $14.0 billion at March 31, 2023, which included a $123 million reserve increase related to the consumer portfolio and a $394 million reserve decrease related to the commercial portfolio. The decrease in the allowance reflected a reserve release in our commercial portfolio primarily driven by certain improved macroeconomic conditions, partially offset by a reserve build in our consumer portfolio primarily due to higher-than-expected credit card balances during the three months ended March 31, 2023. The decrease in allowance also includes the impact of the accounting change to remove the recognition and measurement guidance on TDRs, which reduced the allowance for credit losses by $243 million. For more information on this change in accounting guidance, see *Note 1 – Summary of Significant Accounting Principles* to the Consolidated Financial Statements.

Table 35 presents an allocation of the allowance for credit losses by product type at March 31, 2023 and December 31, 2022.

Table 35 Allocation of the Allowance for Credit Losses by Product Type

(Dollars in millions)	March 31, 2023 Amount	March 31, 2023 Percent of Total	March 31, 2023 Percent of Loans and Leases Outstanding (1)	December 31, 2022 Amount	December 31, 2022 Percent of Total	December 31, 2022 Percent of Loans and Leases Outstanding (1)
Allowance for loan and lease losses						
Residential mortgage	**$ 305**	**2.44 %**	**0.13 %**	$ 328	2.59 %	0.14 %
Home equity	**98**	**0.78**	**0.38**	92	0.73	0.35
Credit card	**6,220**	**49.70**	**6.73**	6,136	48.38	6.57
Direct/Indirect consumer	**628**	**5.02**	**0.60**	585	4.61	0.55
Other consumer	**110**	**0.88**	**n/m**	96	0.76	n/m
Total consumer	**7,361**	**58.82**	**1.63**	7,237	57.07	1.59
U.S. commercial (2)	**2,835**	**22.66**	**0.75**	3,007	23.71	0.80
Non-U.S. commercial	**1,019**	**8.14**	**0.82**	1,194	9.41	0.96
Commercial real estate	**1,253**	**10.01**	**1.72**	1,192	9.40	1.71
Commercial lease financing	**46**	**0.37**	**0.34**	52	0.41	0.38
Total commercial	**5,153**	**41.18**	**0.87**	5,445	42.93	0.93
Allowance for loan and lease losses	**12,514**	**100.00 %**	**1.20**	12,682	100.00 %	1.22
Reserve for unfunded lending commitments	**1,437**			1,540		
Allowance for credit losses	**$ 13,951**			$ 14,222		

(1) Ratios are calculated as allowance for loan and lease losses as a percentage of loans and leases outstanding excluding loans accounted for under the fair value option.
(2) Includes allowance for loan and lease losses for U.S. small business commercial loans of $864 million and $844 million at March 31, 2023 and December 31, 2022.
n/m = not meaningful

Net charge-offs for the three months ended March 31, 2023 were $807 million and increased $415 million, or 106 percent, compared to $392 million for the same period in 2022 primarily driven by credit card losses increasing off of historic lows and higher overdraft losses due to an increase in industry-wide check fraud activity. The provision for credit losses increased $901 million to $931 million for the three months ended March 31, 2023 compared to the same period in 2022. The provision for credit losses for the three months ended March 31, 2023 was driven by our consumer portfolio primarily due to higher-than-expected credit card balances during the first quarter of 2023. This was partially offset by certain improved macroeconomic conditions that primarily benefited our commercial portfolio. The provision for credit losses for the consumer portfolio, including unfunded lending commitments, increased $932 million to $946 million for the three months ended March 31, 2023 compared to the same period in 2022. The provision for credit losses for the commercial portfolio, including unfunded lending commitments, decreased $165 million to $149 million for the three months ended March 31, 2023 compared to the same period in 2022.

Table 36 presents a rollforward of the allowance for credit losses, including certain loan and allowance ratios for the three months ended March 31, 2023 and 2022. For more information on the Corporation's credit loss accounting policies and activity related to the allowance for credit losses, see *Note 1 – Summary of Significant Accounting Principles* to the Consolidated Financial Statements of the Corporation's 2022 Annual Report on Form 10-K and *Note 5 – Outstanding Loans and Leases and Allowance for Credit Losses* to the Consolidated Financial Statements.

Table 36 Allowance for Credit Losses

(Dollars in millions)	Three Months Ended March 31 2023	2022
Allowance for loan and lease losses, December 31	**$ 12,682**	$ 12,387
January 1, 2023 adoption of credit loss standard	**(243)**	—
Allowance for loan and lease losses, January 1	**12,439**	12,387
Loans and leases charged off		
Residential mortgage	**(8)**	(10)
Home equity	**(6)**	(13)
Credit card	**(650)**	(473)
Direct/Indirect consumer	**(40)**	(62)
Other consumer	**(171)**	(84)
Total consumer charge-offs	**(875)**	(642)
U.S. commercial [1]	**(134)**	(67)
Non-U.S. commercial	**(23)**	(2)
Commercial real estate	**(24)**	(23)
Total commercial charge-offs	**(181)**	(92)
Total loans and leases charged off	**(1,056)**	(734)
Recoveries of loans and leases previously charged off		
Residential mortgage	**7**	20
Home equity	**18**	43
Credit card	**149**	176
Direct/Indirect consumer	**39**	58
Other consumer	**9**	5
Total consumer recoveries	**222**	302
U.S. commercial [2]	**21**	39
Non-U.S. commercial	**3**	1
Commercial real estate	**2**	—
Commercial lease financing	**1**	—
Total commercial recoveries	**27**	40
Total recoveries of loans and leases previously charged off	**249**	342
Net charge-offs	**(807)**	(392)
Provision for loan and lease losses	**900**	108
Other	**(18)**	1
Allowance for loan and lease losses, March 31	**12,514**	12,104
Reserve for unfunded lending commitments, January 1	**1,540**	1,456
Provision for unfunded lending commitments	**(103)**	(78)
Other	**—**	1
Reserve for unfunded lending commitments, March 31	**1,437**	1,379
Allowance for credit losses, March 31	**$ 13,951**	$ 13,483
Loan and allowance ratios [3]:		
Loans and leases outstanding at March 31	**$ 1,042,009**	$ 986,034
Allowance for loan and lease losses as a percentage of total loans and leases outstanding at March 31	**1.20 %**	1.23 %
Consumer allowance for loan and lease losses as a percentage of total consumer loans and leases outstanding at March 31	**1.63**	1.53
Commercial allowance for loan and lease losses as a percentage of total commercial loans and leases outstanding at March 31	**0.87**	0.98
Average loans and leases outstanding	**$ 1,036,337**	$ 970,491
Net charge-offs as a percentage of average loans and leases outstanding	**0.32 %**	0.16 %
Allowance for loan and lease losses as a percentage of total nonperforming loans and leases at March 31	**319**	262
Ratio of the allowance for loan and lease losses at March 31 to annualized net charge-offs	**3.83**	7.62
Amounts included in allowance for loan and lease losses for loans and leases that are excluded from nonperforming loans and leases at March 31 [4]	**$ 7,122**	$ 6,646
Allowance for loan and lease losses as a percentage of total nonperforming loans and leases, excluding the allowance for loan and lease losses for loans and leases that are excluded from nonperforming loans and leases at March 31 [4]	**138 %**	118 %

(1) Includes U.S. small business commercial charge-offs of $75 million and $56 million for the three months ended March 31, 2023 and 2022.
(2) Includes U.S. small business commercial recoveries of $9 million and $14 million for the three months ended March 31, 2023 and 2022.
(3) Ratios are calculated as allowance for loan and lease losses as a percentage of loans and leases outstanding excluding loans accounted for under the fair value option.
(4) Primarily includes amounts related to credit card and unsecured consumer lending portfolios in *Consumer Banking*.

Market Risk Management

For more information on our market risk management process, see Market Risk Management in the MD&A of the Corporation's 2022 Annual Report on Form 10-K. For more information on market risks, see the Market section within Item 1A. Risk Factors of the Corporation's 2022 Annual Report on Form 10-K.

Market risk is the risk that changes in market conditions may adversely impact the value of assets or liabilities, or otherwise negatively impact earnings. This risk is inherent in the financial instruments associated with our operations, primarily within our *Global Markets* segment. We are also exposed to these risks in other areas of the Corporation (e.g., our ALM activities). In the event of market stress, these risks could have a material impact on our results.

Trading Risk Management

To evaluate risks in our trading activities, we focus on the actual and potential volatility of revenues generated by individual positions as well as portfolios of positions. VaR is a common statistic used to measure market risk. Our primary VaR statistic is equivalent to a 99 percent confidence level, which means that for a VaR with a one-day holding period, there should not be losses in excess of VaR, on average, 99 out of 100 trading days.

Table 37 presents the total market-based portfolio VaR, which is the combination of the total covered positions (and less liquid trading positions) portfolio and the fair value option portfolio. For more information on the market risk VaR for trading activities, see Trading Risk Management in the MD&A of the Corporation's 2022 Annual Report on Form 10-K.

The total market-based portfolio VaR results in Table 37 include market risk to which we are exposed from all business segments, excluding credit valuation adjustment (CVA), DVA and related hedges. The majority of this portfolio is within the *Global Markets* segment.

Table 37 presents period-end, average, high and low daily trading VaR for the three months ended March 31, 2023, December 31, 2022 and March 31, 2022 using a 99 percent confidence level. The amounts disclosed in Table 37 and Table 38 align to the view of covered positions used in the Basel 3 capital calculations. Foreign exchange and commodity positions are always considered covered positions, regardless of trading or banking treatment for the trade, except for structural foreign currency positions that are excluded with prior regulatory approval.

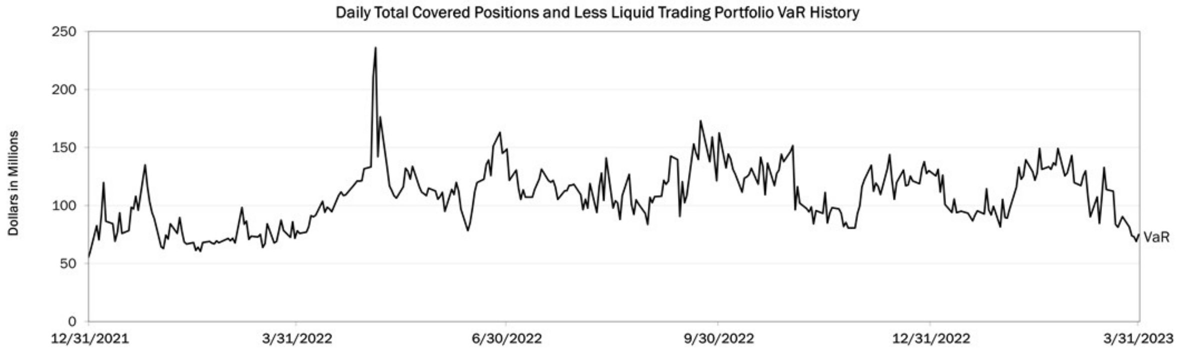
The average of total covered positions and less liquid trading positions portfolio VaR for the three months ended March 31, 2023 compared to the prior quarter slightly decreased due to reductions in market making inventory across FICC and improved diversification across asset classes.

Table 37 Market Risk VaR for Trading Activities

	Three Months Ended											
	March 31, 2023				December 31, 2022				March 31, 2022			
(Dollars in millions)	Period End	Average	High [(1)]	Low [(1)]	Period End	Average	High [(1)]	Low [(1)]	Period End	Average	High [(1)]	Low [(1)]
Foreign exchange	$ 39	$ 32	$ 42	$ 17	$ 38	$ 30	$ 39	$ 20	$ 20	$ 18	$ 24	$ 13
Interest rate	43	43	56	32	36	36	$ 52	28	49	36	56	25
Credit	52	84	108	52	76	79	92	66	55	64	71	52
Equity	19	19	25	14	18	18	23	14	23	23	28	19
Commodities	11	11	14	8	8	11	15	7	13	10	18	7
Portfolio diversification	(103)	(122)	n/a	n/a	(81)	(98)	n/a	n/a	(99)	(95)	n/a	n/a
Total covered positions portfolio	61	67	92	54	95	76	103	56	61	56	69	48
Impact from less liquid exposures [(2)]	14	42	n/a	n/a	35	41	n/a	n/a	17	23	n/a	n/a
Total covered positions and less liquid trading positions portfolio	75	109	149	69	130	117	152	81	78	79	135	61
Fair value option loans	15	41	49	15	48	46	60	40	63	54	63	45
Fair value option hedges	14	16	17	14	16	16	18	14	22	18	22	16
Fair value option portfolio diversification	(19)	(32)	n/a	n/a	(38)	(36)	n/a	n/a	(51)	(35)	n/a	n/a
Total fair value option portfolio	10	25	30	10	26	26	34	24	34	37	41	31
Portfolio diversification	(7)	(10)	n/a	n/a	9	(7)	n/a	n/a	(18)	(19)	n/a	n/a
Total market-based portfolio	$ 78	$ 124	173	73	$ 165	$ 136	197	90	$ 94	$ 97	153	70

(1) The high and low for each portfolio may have occurred on different trading days than the high and low for the components. Therefore the impact from less liquid exposures and the amount of portfolio diversification, which is the difference between the total portfolio and the sum of the individual components, is not relevant.
(2) Impact is net of diversification effects between the covered positions and less liquid trading positions portfolios.
n/a = not applicable

The following graph presents the daily covered positions and less liquid trading positions portfolio VaR for the previous five quarters, corresponding to the data in Table 37.



Additional VaR statistics produced within our single VaR model are provided in Table 38 at the same level of detail as in Table 37. Evaluating VaR with additional statistics allows for an increased understanding of the risks in the portfolio, as the historical market data used in the VaR calculation does not necessarily follow a predefined statistical distribution. Table 38 presents average trading VaR statistics at 99 percent and 95 percent confidence levels for the three months ended March 31, 2023, December 31, 2022 and March 31, 2022.

Table 38 Average Market Risk VaR for Trading Activities – 99 percent and 95 percent VaR Statistics

	Three Months Ended					
	March 31, 2023		December 31, 2022		March 31, 2022	
(Dollars in millions)	99 percent	95 percent	99 percent	95 percent	99 percent	95 percent
Foreign exchange	$ 32	$ 20	$ 30	$ 17	$ 18	$ 12
Interest rate	43	22	36	18	36	16
Credit	84	31	79	33	64	27
Equity	19	8	18	9	23	13
Commodities	11	6	11	6	10	6
Portfolio diversification	(122)	(53)	(98)	(49)	(95)	(47)
Total covered positions portfolio	67	34	76	34	56	27
Impact from less liquid exposures	42	8	41	9	23	3
Total covered positions and less liquid trading positions portfolio	109	42	117	43	79	30
Fair value option loans	41	14	46	13	54	14
Fair value option hedges	16	10	16	10	18	10
Fair value option portfolio diversification	(32)	(14)	(36)	(12)	(35)	(12)
Total fair value option portfolio	25	10	26	11	37	12
Portfolio diversification	(10)	(7)	(7)	(8)	(19)	(8)
Total market-based portfolio	$ 124	$ 45	$ 136	$ 46	$ 97	$ 34

Backtesting

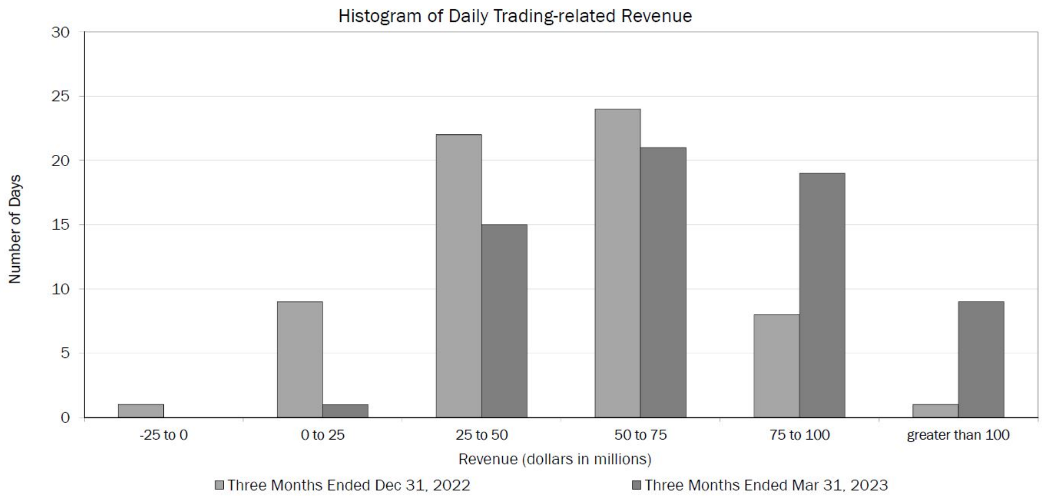
The accuracy of the VaR methodology is evaluated by backtesting, which compares the daily VaR results, utilizing a one-day holding period, against a comparable subset of trading revenue. For more information on our backtesting process, see Trading Risk Management – Backtesting in the MD&A of the Corporation's 2022 Annual Report on Form 10-K.

During the three months ended March 31, 2023, there were no days where this subset of trading revenue had losses that exceeded our total covered portfolio VaR, utilizing a one-day holding period.

Total Trading-related Revenue

Total trading-related revenue, excluding brokerage fees, and CVA, DVA and funding valuation adjustment gains (losses), represents the total amount earned from trading positions, including market-based net interest income, which are taken in a diverse range of financial instruments and markets. For more information, see Trading Risk Management – Total Trading-related Revenue in the MD&A of the Corporation's 2022 Annual Report on Form 10-K.

The following histogram is a graphic depiction of trading volatility and illustrates the daily level of trading-related revenue for the three months ended March 31, 2023 compared to the three months ended December 31, 2022. During the three months ended March 31, 2023, positive trading-related revenue was recorded for 100 percent of the trading days, of which 98 percent were daily trading gains of over $25 million. This compares to the three months ended December 31, 2022 where positive trading-related revenue was recorded for 98 percent of the trading days, of which 85 percent were daily trading gains of over $25 million.



Trading Portfolio Stress Testing

Because the very nature of a VaR model suggests results can exceed our estimates and it is dependent on a limited historical window, we also stress test our portfolio using scenario analysis. This analysis estimates the change in the value of our trading portfolio that may result from abnormal market movements. For more information, see Trading Risk Management – Trading Portfolio Stress Testing in the MD&A of the Corporation's 2022 Annual Report on Form 10-K.

Interest Rate Risk Management for the Banking Book

The following discussion presents net interest income for banking book activities. For more information, see Interest Rate Risk Management for the Banking Book in the MD&A of the Corporation's 2022 Annual Report on Form 10-K.

Table 39 presents the spot and 12-month forward rates used in our baseline forecasts at March 31, 2023 and December 31, 2022.

Table 39 Forward Rates

	March 31, 2023		
	Federal Funds	**SOFR [1]**	**10-Year Swap**
Spot rates	**5.00 %**	**4.87 %**	**3.46 %**
12-month forward rates	**4.00**	**4.07**	**3.31**
	December 31, 2022		
	Federal Funds	**Three-month LIBOR**	**10-Year Swap**
Spot rates	4.50 %	4.77 %	3.84 %
12-month forward rates	4.75	4.78	3.62

[1] The Corporation uses SOFR in its baseline forecast as one of the primary ARRs used as a result of the planned cessation of LIBOR in 2023. For more information on the transition from LIBOR to ARRs, see Executive Summary – Recent Developments – LIBOR and Other Benchmark Rates on page 3.

Table 40 shows the pretax impact to forecasted net interest income over the next 12 months from March 31, 2023 and December 31, 2022 resulting from instantaneous parallel and non-parallel shocks to the market-based forward curve. Periodically, we evaluate the scenarios presented so that they are meaningful in the context of the current rate environment. The interest rate scenarios also assume U.S. dollar interest rates are floored at zero.

During the three months ended March 31, 2023, the overall decrease in asset sensitivity of our balance sheet to higher and lower rate scenarios was primarily due to changes in deposit product mix and risk management activities performed in our ALM portfolio to respond to changing market conditions. We continue to be asset sensitive to a parallel upward move in interest rates with the majority of that impact coming from the short end of the yield curve. Additionally, higher interest rates negatively impact the fair value of our debt securities classified as available for sale and adversely affect accumulated OCI and thus capital levels under the Basel 3 capital rules. Under instantaneous upward parallel shifts, the near-term adverse impact to Basel 3 capital would be reduced over time by offsetting positive impacts to net interest income generated from the banking book activities. For more information on Basel 3, see Capital Management – Regulatory Capital on page 17.

Table 40 Estimated Banking Book Net Interest Income Sensitivity to Curve Changes

(Dollars in millions)	Short Rate (bps)	Long Rate (bps)	**March 31, 2023**	December 31, 2022
Parallel Shifts				
+100 bps instantaneous shift	+100	+100	**$ 3,251**	$ 3,829
-100 bps instantaneous shift	-100	-100	**(3,593)**	(4,591)
Flatteners				
Short-end instantaneous change	+100	—	**3,134**	3,698
Long-end instantaneous change	—	-100	**(152)**	(157)
Steepeners				
Short-end instantaneous change	-100	—	**(3,445)**	(4,420)
Long-end instantaneous change	—	+100	**122**	131

The sensitivity analysis in Table 40 assumes that we take no action in response to these rate shocks and does not assume any change in other macroeconomic variables normally correlated with changes in interest rates. As part of our ALM activities, we use securities, certain residential mortgages, and interest rate and foreign exchange derivatives in managing interest rate sensitivity.

The behavior of our deposit portfolio in the baseline forecast and in alternate interest rate scenarios is a key assumption in our projected estimates of net interest income. The sensitivity analysis in Table 40 assumes no change in deposit portfolio size or mix from the baseline forecast in alternate rate environments. In higher rate scenarios, the increase in net interest income would be impacted by any customer activity resulting in the replacement of low-cost or noninterest-bearing deposits with higher yielding deposits or market-based funding as our benefit in those scenarios would be reduced. Conversely, in lower-rate scenarios, any customer activity that results in the replacement of higher yielding deposits or market-based funding with low-cost or noninterest-bearing deposits would reduce our exposure in those scenarios.

For interest rate scenarios larger than 100 bps shifts, it is expected that the interest rate sensitivity will illustrate non-linear behaviors as there are numerous estimates and assumptions, which require a high degree of judgment and are often interrelated, that could impact the outcome. Pertaining to the mortgage-backed securities and residential mortgage portfolio, if long-end interest rates were to significantly decrease over the next twelve months, for example over 200 bps, there would generally be an increase in customer prepayment behaviors with an incremental reduction to net interest income, noting that the extent of changes in customer prepayment activity can be impacted by multiple factors and is not necessarily limited to long-end interest rates. Conversely, if long-end interest rates were to significantly increase over the next twelve months, for example, over 200 bps, customer prepayments would likely modestly decrease and result in an incremental increase to net interest income. In addition, deposit pricing will have non-linear impacts to larger short-end rate movements. In decreasing interest rate scenarios, and particularly where interest rates have decreased to small amounts, the ability to further reduce rates paid is reduced as customer rates near zero. In higher short-end rate scenarios, deposit pricing will likely increase at a faster rate, leading to incremental interest expense and reducing asset sensitivity. While the impact related to the above assumptions used in the asset sensitivity analysis can provide directional analysis on how net interest income will be impacted in changing environments, the ultimate impact is dependent upon the interrelationship of the assumptions and factors, which vary in different macroeconomic scenarios.

Interest Rate and Foreign Exchange Derivative Contracts

We use interest rate and foreign exchange derivative contracts in our ALM activities to manage our interest rate and foreign exchange risks. Specifically, we use those derivatives to manage both the variability in cash flows and changes in fair value of various assets and liabilities arising from those risks. Our interest rate derivative contracts are generally non-leveraged swaps tied to various benchmark interest rates and foreign exchange basis swaps, options, futures and forwards, and our foreign exchange contracts include cross-currency interest rate swaps, foreign currency futures contracts, foreign currency forward contracts and options.

The derivatives used in our ALM activities can be split into two broad categories: designated accounting hedges and other risk management derivatives. Designated accounting hedges are primarily used to manage our exposure to interest rates as described in the Interest Rate Risk Management for the Banking Book section and are included in the sensitivities presented in Table 40. The Corporation also uses foreign currency derivatives in accounting hedges to manage substantially all of the foreign exchange risk of our foreign operations. By hedging the foreign exchange risk of our foreign operations, the Corporation's market risk exposure in this area is not significant.

Risk management derivatives are predominantly used to hedge foreign exchange risks related to various foreign currency-denominated assets and liabilities and eliminate substantially all foreign currency exposures in the cash flows of the Corporation's non-trading foreign currency-denominated financial instruments. These foreign exchange derivatives are sensitive to other market risk exposures such as cross-currency basis spreads and interest rate risk. However, as these features are not a significant component of these foreign exchange derivatives, the market risk related to this exposure is not significant. For more information on the accounting for derivatives, see *Note 3 – Derivatives* to the Consolidated Financial Statements.

Mortgage Banking Risk Management

We originate, fund and service mortgage loans, which subject us to credit, liquidity and interest rate risks, among others. We determine whether loans will be held for investment or held for sale at the time of commitment and manage credit and liquidity risks by selling or securitizing a portion of the loans we originate.

Changes in interest rates impact the value of interest rate lock commitments (IRLCs) and the related residential first mortgage loans held-for-sale (LHFS), as well as the value of the MSRs. Because the interest rate risks of these hedged items offset, we combine them into one overall hedged item with one combined economic hedge portfolio consisting of derivative contracts and securities. For more information on IRLCs and the related residential mortgage LHFS, see Mortgage Banking Risk Management in the MD&A of the Corporation's 2022 Annual Report on Form 10-K.

There were no significant gains or losses related to the change in fair value of MSRs, IRLCs and LHFS, net of gains and losses on the hedge portfolio, for the three months ended March 31, 2023 and 2022. For more information on MSRs, see *Note 14 – Fair Value Measurements* to the Consolidated Financial Statements.

Climate Risk Management

Climate-related risks are divided into two major categories: (1) risks related to the physical impacts of climate change, driven by extreme weather events such as hurricanes and floods, as well as chronic longer-term shifts such as rising average global temperatures and sea levels, and (2) risks related to the transition to a low-carbon economy, which may entail extensive policy, legal, technology and market changes. These changes and events may have broad impacts on operations, supply chains, distribution networks, customers and markets and are otherwise referred to, respectively, as physical risk and transition risk. These risks may impact both financial and nonfinancial risk types. Physical climate events may lead to increased credit risk by diminishing borrowers' repayment capacity or collateral value, or increased operational risk by impacting the Corporation's facilities, employees, customers or vendors. Climate-related transition changes in policy, technology or the market may amplify credit risk through financial impacts to the Corporation or its customers or counterparties or increase market risk, including through sudden price adjustments. In addition, reputational risk may arise, including from our climate-related practices, disclosures and commitments.

As climate risk spans all key risk types, we have developed and continue to enhance processes to embed climate risk considerations into our Risk Framework and risk management programs established for each of our seven key types of risk.

We publicly announced our commitment to achieve net zero emissions in our financing activities, operations, and supply chain before 2050 (Net Zero Goal). In connection with our Net Zero Goal, we set certain 2030 targets, including reducing emissions associated with our operations and financing activities, related to auto manufacturing, energy and power generation, and for our supply chain, including that a certain proportion of our global suppliers set their own climate targets (2030 Targets). We disclosed our 2019 and 2020 financed emission and emission intensity metrics for the above referenced sectors in our 2022 Task Force on Climate-related Financial Disclosures (TCFD) Report, with 2019 serving as the baseline for our financed emissions targets.

We plan to disclose the financed emissions for additional portions of our business loan portfolio in 2023, and we plan to set financing activity emission reduction targets for other key sectors by April 2024.

Achieving our climate-related goals and targets, including our Net Zero Goal and 2030 Targets, may require technological advances, clearly defined roadmaps for industry sectors, new standards and public policies, including those that improve the cost of capital for the transition to a low-carbon economy and better emissions data reporting, as well as ongoing, strong and active engagement with customers, suppliers, investors, government officials and other stakeholders.

Given the extended period of these and other climate-related goals we have established, our initiatives have not resulted in a significant effect on our results of operations or financial position in the relevant periods presented herein.

For more information on our governance framework and climate risk management process, see the Managing Risk and Climate Risk Management sections in the MD&A of the Corporation's 2022 Annual Report on Form 10-K. For more information on climate risk, see Item 1A. Risk Factors – Other of the Corporation's 2022 Annual Report on Form 10-K. For more information on climate-related matters and the Corporation's climate-related goals and commitments, including our plans to achieve our Net Zero Goal and 2030 Targets and progress on our sustainable finance goals, see the Corporation's website, including our 2022 TCFD Report and the 2022 Annual Report to shareholders available on the Investor Relations portion of our website. The contents of the Corporation's website, including the 2022 TCFD Report and 2022 Annual Report to shareholders are not incorporated by reference into this Quarterly Report on Form 10-Q.

The foregoing discussion and our discussion in the 2022 TCFD Report and Annual Report to shareholders regarding our goals and commitments with respect to climate risk management, including environmental transition considerations, include "forward-looking statements" within the meaning of the Private Securities Litigation Reform Act of 1995. These statements are not guarantees of future results or performance and involve certain known and unknown risks, uncertainties and assumptions that are difficult to predict and are often beyond the Corporation's control. Actual outcomes and results may differ materially from those expressed in, or implied by, any of these forward-looking statements.

Complex Accounting Estimates

Our significant accounting principles, are essential in understanding the MD&A. Many of our significant accounting principles require complex judgments to estimate the values of assets and liabilities. We have procedures and processes in place to facilitate making these judgments. For more information, see Complex Accounting Estimates in the MD&A of the Corporation's 2022 Annual Report on Form 10-K and *Note 1 – Summary of Significant Accounting Principles* to the Consolidated Financial Statements of the Corporation's 2022 Annual Report on Form 10-K.

Non-GAAP Reconciliations

Table 41 provides reconciliations of certain non-GAAP financial measures to the most closely related GAAP financial measures.

Table 41 Average and Period-end Supplemental Financial Data and Reconciliations to GAAP Financial Measures [1]

(Dollars in millions)	2023 Quarter First	2022 Quarters Fourth	Third	Second	First
Reconciliation of average shareholders' equity to average tangible shareholders' equity and average tangible common shareholders' equity					
Shareholders' equity	**$ 277,252**	$ 272,629	$ 271,017	$ 268,197	$ 269,309
Goodwill	**(69,022)**	(69,022)	(69,022)	(69,022)	(69,022)
Intangible assets (excluding MSRs)	**(2,068)**	(2,088)	(2,107)	(2,127)	(2,146)
Related deferred tax liabilities	**899**	914	920	926	929
Tangible shareholders' equity	**$ 207,061**	$ 202,433	$ 200,808	$ 197,974	$ 199,070
Preferred stock	**(28,397)**	(28,982)	(29,134)	(28,674)	(26,444)
Tangible common shareholders' equity	**$ 178,664**	$ 173,451	$ 171,674	$ 169,300	$ 172,626
Reconciliation of period-end shareholders' equity to period-end tangible shareholders' equity and period-end tangible common shareholders' equity					
Shareholders' equity	**$ 280,196**	$ 273,197	$ 269,524	$ 269,118	$ 266,617
Goodwill	**(69,022)**	(69,022)	(69,022)	(69,022)	(69,022)
Intangible assets (excluding MSRs)	**(2,055)**	(2,075)	(2,094)	(2,114)	(2,133)
Related deferred tax liabilities	**895**	899	915	920	926
Tangible shareholders' equity	**$ 210,014**	$ 202,999	$ 199,323	$ 198,902	$ 196,388
Preferred stock	**(28,397)**	(28,397)	(29,134)	(29,134)	(27,137)
Tangible common shareholders' equity	**$ 181,617**	$ 174,602	$ 170,189	$ 169,768	$ 169,251
Reconciliation of period-end assets to period-end tangible assets					
Assets	**$ 3,194,657**	$ 3,051,375	$ 3,072,953	$ 3,111,606	$ 3,238,223
Goodwill	**(69,022)**	(69,022)	(69,022)	(69,022)	(69,022)
Intangible assets (excluding MSRs)	**(2,055)**	(2,075)	(2,094)	(2,114)	(2,133)
Related deferred tax liabilities	**895**	899	915	920	926
Tangible assets	**$ 3,124,475**	$ 2,981,177	$ 3,002,752	$ 3,041,390	$ 3,167,994

[1] For more information on non-GAAP financial measures and ratios we use in assessing the results of the Corporation, see Supplemental Financial Data on page 6.

Item 3. Quantitative and Qualitative Disclosures about Market Risk

See Market Risk Management on page 38 in the MD&A and the sections referenced therein for Quantitative and Qualitative Disclosures about Market Risk.

Item 4. Controls and Procedures

Disclosure Controls and Procedures

As of the end of the period covered by this report, the Corporation's management, including the Chief Executive Officer and Chief Financial Officer, conducted an evaluation of the effectiveness and design of the Corporation's disclosure controls and procedures (as that term is defined in Rule 13a-15(e) of the Exchange Act). Based upon that evaluation, the Corporation's Chief Executive Officer and Chief Financial Officer concluded that the Corporation's disclosure controls and procedures were effective, as of the end of the period covered by this report.

Changes in Internal Control Over Financial Reporting

There have been no changes in the Corporation's internal control over financial reporting (as defined in Rule 13a-15(f) of the Exchange Act) during the three months ended March 31, 2023, that have materially affected, or are reasonably likely to materially affect, the Corporation's internal control over financial reporting.

Consolidated Statement of Income

(In millions, except per share information)	Three Months Ended March 31 2023	2022
Net interest income		
Interest income	$ 28,655	$ 12,894
Interest expense	14,207	1,322
Net interest income	14,448	11,572
Noninterest income		
Fees and commissions	7,894	8,985
Market making and similar activities	4,712	3,238
Other income	(796)	(567)
Total noninterest income	11,810	11,656
Total revenue, net of interest expense	26,258	23,228
Provision for credit losses	931	30
Noninterest expense		
Compensation and benefits	9,918	9,482
Occupancy and equipment	1,799	1,760
Information processing and communications	1,697	1,540
Product delivery and transaction related	890	933
Professional fees	537	450
Marketing	458	397
Other general operating	939	757
Total noninterest expense	16,238	15,319
Income before income taxes	9,089	7,879
Income tax expense	928	812
Net income	$ 8,161	$ 7,067
Preferred stock dividends	505	467
Net income applicable to common shareholders	$ 7,656	$ 6,600
Per common share information		
Earnings	$ 0.95	$ 0.81
Diluted earnings	0.94	0.80
Average common shares issued and outstanding	8,065.9	8,136.8
Average diluted common shares issued and outstanding	8,182.3	8,202.1

Consolidated Statement of Comprehensive Income

(Dollars in millions)	Three Months Ended March 31 2023	2022
Net income	$ 8,161	$ 7,067
Other comprehensive income (loss), net-of-tax:		
Net change in debt securities	555	(3,447)
Net change in debit valuation adjustments	10	261
Net change in derivatives	2,042	(5,179)
Employee benefit plan adjustments	10	24
Net change in foreign currency translation adjustments	12	28
Other comprehensive income (loss)	2,629	(8,313)
Comprehensive income (loss)	$ 10,790	$ (1,246)

See accompanying Notes to Consolidated Financial Statements.

Consolidated Balance Sheet

(Dollars in millions)	March 31 2023	December 31 2022
Assets		
Cash and due from banks	$ **29,327**	$ 30,334
Interest-bearing deposits with the Federal Reserve, non-U.S. central banks and other banks	**346,891**	199,869
Cash and cash equivalents	**376,218**	230,203
Time deposits placed and other short-term investments	**11,637**	7,259
Federal funds sold and securities borrowed or purchased under agreements to resell (includes **$163,505** and $146,999 measured at fair value)	**298,078**	267,574
Trading account assets (includes **$141,314** and $115,505 pledged as collateral)	**314,978**	296,108
Derivative assets	**40,947**	48,642
Debt securities:		
Carried at fair value	**172,510**	229,994
Held-to-maturity, at cost (fair value – **$525,452** and $524,267)	**624,495**	632,825
Total debt securities	**797,005**	862,819
Loans and leases (includes **$4,397** and $5,771 measured at fair value)	**1,046,406**	1,045,747
Allowance for loan and lease losses	**(12,514)**	(12,682)
Loans and leases, net of allowance	**1,033,892**	1,033,065
Premises and equipment, net	**11,708**	11,510
Goodwill	**69,022**	69,022
Loans held-for-sale (includes **$1,386** and $1,115 measured at fair value)	**6,809**	6,871
Customer and other receivables	**79,902**	67,543
Other assets (includes **$12,551** and $9,594 measured at fair value)	**154,461**	150,759
Total assets	$ **3,194,657**	$ 3,051,375
Liabilities		
Deposits in U.S. offices:		
Noninterest-bearing	$ **617,922**	$ 640,745
Interest-bearing (includes **$378** and $311 measured at fair value)	**1,183,106**	1,182,590
Deposits in non-U.S. offices:		
Noninterest-bearing	**17,686**	20,480
Interest-bearing	**91,688**	86,526
Total deposits	**1,910,402**	1,930,341
Federal funds purchased and securities loaned or sold under agreements to repurchase (includes **$234,338** and $151,708 measured at fair value)	**314,380**	195,635
Trading account liabilities	**92,452**	80,399
Derivative liabilities	**40,169**	44,816
Short-term borrowings (includes **$1,805** and $832 measured at fair value)	**56,564**	26,932
Accrued expenses and other liabilities (includes **$13,659** and $9,752 measured at fair value and **$1,437** and $1,540 of reserve for unfunded lending commitments)	**216,621**	224,073
Long-term debt (includes **$39,413** and $33,070 measured at fair value)	**283,873**	275,982
Total liabilities	**2,914,461**	2,778,178
Commitments and contingencies *(Note 6 – Securitizations and Other Variable Interest Entities)* and *(Note 10 – Commitments and Contingencies)*		
Shareholders' equity		
Preferred stock, $0.01 par value; authorized – **100,000,000** shares; issued and outstanding – **4,088,099** and 4,088,101 shares	**28,397**	28,397
Common stock and additional paid-in capital, $0.01 par value; authorized – **12,800,000,000** shares; issued and outstanding – **7,972,438,148** and 7,996,777,943 shares	**57,264**	58,953
Retained earnings	**213,062**	207,003
Accumulated other comprehensive income (loss)	**(18,527)**	(21,156)
Total shareholders' equity	**280,196**	273,197
Total liabilities and shareholders' equity	$ **3,194,657**	$ 3,051,375

Assets of consolidated variable interest entities included in total assets above (isolated to settle the liabilities of the variable interest entities)		
Trading account assets	$ **4,276**	$ 2,816
Loans and leases	**15,754**	16,738
Allowance for loan and lease losses	**(797)**	(797)
Loans and leases, net of allowance	**14,957**	15,941
All other assets	**129**	116
Total assets of consolidated variable interest entities	$ **19,362**	$ 18,873
Liabilities of consolidated variable interest entities included in total liabilities above		
Short-term borrowings (includes **$22** and $42 of non-recourse short-term borrowings)	$ **1,339**	$ 42
Long-term debt (includes **$4,883** and $4,581 of non-recourse debt)	**4,883**	4,581
All other liabilities (includes **$7** and $13 of non-recourse liabilities)	**7**	12
Total liabilities of consolidated variable interest entities	$ **6,229**	$ 4,635

See accompanying Notes to Consolidated Financial Statements.

Consolidated Statement of Changes in Shareholders' Equity

(In millions)	Preferred Stock	Common Stock and Additional Paid-in Capital Shares	Common Stock and Additional Paid-in Capital Amount	Retained Earnings	Accumulated Other Comprehensive Income (Loss)	Total Shareholders' Equity
Balance, December 31, 2021	**$ 24,708**	**8,077.8**	**$ 62,398**	**$ 188,064**	**$ (5,104)**	**$ 270,066**
Net income				7,067		7,067
Net change in debt securities					(3,447)	(3,447)
Net change in debit valuation adjustments					261	261
Net change in derivatives					(5,179)	(5,179)
Employee benefit plan adjustments					24	24
Net change in foreign currency translation adjustments					28	28
Dividends declared:						
Common				(1,706)		(1,706)
Preferred				(467)		(467)
Issuance of preferred stock	2,429					2,429
Common stock issued under employee plans, net, and other		41.7	220	(29)		191
Common stock repurchased		(57.4)	(2,650)			(2,650)
Balance, March 31, 2022	$ 27,137	8,062.1	$ 59,968	$ 192,929	$ (13,417)	$ 266,617
Balance, December 31, 2022	**$ 28,397**	**7,996.8**	**$ 58,953**	**$ 207,003**	**$ (21,156)**	**$ 273,197**
Cumulative adjustment for adoption of credit loss accounting standard				**184**		**184**
Net income				**8,161**		**8,161**
Net change in debt securities					**555**	**555**
Net change in debit valuation adjustments					**10**	**10**
Net change in derivatives					**2,042**	**2,042**
Employee benefit plan adjustments					**10**	**10**
Net change in foreign currency translation adjustments					**12**	**12**
Dividends declared:						
Common				**(1,774)**		**(1,774)**
Preferred				**(505)**		**(505)**
Common stock issued under employee plans, net, and other		**42.4**	**526**	**(7)**		**519**
Common stock repurchased		**(66.8)**	**(2,215)**			**(2,215)**
Balance, March 31, 2023	**$ 28,397**	**7,972.4**	**$ 57,264**	**$ 213,062**	**$ (18,527)**	**$ 280,196**

See accompanying Notes to Consolidated Financial Statements.

Consolidated Statement of Cash Flows

(Dollars in millions)	Three Months Ended March 31 2023	2022
Operating activities		
Net income	$ 8,161	$ 7,067
Adjustments to reconcile net income to net cash provided by operating activities:		
Provision for credit losses	931	30
(Gains) losses on sales of debt securities	210	(7)
Depreciation and amortization	503	494
Net amortization of premium/discount on debt securities	34	905
Deferred income taxes	(169)	47
Stock-based compensation	794	739
Loans held-for-sale:		
Originations and purchases	(2,285)	(6,832)
Proceeds from sales and paydowns of loans originally classified as held for sale and instruments from related securitization activities	2,378	12,934
Net change in:		
Trading and derivative assets/liabilities	(725)	(64,939)
Other assets	(16,078)	(14,876)
Accrued expenses and other liabilities	(7,066)	19,820
Other operating activities, net	2,012	(812)
Net cash used in operating activities	(11,300)	(45,430)
Investing activities		
Net change in:		
Time deposits placed and other short-term investments	(4,512)	1,499
Federal funds sold and securities borrowed or purchased under agreements to resell	(30,504)	(51,388)
Debt securities carried at fair value:		
Proceeds from sales	61,493	2,341
Proceeds from paydowns and maturities	19,085	29,654
Purchases	(19,104)	(35,661)
Held-to-maturity debt securities:		
Proceeds from paydowns and maturities	8,042	21,496
Purchases	(38)	(19,599)
Loans and leases:		
Proceeds from sales of loans originally classified as held for investment and instruments from related securitization activities	2,168	2,042
Purchases	(1,510)	(1,624)
Other changes in loans and leases, net	(2,319)	(16,193)
Other investing activities, net	(1,955)	(975)
Net cash provided by (used in) investing activities	30,846	(68,408)
Financing activities		
Net change in:		
Deposits	(19,939)	7,878
Federal funds purchased and securities loaned or sold under agreements to repurchase	118,745	22,356
Short-term borrowings	29,632	1,036
Long-term debt:		
Proceeds from issuance	14,319	21,123
Retirement	(11,341)	(8,241)
Preferred stock:		
Proceeds from issuance	—	2,429
Common stock repurchased	(2,215)	(2,650)
Cash dividends paid	(2,352)	(2,222)
Other financing activities, net	(728)	(823)
Net cash provided by financing activities	126,121	40,886
Effect of exchange rate changes on cash and cash equivalents	348	(1,335)
Net increase (decrease) in cash and cash equivalents	146,015	(74,287)
Cash and cash equivalents at January 1	230,203	348,221
Cash and cash equivalents at March 31	$ 376,218	$ 273,934

See accompanying Notes to Consolidated Financial Statements.

Bank of America Corporation and Subsidiaries
Notes to Consolidated Financial Statements

NOTE 1 Summary of Significant Accounting Principles

Bank of America Corporation, a bank holding company and a financial holding company, provides a diverse range of financial services and products throughout the U.S. and in certain international markets. The term “the Corporation” as used herein may refer to Bank of America Corporation, individually, Bank of America Corporation and its subsidiaries, or certain of Bank of America Corporation’s subsidiaries or affiliates.

Principles of Consolidation and Basis of Presentation

The Consolidated Financial Statements include the accounts of the Corporation and its majority-owned subsidiaries and those variable interest entities (VIEs) where the Corporation is the primary beneficiary. Intercompany accounts and transactions have been eliminated. Results of operations of acquired companies are included from the dates of acquisition, and for VIEs, from the dates that the Corporation became the primary beneficiary. Assets held in an agency or fiduciary capacity are not included in the Consolidated Financial Statements. The Corporation accounts for investments in companies for which it owns a voting interest and for which it has the ability to exercise significant influence over operating and financing decisions using the equity method of accounting. These investments, which include the Corporation’s interests in affordable housing and renewable energy partnerships, are recorded in other assets. Equity method investments are subject to impairment testing, and the Corporation’s proportionate share of income or loss is included in other income.

The preparation of the Consolidated Financial Statements in conformity with accounting principles generally accepted in the United States of America requires management to make estimates and assumptions that affect reported amounts and disclosures. Actual results could materially differ from those estimates and assumptions.

These unaudited Consolidated Financial Statements should be read in conjunction with the audited Consolidated Financial Statements, and related notes thereto, of the Corporation’s 2022 Annual Report on Form 10-K.

The nature of the Corporation’s business is such that the results of any interim period are not necessarily indicative of results for a full year. In the opinion of management, all adjustments, which consist of normal recurring adjustments necessary for a fair statement of the interim period results, have been made. The Corporation evaluates subsequent events through the date of filing with the Securities and Exchange Commission (SEC). Certain prior-period amounts have been reclassified to conform to current-period presentation.

New Accounting Standard Issued

Investments – Equity Method and Joint Ventures

The FASB updated its guidance on the accounting for tax credit investments, which permits entities to make an accounting policy election to apply the proportional amortization method when certain conditions are met. The new accounting guidance is effective on a retrospective or modified retrospective basis beginning on January 1, 2024, with early adoption permitted. If adopted, the Corporation does not expect the guidance to have a material impact on its consolidated financial position or results of operations.

New Accounting Standard Adopted

Financial Instruments – Credit Losses

On January 1, 2023, the Corporation adopted the new accounting and disclosure requirements for expected credit losses (ECL) that removed the recognition and measurement guidance on troubled debt restructurings (TDRs) and added disclosures on the financial effect and subsequent performance of certain types of modifications made to borrowers experiencing financial difficulties.

Upon adoption of the standard, the Corporation recorded a reduction of $243 million in the allowance for credit losses for the impact of changes in the methodology used to estimate the allowance for credit losses for non-collateral dependent consumer and commercial TDRs. There was no impact to the valuation of loans previously classified as collateral-dependent TDRs. After adjusting for deferred taxes, the Corporation recorded an increase of $184 million in retained earnings through a cumulative-effect adjustment.

The additional disclosures are included in *Note 5 – Outstanding Loans and Leases and Allowance for Credit Losses* on a prospective basis and include loan modifications where the contractual payment terms of the borrower’s loan agreement were modified through a refinancing or restructuring. Modifications that do not impact the contractual payment terms, such as covenant waivers, insignificant payment deferrals, and any modifications made to loans carried at fair value, loans held-for-sale (LHFS) and leases are not included in the disclosures.

The Corporation uses various indicators to identify borrowers in financial difficulty. Consumer loan borrowers that are delinquent and commercial loan borrowers that are rated substandard or worse are the primary criteria used to identify borrowers who are experiencing financial difficulty.

If a borrower is current at the time of modification, the loan generally remains a performing loan as long as there is demonstrated performance prior to the modification, and payment in full under the modified terms is expected. Otherwise, the loan is placed on nonaccrual status and reported as nonperforming, excluding fully-insured consumer real estate loans, until there is sustained repayment performance for a reasonable period.

The allowance for loan and lease losses for modified loans is determined in a manner consistent with the methodology for the respective class and credit rating of the financing receivable as described in *Note 1 – Summary of Significant Accounting Principles* to the Consolidated Financial Statements of the Corporation’s 2022 Annual Report on Form 10-K.

NOTE 2 Net Interest Income and Noninterest Income

The table below presents the Corporation's net interest income and noninterest income disaggregated by revenue source for the three months ended March 31, 2023 and 2022. For more information, see *Note 1 – Summary of Significant Accounting Principles* to the Consolidated Financial Statements of the Corporation's 2022 Annual Report on Form 10-K. For a disaggregation of noninterest income by business segment and *All Other*, see *Note 17 – Business Segment Information*.

(Dollars in millions)	Three Months Ended March 31 2023	2022
Net interest income		
Interest income		
Loans and leases	**$ 13,097**	$ 7,352
Debt securities	**5,460**	3,823
Federal funds sold and securities borrowed or purchased under agreements to resell [1]	**3,712**	(7)
Trading account assets	**2,028**	1,081
Other interest income	**4,358**	645
Total interest income	**28,655**	12,894
Interest expense		
Deposits	**4,314**	164
Short-term borrowings [1]	**6,180**	(112)
Trading account liabilities	**504**	364
Long-term debt	**3,209**	906
Total interest expense	**14,207**	1,322
Net interest income	**$ 14,448**	$ 11,572
Noninterest income		
Fees and commissions		
Card income		
Interchange fees [2]	**$ 956**	$ 935
Other card income	**513**	468
Total card income	**1,469**	1,403
Service charges		
Deposit-related fees	**1,097**	1,530
Lending-related fees	**313**	303
Total service charges	**1,410**	1,833
Investment and brokerage services		
Asset management fees	**2,918**	3,286
Brokerage fees	**934**	1,006
Total investment and brokerage services	**3,852**	4,292
Investment banking fees		
Underwriting income	**569**	672
Syndication fees	**231**	312
Financial advisory services	**363**	473
Total investment banking fees	**1,163**	1,457
Total fees and commissions	**7,894**	8,985
Market making and similar activities	**4,712**	3,238
Other income (loss)	**(796)**	(567)
Total noninterest income	**$ 11,810**	$ 11,656

(1) For more information on negative interest, see *Note 1 – Summary of Significant Accounting Principles* to the Consolidated Financial Statements of the Corporation's 2022 Annual Report on Form 10-K.

(2) Gross interchange fees and merchant income were $3.2 billion and $2.9 billion for the three months ended March 31, 2023 and 2022 and are presented net of $2.2 billion and $2.0 billion of expenses for rewards and partner payments as well as certain other card costs for the same periods.

NOTE 3 Derivatives

Derivative Balances

Derivatives are entered into on behalf of customers, for trading or to support risk management activities. Derivatives used in risk management activities include derivatives that may or may not be designated in qualifying hedge accounting relationships. Derivatives that are not designated in qualifying hedge accounting relationships are referred to as other risk management derivatives. For more information on the Corporation's derivatives and hedging activities, see *Note 1 – Summary of Significant Accounting Principles* and *Note 3 – Derivatives* to the Consolidated Financial Statements of the Corporation's 2022 Annual Report on Form 10-K. The following tables present derivative instruments included on the Consolidated Balance Sheet in derivative assets and liabilities at March 31, 2023 and December 31, 2022. Balances are presented on a gross basis, prior to the application of counterparty and cash collateral netting. Total derivative assets and liabilities are adjusted on an aggregate basis to take into consideration the effects of legally enforceable master netting agreements and have been reduced by cash collateral received or paid.

		March 31, 2023					
		Gross Derivative Assets			Gross Derivative Liabilities		
(Dollars in billions)	Contract/ Notional [(1)]	Trading and Other Risk Management Derivatives	Qualifying Accounting Hedges	Total	Trading and Other Risk Management Derivatives	Qualifying Accounting Hedges	Total
Interest rate contracts							
Swaps	$ 22,832.3	$ 149.7	$ 8.8	$ 158.5	$ 129.0	$ 28.1	$ 157.1
Futures and forwards	4,314.7	7.8	—	7.8	8.0	—	8.0
Written options [(2)]	1,869.5	—	—	—	34.9	—	34.9
Purchased options [(3)]	1,751.5	36.5	—	36.5	—	—	—
Foreign exchange contracts							
Swaps	1,636.0	36.5	1.1	37.6	33.7	1.1	34.8
Spot, futures and forwards	4,876.0	39.3	0.1	39.4	39.5	0.4	39.9
Written options [(2)]	444.1	—	—	—	6.6	—	6.6
Purchased options [(3)]	402.4	6.7	—	6.7	—	—	—
Equity contracts							
Swaps	423.9	12.7	—	12.7	13.9	—	13.9
Futures and forwards	140.6	2.4	—	2.4	1.2	—	1.2
Written options [(2)]	884.7	—	—	—	46.4	—	46.4
Purchased options [(3)]	767.8	39.2	—	39.2	—	—	—
Commodity contracts							
Swaps	59.3	4.0	—	4.0	5.0	—	5.0
Futures and forwards	196.8	4.3	—	4.3	4.0	0.2	4.2
Written options [(2)]	70.8	—	—	—	3.9	—	3.9
Purchased options [(3)]	79.1	3.4	—	3.4	—	—	—
Credit derivatives [(4)]							
Purchased credit derivatives:							
Credit default swaps	386.9	2.8	—	2.8	1.9	—	1.9
Total return swaps/options	133.3	0.7	—	0.7	2.9	—	2.9
Written credit derivatives:							
Credit default swaps	358.7	1.4	—	1.4	2.4	—	2.4
Total return swaps/options	124.4	3.3	—	3.3	0.8	—	0.8
Gross derivative assets/liabilities		$ 350.7	$ 10.0	$ 360.7	$ 334.1	$ 29.8	$ 363.9
Less: Legally enforceable master netting agreements				(290.8)			(290.8)
Less: Cash collateral received/paid				(29.0)			(32.9)
Total derivative assets/liabilities				$ 40.9			$ 40.2

(1) Represents the total contract/notional amount of derivative assets and liabilities outstanding.
(2) Includes certain out-of-the-money purchased options that have a liability amount primarily due to the deferral of option premiums to the end of the contract.
(3) Includes certain out-of-the-money written options that have an asset amount primarily due to the deferral of option premiums to the end of the contract.
(4) The net derivative asset (liability) and notional amount of written credit derivatives for which the Corporation held purchased credit derivatives with identical underlying referenced names were $(1.0) billion and $336.3 billion at March 31, 2023.

(Dollars in billions)	Contract/ Notional [1]	December 31, 2022 Gross Derivative Assets: Trading and Other Risk Management Derivatives	Gross Derivative Assets: Qualifying Accounting Hedges	Gross Derivative Assets: Total	Gross Derivative Liabilities: Trading and Other Risk Management Derivatives	Gross Derivative Liabilities: Qualifying Accounting Hedges	Gross Derivative Liabilities: Total
Interest rate contracts							
Swaps	$ 18,285.9	$ 138.2	$ 20.7	$ 158.9	$ 120.3	$ 36.7	$ 157.0
Futures and forwards	2,796.3	8.6	—	8.6	7.8	—	7.8
Written options [2]	1,657.9	—	—	—	41.4	—	41.4
Purchased options [3]	1,594.7	42.4	—	42.4	—	—	—
Foreign exchange contracts							
Swaps	1,509.0	44.0	0.3	44.3	43.3	0.4	43.7
Spot, futures and forwards	4,159.3	59.9	0.1	60.0	62.1	0.6	62.7
Written options [2]	392.2	—	—	—	8.1	—	8.1
Purchased options [3]	362.6	8.3	—	8.3	—	—	—
Equity contracts							
Swaps	394.0	10.8	—	10.8	12.2	—	12.2
Futures and forwards	114.6	3.3	—	3.3	1.0	—	1.0
Written options [2]	746.8	—	—	—	45.0	—	45.0
Purchased options [3]	671.6	40.9	—	40.9	—	—	—
Commodity contracts							
Swaps	56.0	5.1	—	5.1	5.3	—	5.3
Futures and forwards	157.3	3.0	—	3.0	2.3	0.8	3.1
Written options [2]	59.5	—	—	—	3.3	—	3.3
Purchased options [3]	61.8	3.6	—	3.6	—	—	—
Credit derivatives [4]							
Purchased credit derivatives:							
Credit default swaps	319.9	2.8	—	2.8	1.6	—	1.6
Total return swaps/options	71.5	0.7	—	0.7	3.0	—	3.0
Written credit derivatives:							
Credit default swaps	295.2	1.2	—	1.2	2.4	—	2.4
Total return swaps/options	85.3	4.4	—	4.4	0.9	—	0.9
Gross derivative assets/liabilities		$ 377.2	$ 21.1	$ 398.3	$ 360.0	$ 38.5	$ 398.5
Less: Legally enforceable master netting agreements				(315.9)			(315.9)
Less: Cash collateral received/paid				(33.8)			(37.8)
Total derivative assets/liabilities				$ 48.6			$ 44.8

(1) Represents the total contract/notional amount of derivative assets and liabilities outstanding.
(2) Includes certain out-of-the-money purchased options that have a liability amount primarily due to the deferral of option premiums to the end of the contract.
(3) Includes certain out-of-the-money written options that have an asset amount primarily due to the deferral of option premiums to the end of the contract.
(4) The net derivative asset (liability) and notional amount of written credit derivatives for which the Corporation held purchased credit derivatives with identical underlying referenced names were $(1.2) billion and $276.9 billion at December 31, 2022.

Offsetting of Derivatives

The Corporation enters into International Swaps and Derivatives Association, Inc. (ISDA) master netting agreements or similar agreements with substantially all of the Corporation's derivative counterparties. For more information, see *Note 3 – Derivatives* to the Consolidated Financial Statements of the Corporation's 2022 Annual Report on Form 10-K.

The following table presents derivative instruments included in derivative assets and liabilities on the Consolidated Balance Sheet at March 31, 2023 and December 31, 2022 by primary risk (e.g., interest rate risk) and the platform, where applicable, on which these derivatives are transacted. Balances are presented on a gross basis, prior to the application of counterparty and cash collateral netting. Total gross derivative assets and liabilities are adjusted on an aggregate basis to take into consideration the effects of legally enforceable master netting agreements, which include reducing the balance for counterparty netting and cash collateral received or paid.

For more information on offsetting of securities financing agreements, see *Note 9 – Securities Financing Agreements, Collateral and Restricted Cash*.

Offsetting of Derivatives [1]

(Dollars in billions)	Derivative Assets	Derivative Liabilities	Derivative Assets	Derivative Liabilities
	March 31, 2023		December 31, 2022	
Interest rate contracts				
Over-the-counter	**$ 130.0**	**$ 125.0**	$ 138.4	$ 132.3
Exchange-traded	**0.3**	**0.2**	0.4	0.1
Over-the-counter cleared	**73.8**	**72.8**	71.4	71.1
Foreign exchange contracts				
Over-the-counter	**81.8**	**79.2**	109.7	110.6
Over-the-counter cleared	**0.9**	**0.9**	1.3	1.2
Equity contracts				
Over-the-counter	**23.8**	**27.3**	21.5	22.6
Exchange-traded	**29.9**	**31.9**	33.0	33.8
Commodity contracts				
Over-the-counter	**8.2**	**10.3**	8.3	9.3
Exchange-traded	**2.5**	**2.3**	2.4	1.9
Over-the-counter cleared	**0.2**	**0.3**	0.3	0.3
Credit derivatives				
Over-the-counter	**8.1**	**7.6**	8.9	7.5
Over-the-counter cleared	**—**	**—**	—	—
Total gross derivative assets/liabilities, before netting				
Over-the-counter	**251.9**	**249.4**	286.8	282.3
Exchange-traded	**32.7**	**34.4**	35.8	35.8
Over-the-counter cleared	**74.9**	**74.0**	73.0	72.6
Less: Legally enforceable master netting agreements and cash collateral received/paid				
Over-the-counter	**(214.4)**	**(218.2)**	(243.8)	(248.2)
Exchange-traded	**(31.7)**	**(31.7)**	(33.5)	(33.5)
Over-the-counter cleared	**(73.7)**	**(73.8)**	(72.4)	(72.0)
Derivative assets/liabilities, after netting	**39.7**	**34.1**	45.9	37.0
Other gross derivative assets/liabilities [2]	**1.2**	**6.1**	2.7	7.8
Total derivative assets/liabilities	**40.9**	**40.2**	48.6	44.8
Less: Financial instruments collateral [3]	**(15.8)**	**(8.8)**	(18.5)	(7.4)
Total net derivative assets/liabilities	**$ 25.1**	**$ 31.4**	$ 30.1	$ 37.4

(1) Over-the-counter derivatives include bilateral transactions between the Corporation and a particular counterparty. Over-the-counter cleared derivatives include bilateral transactions between the Corporation and a counterparty where the transaction is cleared through a clearinghouse. Exchange-traded derivatives include listed options transacted on an exchange.
(2) Consists of derivatives entered into under master netting agreements where the enforceability of these agreements is uncertain under bankruptcy laws in some countries or industries.
(3) Amounts are limited to the derivative asset/liability balance and, accordingly, do not include excess collateral received/pledged. Financial instruments collateral includes securities collateral received or pledged and cash securities held and posted at third-party custodians that are not offset on the Consolidated Balance Sheet but shown as a reduction to derive net derivative assets and liabilities.

Derivatives Designated as Accounting Hedges

The Corporation uses various types of interest rate and foreign exchange derivative contracts to protect against changes in the fair value of its assets and liabilities due to fluctuations in interest rates and foreign exchange rates (fair value hedges). The Corporation also uses these types of contracts to protect against changes in the cash flows of its assets and liabilities, and other forecasted transactions (cash flow hedges). The Corporation hedges its net investment in consolidated non-U.S. operations determined to have functional currencies other than the U.S. dollar using forward exchange contracts and cross-currency basis swaps, and by issuing foreign currency denominated debt (net investment hedges).

Fair Value Hedges

The table below summarizes information related to fair value hedges for the three months ended March 31, 2023 and 2022.

Gains and Losses on Derivatives Designated as Fair Value Hedges

	Three Months Ended March 31			
	2023		2022	
(Dollars in millions)	Derivative	Hedged Item	Derivative	Hedged Item
Interest rate risk on long-term debt [1]	**$ 3,308**	**$ (3,305)**	$ (11,034)	$ 11,219
Interest rate and foreign currency risk on long-term debt [2]	**8**	**(8)**	(9)	8
Interest rate risk on available-for-sale securities [3]	**(3,027)**	**3,016**	9,817	(9,905)
Price risk on commodity inventory [4]	**(519)**	**519**	(232)	237
Total	**$ (230)**	**$ 222**	$ (1,458)	$ 1,559

(1) Amounts are recorded in interest expense in the Consolidated Statement of Income.
(2) For the three months ended March 31, 2023 and 2022, the derivative amount includes gains (losses) of $8 million and $(21) million in interest expense, $1 million and $14 million in market making and similar activities, and $(1) million and $(2) million in accumulated other comprehensive income (OCI). Line item totals are in the Consolidated Statement of Income and on the Consolidated Balance Sheet.
(3) Amounts are recorded in interest income in the Consolidated Statement of Income.
(4) Amounts are recorded in market making and similar activities in the Consolidated Statement of Income.

The table below summarizes the carrying value of hedged assets and liabilities that are designated and qualifying in fair value hedging relationships along with the cumulative amount of fair value hedging adjustments included in the carrying value that have been recorded in the current hedging relationships. These fair value hedging adjustments are open basis adjustments that are not subject to amortization as long as the hedging relationship remains designated.

Designated Fair Value Hedged Assets and Liabilities

	March 31, 2023		December 31, 2022	
(Dollars in millions)	Carrying Value	Cumulative Fair Value Adjustments [1]	Carrying Value	Cumulative Fair Value Adjustments [1]
Long-term debt [2]	$ 187,097	$ (12,629)	$ 187,402	$ (21,372)
Available-for-sale debt securities [2, 3, 4]	107,422	(4,283)	167,518	(18,190)
Trading account assets [5]	8,295	487	16,119	146

(1) Increase (decrease) to carrying value.
(2) At March 31, 2023 and December 31, 2022, the cumulative fair value adjustments remaining on long-term debt and available-for-sale debt securities from discontinued hedging relationships resulted in a decrease of $4.6 billion and an increase of $137 million in the related liability and a decrease in the related asset of $8.3 billion and $4.9 billion, which are being amortized over the remaining contractual life of the de-designated hedged items.
(3) These amounts include the amortized cost of the financial assets in closed portfolios used to designate hedging relationships in which the hedged item is a stated layer that is expected to be remaining at the end of the hedging relationship (i.e. portfolio layer hedging relationship). At March 31, 2023 and December 31, 2022, the amortized cost of the closed portfolios used in these hedging relationships was $21.1 billion and $21.4 billion, of which $9.3 billion and $9.2 billion were designated in a portfolio layer hedging relationship. At March 31, 2023 and December 31, 2022, the cumulative adjustment associated with these hedging relationships was a decrease of $329 million and $451 million.
(4) Carrying value represents amortized cost.
(5) Represents hedging activities related to certain commodities inventory.

Cash Flow and Net Investment Hedges

The table below summarizes certain information related to cash flow hedges and net investment hedges for the three months ended March 31, 2023 and 2022. Of the $9.9 billion after-tax net loss ($13.2 billion pretax) on derivatives in accumulated OCI at March 31, 2023, losses of $4.4 billion after-tax ($5.9 billion pretax) related to both open and terminated cash flow hedges are expected to be reclassified into earnings in the next 12 months. These net losses reclassified into earnings are expected to primarily decrease net interest income related to the respective hedged items. For open cash flow hedges, the maximum length of time over which forecasted transactions are hedged is approximately seven years. For terminated cash flow hedges, the time period over which the forecasted transactions will be recognized in interest income is approximately five years, with the aggregated amount beyond this time period being insignificant.

Gains and Losses on Derivatives Designated as Cash Flow and Net Investment Hedges

	Three Months Ended March 31			
	2023		2022	
(Dollars in millions, amounts pretax)	Gains (Losses) Recognized in Accumulated OCI on Derivatives	Gains (Losses) in Income Reclassified from Accumulated OCI	Gains (Losses) Recognized in Accumulated OCI on Derivatives	Gains (Losses) in Income Reclassified from Accumulated OCI
Cash flow hedges				
Interest rate risk on variable-rate portfolios [1]	$ 2,550	$ (160)	$ (6,774)	$ (8)
Price risk on forecasted MBS purchases [1]	2	—	(90)	3
Price risk on certain compensation plans [2]	17	5	(27)	12
Total	$ 2,569	$ (155)	$ (6,891)	$ 7
Net investment hedges				
Foreign exchange risk [3]	$ (377)	$ —	$ 219	$ —

(1) Amounts reclassified from accumulated OCI are recorded in interest income in the Consolidated Statement of Income.
(2) Amounts reclassified from accumulated OCI are recorded in compensation and benefits expense in the Consolidated Statement of Income.
(3) Amounts reclassified from accumulated OCI are recorded in other income in the Consolidated Statement of Income. For the three months ended March 31, 2023 and 2022, amounts excluded from effectiveness testing and recognized in market making and similar activities were gains (losses) of $33 million and $(74) million.

Other Risk Management Derivatives

Other risk management derivatives are used by the Corporation to reduce certain risk exposures by economically hedging various assets and liabilities. The table below presents gains (losses) on these derivatives for the three months ended March 31, 2023 and 2022. These gains (losses) are largely offset by the income or expense recorded on the hedged item.

Gains and Losses on Other Risk Management Derivatives

	Three Months Ended March 31	
(Dollars in millions)	**2023**	2022
Interest rate risk on mortgage activities [1, 2]	**$ 26**	$ (147)
Credit risk on loans [2]	**(28)**	(3)
Interest rate and foreign currency risk on asset and liability management activities [3]	**(122)**	1,310
Price risk on certain compensation plans [4]	**195**	(335)

(1) Includes hedges of interest rate risk on mortgage servicing rights (MSRs) and interest rate lock commitments (IRLCs) to originate mortgage loans that will be held for sale.
(2) Gains (losses) on these derivatives are recorded in other income.
(3) Gains (losses) on these derivatives are recorded in market making and similar activities.
(4) Gains (losses) on these derivatives are recorded in compensation and benefits expense.

Transfers of Financial Assets with Risk Retained through Derivatives

The Corporation enters into certain transactions involving the transfer of financial assets that are accounted for as sales where substantially all of the economic exposure to the transferred financial assets is retained through derivatives (e.g., interest rate and/or credit), but the Corporation does not retain control over the assets transferred. At both March 31, 2023 and December 31, 2022, the Corporation had transferred $4.8 billion of non-U.S. government-guaranteed mortgage-backed securities to a third-party trust and retained economic exposure to the transferred assets through derivative contracts. In connection with these transfers, the Corporation received gross cash proceeds of $4.9 billion at the transfer dates. At both March 31, 2023 and December 31, 2022, the fair value of the transferred securities was $4.7 billion.

Sales and Trading Revenue

The Corporation enters into trading derivatives to facilitate client transactions and to manage risk exposures arising from trading account assets and liabilities. It is the Corporation's policy to include these derivative instruments in its trading activities, which include derivatives and non-derivative cash instruments. The resulting risk from these derivatives is managed on a portfolio basis as part of the Corporation's *Global Markets* business segment. For more information on sales and trading revenue, see *Note 3 – Derivatives* to the Consolidated Financial Statements of the Corporation's 2022 Annual Report on Form 10-K.

The table below, which includes both derivatives and non-derivative cash instruments, identifies the amounts in the respective income statement line items attributable to the Corporation's sales and trading revenue in *Global Markets*, categorized by primary risk, for the three months ended March 31, 2023 and 2022. This table includes debit valuation adjustment (DVA) and funding valuation adjustment (FVA) gains (losses). *Global Markets* results in *Note 17 – Business Segment Information* are presented on a fully taxable-equivalent (FTE) basis. The table below is not presented on an FTE basis.

Sales and Trading Revenue

	Market making and similar activities	Net Interest Income	Other [1]	Total
(Dollars in millions)	**Three Months Ended March 31, 2023**			
Interest rate risk	**$ 1,244**	**$ 99**	**$ 86**	**$ 1,429**
Foreign exchange risk	**402**	**49**	**24**	**475**
Equity risk	**2,000**	**(838)**	**460**	**1,622**
Credit risk	**480**	**666**	**115**	**1,261**
Other risk [2]	**272**	**(78)**	**(4)**	**190**
Total sales and trading revenue	**$ 4,398**	**$ (102)**	**$ 681**	**$ 4,977**
	Three Months Ended March 31, 2022			
Interest rate risk	$ 589	$ 452	$ 69	$ 1,110
Foreign exchange risk	507	(17)	1	491
Equity risk	1,564	(60)	501	2,005
Credit risk	239	476	14	729
Other risk [2]	291	(33)	33	291
Total sales and trading revenue	$ 3,190	$ 818	$ 618	$ 4,626

(1) Represents amounts in investment and brokerage services and other income that are recorded in *Global Markets* and included in the definition of sales and trading revenue. Includes investment and brokerage services revenue of $529 million and $531 million for the three months ended March 31, 2023 and 2022.
(2) Includes commodity risk.

Credit Derivatives

The Corporation enters into credit derivatives primarily to facilitate client transactions and to manage credit risk exposures. Credit derivatives are classified as investment and non-investment grade based on the credit quality of the underlying referenced obligation. The Corporation considers ratings of BBB- or higher as investment grade. Non-investment grade includes non-rated credit derivative instruments. The Corporation discloses internal categorizations of investment grade and non-investment grade consistent with how risk is managed for these instruments. For more information on credit derivatives, see *Note 3 – Derivatives* to the Consolidated Financial Statements of the Corporation's 2022 Annual Report on Form 10-K.

Credit derivative instruments where the Corporation is the seller of credit protection and their expiration at March 31, 2023 and December 31, 2022 are summarized in the table below.

Credit Derivative Instruments

(Dollars in millions)	Less than One Year	One to Three Years	Three to Five Years	Over Five Years	Total
			March 31, 2023		
			Carrying Value		
Credit default swaps:					
Investment grade	$ 6	$ 32	$ 105	$ 42	$ 185
Non-investment grade	54	395	919	863	2,231
Total	60	427	1,024	905	2,416
Total return swaps/options:					
Investment grade	85	282	—	—	367
Non-investment grade	269	8	109	10	396
Total	354	290	109	10	763
Total credit derivatives	$ 414	$ 717	$ 1,133	$ 915	$ 3,179
Credit-related notes:					
Investment grade	$ —	$ —	$ 2	$ 824	$ 826
Non-investment grade	—	3	4	1,032	1,039
Total credit-related notes	$ —	$ 3	$ 6	$ 1,856	$ 1,865
			Maximum Payout/Notional		
Credit default swaps:					
Investment grade	$ 32,823	$ 67,196	$ 123,896	$ 37,078	$ 260,993
Non-investment grade	17,361	30,171	36,112	14,108	97,752
Total	50,184	97,367	160,008	51,186	358,745
Total return swaps/options:					
Investment grade	73,449	11,240	—	—	84,689
Non-investment grade	35,946	783	2,088	906	39,723
Total	109,395	12,023	2,088	906	124,412
Total credit derivatives	$ 159,579	$ 109,390	$ 162,096	$ 52,092	$ 483,157
			December 31, 2022		
			Carrying Value		
Credit default swaps:					
Investment grade	$ 2	$ 25	$ 133	$ 34	$ 194
Non-investment grade	120	516	870	697	2,203
Total	122	541	1,003	731	2,397
Total return swaps/options:					
Investment grade	55	336	—	—	391
Non-investment grade	332	9	132	10	483
Total	387	345	132	10	874
Total credit derivatives	$ 509	$ 886	$ 1,135	$ 741	$ 3,271
Credit-related notes:					
Investment grade	$ —	$ —	$ 19	$ 1,017	$ 1,036
Non-investment grade	—	7	6	1,035	1,048
Total credit-related notes	$ —	$ 7	$ 25	$ 2,052	$ 2,084
			Maximum Payout/Notional		
Credit default swaps:					
Investment grade	$ 34,670	$ 66,170	$ 93,237	$ 18,677	$ 212,754
Non-investment grade	15,229	29,629	30,891	6,662	82,411
Total	49,899	95,799	124,128	25,339	295,165
Total return swaps/options:					
Investment grade	38,722	10,407	—	—	49,129
Non-investment grade	32,764	500	2,054	897	36,215
Total	71,486	10,907	2,054	897	85,344
Total credit derivatives	$ 121,385	$ 106,706	$ 126,182	$ 26,236	$ 380,509

The notional amount represents the maximum amount payable by the Corporation for most credit derivatives. However, the Corporation does not monitor its exposure to credit derivatives based solely on the notional amount because this measure does not take into consideration the probability of occurrence. As such, the notional amount is not a reliable indicator of the Corporation's exposure to these contracts. Instead, a risk framework is used to define risk tolerances and establish limits so that certain credit risk-related losses occur within acceptable, predefined limits.

Credit-related notes in the table above include investments in securities issued by collateralized debt obligation (CDO), collateralized loan obligation (CLO) and credit-linked note vehicles. These instruments are primarily classified as trading securities. The carrying value of these instruments equals the Corporation's maximum exposure to loss. The Corporation is not obligated to make any payments to the entities under the terms of the securities owned.

Credit-related Contingent Features and Collateral

Certain of the Corporation's derivative contracts contain credit risk-related contingent features, primarily in the form of ISDA master netting agreements and credit support documentation that enhance the creditworthiness of these instruments compared to other obligations of the respective counterparty with whom the Corporation has transacted. These contingent features may be for the benefit of the Corporation as well as its counterparties with respect to changes in the Corporation's creditworthiness and the mark-to-market exposure under the derivative transactions. At March 31, 2023 and December 31, 2022, the Corporation held cash and securities collateral of $95.5 billion and $101.3 billion and posted cash and securities collateral of $83.1 billion and $81.2 billion in the normal course of business under derivative agreements, excluding cross-product margining agreements where clients are permitted to margin on a net basis for both derivative and secured financing arrangements.

In connection with certain OTC derivative contracts and other trading agreements, the Corporation can be required to provide additional collateral or to terminate transactions with certain counterparties in the event of a downgrade of the senior debt ratings of the Corporation or certain subsidiaries. The amount of additional collateral required depends on the contract and is usually a fixed incremental amount and/or the market value of the exposure. For more information on credit-related contingent features and collateral, see *Note 3 – Derivatives* to the Consolidated Financial Statements of the Corporation's 2022 Annual Report on Form 10-K.

At March 31, 2023, the amount of collateral, calculated based on the terms of the contracts, that the Corporation and certain subsidiaries could be required to post to counterparties but had not yet posted to counterparties was $3.2 billion, including $2.2 billion for Bank of America, National Association (BANA).

Some counterparties are currently able to unilaterally terminate certain contracts, or the Corporation or certain subsidiaries may be required to take other action such as find a suitable replacement or obtain a guarantee. At March 31, 2023 and December 31, 2022, the liability recorded for these derivative contracts was not significant.

The following table presents the amount of additional collateral that would have been contractually required by derivative contracts and other trading agreements at March 31, 2023 if the rating agencies had downgraded their long-term senior debt ratings for the Corporation or certain subsidiaries by one incremental notch and by an additional second incremental notch. The table also presents derivative liabilities that would be subject to unilateral termination by counterparties upon downgrade of the Corporation's or certain subsidiaries' long-term senior debt ratings.

Additional Collateral Required to be Posted and Derivative Liabilities Subject to Unilateral Termination Upon Downgrade at March 31, 2023

(Dollars in millions)	One Incremental Notch	Second Incremental Notch
Additional collateral required to be posted upon downgrade		
Bank of America Corporation	$ 162	$ 908
Bank of America, N.A. and subsidiaries [1]	70	647
Derivative liabilities subject to unilateral termination upon downgrade		
Derivative liabilities	$ 79	$ 600
Collateral posted	60	306

[1] Included in Bank of America Corporation collateral requirements in this table.

Valuation Adjustments on Derivatives

The table below presents credit valuation adjustment (CVA), DVA and FVA gains (losses) on derivatives (excluding the effect of any related hedge activities), which are recorded in market making and similar activities, for the three months ended March 31, 2023 and 2022. For more information on the valuation adjustments on derivatives, see *Note 3 – Derivatives* to the Consolidated Financial Statements of the Corporation's 2022 Annual Report on Form 10-K.

Valuation Adjustments Gains (Losses) on Derivatives [1]

	Three Months Ended March 31	
(Dollars in millions)	**2023**	2022
Derivative assets (CVA)	**$ 12**	$ (59)
Derivative assets/liabilities (FVA)	**(43)**	35
Derivative liabilities (DVA)	**2**	121

[1] At March 31, 2023 and December 31, 2022, cumulative CVA reduced the derivative assets balance by $506 million and $518 million, cumulative FVA reduced the net derivative balance by $97 million and $54 million, and cumulative DVA reduced the derivative liabilities balance by $508 million and $506 million.

NOTE 4 Securities

The table below presents the amortized cost, gross unrealized gains and losses, and fair value of available-for-sale (AFS) debt securities, other debt securities carried at fair value and held-to-maturity (HTM) debt securities at March 31, 2023 and December 31, 2022.

Debt Securities

(Dollars in millions)	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Fair Value	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Fair Value
	March 31, 2023				December 31, 2022			
Available-for-sale debt securities								
Mortgage-backed securities:								
Agency	**$ 24,726**	**$ 5**	**$ (1,479)**	**$ 23,252**	$ 25,204	$ 5	$ (1,767)	$ 23,442
Agency-collateralized mortgage obligations	**2,235**	**—**	**(200)**	**2,035**	2,452	—	(231)	2,221
Commercial	**6,890**	**31**	**(481)**	**6,440**	6,894	28	(515)	6,407
Non-agency residential [1]	**459**	**3**	**(55)**	**407**	461	15	(90)	386
Total mortgage-backed securities	**34,310**	**39**	**(2,215)**	**32,134**	35,011	48	(2,603)	32,456
U.S. Treasury and government agencies	**102,943**	**2**	**(1,438)**	**101,507**	160,773	18	(1,769)	159,022
Non-U.S. securities	**13,161**	**5**	**(46)**	**13,120**	13,455	4	(52)	13,407
Other taxable securities	**4,830**	**1**	**(85)**	**4,746**	4,728	1	(84)	4,645
Tax-exempt securities	**11,105**	**25**	**(227)**	**10,903**	11,518	19	(279)	11,258
Total available-for-sale debt securities	**166,349**	**72**	**(4,011)**	**162,410**	225,485	90	(4,787)	220,788
Other debt securities carried at fair value [2]	**10,081**	**63**	**(44)**	**10,100**	8,986	376	(156)	9,206
Total debt securities carried at fair value	**176,430**	**135**	**(4,055)**	**172,510**	234,471	466	(4,943)	229,994
Held-to-maturity debt securities								
Agency mortgage-backed securities	**494,998**	**—**	**(80,664)**	**414,334**	503,233	—	(87,319)	415,914
U.S. Treasury and government agencies	**121,609**	**—**	**(17,511)**	**104,098**	121,597	—	(20,259)	101,338
Other taxable securities	**7,921**	**—**	**(901)**	**7,020**	8,033	—	(1,018)	7,015
Total held-to-maturity debt securities	**624,528**	**—**	**(99,076)**	**525,452**	632,863	—	(108,596)	524,267
Total debt securities [3,4]	**$ 800,958**	**$ 135**	**$ (103,131)**	**$ 697,962**	$ 867,334	$ 466	$(113,539)	$ 754,261

(1) At both March 31, 2023 and December 31, 2022, the underlying collateral type included approximately 17 percent prime and 83 percent subprime.
(2) Primarily includes non-U.S. securities used to satisfy certain international regulatory requirements. Any changes in value are reported in market making and similar activities. For detail on the components, see *Note 14 – Fair Value Measurements*.
(3) Includes securities pledged as collateral of $174.4 billion and $104.5 billion at March 31, 2023 and December 31, 2022.
(4) The Corporation held debt securities from Fannie Mae (FNMA) and Freddie Mac (FHLMC) that each exceeded 10 percent of shareholders' equity, with an amortized cost of $285.7 billion and $174.0 billion, and a fair value of $238.6 billion and $144.2 billion at March 31, 2023, and an amortized cost of $290.5 billion and $176.7 billion, and a fair value of $239.6 billion and $144.6 billion at December 31, 2022.

At March 31, 2023, the accumulated net unrealized loss on AFS debt securities, excluding the amount related to debt securities previously transferred to held to maturity, included in accumulated OCI was $2.9 billion, net of the related income tax benefit of $985 million. At March 31, 2023 and December 31, 2022, nonperforming AFS debt securities held by the Corporation were not significant.

At March 31, 2023 and December 31, 2022, $759.7 billion and $826.5 billion of AFS and HTM debt securities, which were largely U.S. agency and U.S. Treasury securities, have a zero credit loss assumption. The ECL on the remaining $31.2 billion and $31.8 billion of AFS and HTM debt securities were insignificant. For more information on the zero credit loss assumption, see *Note 1 – Summary of Significant Accounting Principles* to the Consolidated Financial Statements of the Corporation's 2022 Annual Report on Form 10-K.

At March 31, 2023 and December 31, 2022, the Corporation held equity securities at an aggregate fair value of $574 million and $581 million and other equity securities, as valued under the measurement alternative, at a carrying value of $354 million and $340 million, both of which are included in other assets. At March 31, 2023 and December 31, 2022, the Corporation also held money market investments at a fair value of $921 million and $868 million, which are included in time deposits placed and other short-term investments.

The gross realized gains and losses on sales of AFS debt securities for the three months ended March 31, 2023 and 2022 are presented in the table below.

Gains and Losses on Sales of AFS Debt Securities

(Dollars in millions)	Three Months Ended March 31 2023	2022
Gross gains	**$ 96**	$ 37
Gross losses	**(306)**	(30)
Net gains (losses) on sales of AFS debt securities	**$ (210)**	$ 7
Income tax expense (benefit) attributable to realized net gains (losses) on sales of AFS debt securities	**$ (53)**	$ 2

The table below presents the fair value and the associated gross unrealized losses on AFS debt securities and whether these securities have had gross unrealized losses for less than 12 months or for 12 months or longer at March 31, 2023 and December 31, 2022.

Total AFS Debt Securities in a Continuous Unrealized Loss Position

	Less than Twelve Months		Twelve Months or Longer		Total	
(Dollars in millions)	Fair Value	Gross Unrealized Losses	Fair Value	Gross Unrealized Losses	Fair Value	Gross Unrealized Losses
	March 31, 2023					
Continuously unrealized loss-positioned AFS debt securities						
Mortgage-backed securities:						
Agency	**$ 10,106**	**$ (323)**	**$ 12,900**	**$ (1,156)**	**$ 23,006**	**$ (1,479)**
Agency-collateralized mortgage obligations	**130**	**(7)**	**1,873**	**(193)**	**2,003**	**(200)**
Commercial	**1,411**	**(40)**	**3,741**	**(441)**	**5,152**	**(481)**
Non-agency residential	**60**	**(6)**	**334**	**(49)**	**394**	**(55)**
Total mortgage-backed securities	**11,707**	**(376)**	**18,848**	**(1,839)**	**30,555**	**(2,215)**
U.S. Treasury and government agencies	**2,230**	**(74)**	**99,047**	**(1,364)**	**101,277**	**(1,438)**
Non-U.S. securities	**5,159**	**(28)**	**646**	**(18)**	**5,805**	**(46)**
Other taxable securities	**2,265**	**(29)**	**2,037**	**(56)**	**4,302**	**(85)**
Tax-exempt securities	**783**	**(13)**	**2,302**	**(214)**	**3,085**	**(227)**
Total AFS debt securities in a continuous unrealized loss position	**$ 22,144**	**$ (520)**	**$ 122,880**	**$ (3,491)**	**$ 145,024**	**$ (4,011)**
	December 31, 2022					
Continuously unrealized loss-positioned AFS debt securities						
Mortgage-backed securities:						
Agency	$ 18,759	$ (1,118)	$ 4,437	$ (649)	$ 23,196	$ (1,767)
Agency-collateralized mortgage obligations	1,165	(96)	1,022	(135)	2,187	(231)
Commercial	3,273	(150)	2,258	(365)	5,531	(515)
Non-agency residential	264	(65)	97	(25)	361	(90)
Total mortgage-backed securities	23,461	(1,429)	7,814	(1,174)	31,275	(2,603)
U.S. Treasury and government agencies	36,730	(308)	118,636	(1,461)	155,366	(1,769)
Non-U.S. securities	9,399	(34)	756	(18)	10,155	(52)
Other taxable securities	2,036	(16)	1,580	(68)	3,616	(84)
Tax-exempt securities	607	(28)	2,849	(251)	3,456	(279)
Total AFS debt securities in a continuous unrealized loss position	$ 72,233	$ (1,815)	$ 131,635	$ (2,972)	$ 203,868	$ (4,787)

The remaining contractual maturity distribution and yields of the Corporation's debt securities carried at fair value and HTM debt securities at March 31, 2023 are summarized in the table below. Actual duration and yields may differ as prepayments on the loans underlying the mortgage-backed securities (MBS) or other asset-backed securities (ABS) are passed through to the Corporation.

Maturities of Debt Securities Carried at Fair Value and Held-to-maturity Debt Securities

	Due in One Year or Less		Due after One Year through Five Years		Due after Five Years through Ten Years		Due after Ten Years		Total	
(Dollars in millions)	Amount	Yield (1)	Amount	Yield (1)	Amount	Yield (1)	Amount	Yield (1)	Amount	Yield (1)
Amortized cost of debt securities carried at fair value										
Mortgage-backed securities:										
Agency	$ —	— %	$ 3	5.67 %	$ 54	4.91 %	$ 24,669	3.36 %	$ 24,726	3.36 %
Agency-collateralized mortgage obligations	—	—	6	2.67	—	—	2,229	2.77	2,235	2.77
Commercial	14	1.93	789	3.07	4,555	2.22	1,545	2.24	6,903	2.32
Non-agency residential	—	—	—	—	—	—	741	9.63	741	9.63
Total mortgage-backed securities	14	1.93	798	3.08	4,609	2.25	29,184	3.41	34,605	3.25
U.S. Treasury and government agencies	1,914	3.36	57,616	2.93	44,698	2.36	38	3.63	104,266	2.69
Non-U.S. securities	18,460	3.20	2,905	4.79	71	7.57	188	7.31	21,624	3.47
Other taxable securities	1,341	5.16	2,829	5.44	453	3.72	207	4.39	4,830	5.16
Tax-exempt securities	670	3.07	4,679	3.67	1,919	3.83	3,837	4.16	11,105	3.83
Total amortized cost of debt securities carried at fair value	**$ 22,399**	**3.33**	**$ 68,827**	**3.17**	**$ 51,750**	**2.42**	**$ 33,454**	**3.53**	**$ 176,430**	**3.04**
Amortized cost of HTM debt securities										
Agency mortgage-backed securities	$ —	— %	$ —	— %	$ 13	2.77 %	$ 494,985	2.12 %	$ 494,998	2.12 %
U.S. Treasury and government agencies	—	—	4,548	1.80	117,061	1.37	—	—	121,609	1.39
Other taxable securities	39	9.16	1,289	2.43	273	3.28	6,320	2.48	7,921	2.53
Total amortized cost of HTM debt securities	**$ 39**	**9.16**	**$ 5,837**	**1.94**	**$ 117,347**	**1.37**	**$ 501,305**	**2.12**	**$ 624,528**	**1.98**
Debt securities carried at fair value										
Mortgage-backed securities:										
Agency	$ —		$ 3		$ 54		$ 23,195		$ 23,252	
Agency-collateralized mortgage obligations	—		6		—		2,029		2,035	
Commercial	14		770		4,334		1,334		6,452	
Non-agency residential	—		2		—		705		707	
Total mortgage-backed securities	14		781		4,388		27,263		32,446	
U.S. Treasury and government agencies	1,911		56,952		43,932		35		102,830	
Non-U.S. securities	18,457		2,869		71		185		21,582	
Other taxable securities	1,337		2,795		418		199		4,749	
Tax-exempt securities	669		4,661		1,907		3,666		10,903	
Total debt securities carried at fair value	**$ 22,388**		**$ 68,058**		**$ 50,716**		**$ 31,348**		**$ 172,510**	
Fair value of HTM debt securities										
Agency mortgage-backed securities	$ —		$ —		$ 12		$ 414,322		$ 414,334	
U.S. Treasury and government agencies	—		4,235		99,863		—		104,098	
Other taxable securities	38		1,217		261		5,504		7,020	
Total fair value of HTM debt securities	**$ 38**		**$ 5,452**		**$ 100,136**		**$ 419,826**		**$ 525,452**	

(1) The weighted-average yield is computed based on a constant effective interest rate over the contractual life of each security. The average yield considers the contractual coupon and the amortization of premiums and accretion of discounts, excluding the effect of related hedging derivatives.

NOTE 5 Outstanding Loans and Leases and Allowance for Credit Losses

The following tables present total outstanding loans and leases and an aging analysis for the Consumer Real Estate, Credit Card and Other Consumer, and Commercial portfolio segments, by class of financing receivables, at March 31, 2023 and December 31, 2022.

(Dollars in millions)	30-59 Days Past Due [1]	60-89 Days Past Due [1]	90 Days or More Past Due [1]	Total Past Due 30 Days or More	Total Current or Less Than 30 Days Past Due [1]	Loans Accounted for Under the Fair Value Option	Total Outstandings
	March 31, 2023						
Consumer real estate							
Residential mortgage	$ 938	$ 255	$ 894	$ 2,087	$ 226,740		$ 228,827
Home equity	93	34	189	316	25,552		25,868
Credit card and other consumer							
Credit card	500	346	828	1,674	90,795		92,469
Direct/Indirect consumer [2]	206	78	61	345	104,195		104,540
Other consumer	—	—	—	—	120		120
Total consumer	1,737	713	1,972	4,422	447,402		451,824
Consumer loans accounted for under the fair value option [3]						$ 334	334
Total consumer loans and leases	1,737	713	1,972	4,422	447,402	334	452,158
Commercial							
U.S. commercial	892	156	281	1,329	359,326		360,655
Non-U.S. commercial	124	33	133	290	124,537		124,827
Commercial real estate [4]	257	15	114	386	72,665		73,051
Commercial lease financing	46	12	9	67	13,381		13,448
U.S. small business commercial [5]	109	68	262	439	17,765		18,204
Total commercial	1,428	284	799	2,511	587,674		590,185
Commercial loans accounted for under the fair value option [3]						4,063	4,063
Total commercial loans and leases	1,428	284	799	2,511	587,674	4,063	594,248
Total loans and leases [6]	$ 3,165	$ 997	$ 2,771	$ 6,933	$1,035,076	$ 4,397	$1,046,406
Percentage of outstandings	0.30 %	0.10 %	0.26 %	0.66 %	98.92 %	0.42 %	100.00 %

(1) Consumer real estate loans 30-59 days past due includes fully-insured loans of $172 million and nonperforming loans of $157 million. Consumer real estate loans 60-89 days past due includes fully-insured loans of $69 million and nonperforming loans of $103 million. Consumer real estate loans 90 days or more past due includes fully-insured loans of $338 million and nonperforming loans of $745 million. Consumer real estate loans current or less than 30 days past due includes $1.6 billion, and direct/indirect consumer includes $29 million of nonperforming loans.
(2) Total outstandings primarily includes auto and specialty lending loans and leases of $52.7 billion, U.S. securities-based lending loans of $48.1 billion and non-U.S. consumer loans of $2.8 billion.
(3) Consumer loans accounted for under the fair value option includes residential mortgage loans of $72 million and home equity loans of $262 million. Commercial loans accounted for under the fair value option includes U.S. commercial loans of $2.2 billion and non-U.S. commercial loans of $1.9 billion. For more information, see *Note 14 – Fair Value Measurements* and *Note 15 – Fair Value Option*.
(4) Total outstandings includes U.S. commercial real estate loans of $67.2 billion and non-U.S. commercial real estate loans of $5.8 billion.
(5) Includes Paycheck Protection Program loans.
(6) Total outstandings includes loans and leases pledged as collateral of $43.5 billion. The Corporation also pledged $243.8 billion of loans with no related outstanding borrowings to secure potential borrowing capacity with the Federal Reserve Bank and Federal Home Loan Bank.

(Dollars in millions)	30-59 Days Past Due [1]	60-89 Days Past Due [1]	90 Days or More Past Due [1]	Total Past Due 30 Days or More	Total Current or Less Than 30 Days Past Due [1]	Loans Accounted for Under the Fair Value Option	Total Outstandings
	December 31, 2022						
Consumer real estate							
Residential mortgage	$ 1,077	$ 245	$ 945	$ 2,267	$ 227,403		$ 229,670
Home equity	88	32	211	331	26,232		26,563
Credit card and other consumer							
Credit card	466	322	717	1,505	91,916		93,421
Direct/Indirect consumer [2]	204	59	45	308	105,928		106,236
Other consumer	—	—	—	—	156		156
Total consumer	1,835	658	1,918	4,411	451,635		456,046
Consumer loans accounted for under the fair value option [3]						$ 339	339
Total consumer loans and leases	1,835	658	1,918	4,411	451,635	339	456,385
Commercial							
U.S. commercial	827	288	330	1,445	357,036		358,481
Non-U.S. commercial	317	59	144	520	123,959		124,479
Commercial real estate [4]	409	81	77	567	69,199		69,766
Commercial lease financing	49	9	11	69	13,575		13,644
U.S. small business commercial [5]	107	63	356	526	17,034		17,560
Total commercial	1,709	500	918	3,127	580,803		583,930
Commercial loans accounted for under the fair value option [3]						5,432	5,432
Total commercial loans and leases	1,709	500	918	3,127	580,803	5,432	589,362
Total loans and leases [6]	$ 3,544	$ 1,158	$ 2,836	$ 7,538	$1,032,438	$ 5,771	$1,045,747
Percentage of outstandings	0.34 %	0.11 %	0.27 %	0.72 %	98.73 %	0.55 %	100.00 %

(1) Consumer real estate loans 30-59 days past due includes fully-insured loans of $184 million and nonperforming loans of $155 million. Consumer real estate loans 60-89 days past due includes fully-insured loans of $75 million and nonperforming loans of $88 million. Consumer real estate loans 90 days or more past due includes fully-insured loans of $368 million and nonperforming loans of $788 million. Consumer real estate loans current or less than 30 days past due includes $1.6 billion, and direct/indirect consumer includes $27 million of nonperforming loans.
(2) Total outstandings primarily includes auto and specialty lending loans and leases of $51.8 billion, U.S. securities-based lending loans of $50.4 billion and non-U.S. consumer loans of $3.0 billion.
(3) Consumer loans accounted for under the fair value option includes residential mortgage loans of $71 million and home equity loans of $268 million. Commercial loans accounted for under the fair value option includes U.S. commercial loans of $2.9 billion and non-U.S. commercial loans of $2.5 billion. For more information, see *Note 14 – Fair Value Measurements* and *Note 15 – Fair Value Option*.
(4) Total outstandings includes U.S. commercial real estate loans of $64.9 billion and non-U.S. commercial real estate loans of $4.8 billion.
(5) Includes Paycheck Protection Program loans.
(6) Total outstandings includes loans and leases pledged as collateral of $18.5 billion. The Corporation also pledged $163.6 billion of loans with no related outstanding borrowings to secure potential borrowing capacity with the Federal Reserve Bank and Federal Home Loan Bank.

The Corporation has entered into long-term credit protection agreements with FNMA and FHLMC on loans totaling $9.3 billion and $9.5 billion at March 31, 2023 and December 31, 2022, providing full credit protection on residential mortgage loans that become severely delinquent. All of these loans are individually insured, and therefore the Corporation does not record an allowance for credit losses related to these loans.

Nonperforming Loans and Leases

Commercial nonperforming loans increased to $1.2 billion at March 31, 2023 from $1.1 billion at December 31, 2022, driven by the commercial real estate office property type. Consumer nonperforming loans decreased to $2.7 billion at March 31, 2023 from $2.8 billion at December 31, 2022 primarily due to decreases from consumer real estate loans as returns to performing status and paydowns more than offset new additions.

The following table presents the Corporation's nonperforming loans and leases and loans accruing past due 90 days or more at March 31, 2023 and December 31, 2022. Nonperforming LHFS are excluded from nonperforming loans and leases as they are recorded at either fair value or the lower of cost or fair value. For more information on the criteria for classification as nonperforming, see *Note 1 – Summary of Significant Accounting Principles* to the Consolidated Financial Statements of the Corporation's 2022 Annual Report on Form 10-K.

Credit Quality

(Dollars in millions)	Nonperforming Loans and Leases March 31 2023	Nonperforming Loans and Leases December 31 2022	Accruing Past Due 90 Days or More March 31 2023	Accruing Past Due 90 Days or More December 31 2022
Residential mortgage [1]	**$ 2,125**	$ 2,167	**$ 338**	$ 368
With no related allowance [2]	**1,935**	1,973	**—**	—
Home equity [1]	**488**	510	**—**	—
With no related allowance [2]	**396**	393	**—**	—
Credit Card	**n/a**	n/a	**828**	717
Direct/indirect consumer	**101**	77	**2**	2
Total consumer	**2,714**	2,754	**1,168**	1,087
U.S. commercial	**559**	553	**112**	190
Non-U.S. commercial	**125**	212	**92**	25
Commercial real estate	**502**	271	**35**	46
Commercial lease financing	**4**	4	**6**	8
U.S. small business commercial	**14**	14	**261**	355
Total commercial	**1,204**	1,054	**506**	624
Total nonperforming loans	**$ 3,918**	$ 3,808	**$ 1,674**	$ 1,711
Percentage of outstanding loans and leases	**0.38 %**	0.37 %	**0.16 %**	0.16 %

[1] Residential mortgage loans accruing past due 90 days or more are fully-insured loans. At March 31, 2023 and December 31, 2022 residential mortgage included $232 million and $260 million of loans on which interest had been curtailed by the Federal Housing Administration (FHA), and therefore were no longer accruing interest, although principal was still insured, and $106 million and $108 million of loans on which interest was still accruing.

[2] Primarily relates to loans for which the estimated fair value of the underlying collateral less any costs to sell is greater than the amortized cost of the loans as of the reporting date.

n/a = not applicable

Credit Quality Indicators

The Corporation monitors credit quality within its Consumer Real Estate, Credit Card and Other Consumer, and Commercial portfolio segments based on primary credit quality indicators. For more information on the portfolio segments, see *Note 1 – Summary of Significant Accounting Principles* to the Consolidated Financial Statements of the Corporation's 2022 Annual Report on Form 10-K. Within the Consumer Real Estate portfolio segment, the primary credit quality indicators are refreshed loan-to-value (LTV) and refreshed Fair Isaac Corporation (FICO) score. Refreshed LTV measures the carrying value of the loan as a percentage of the value of the property securing the loan, refreshed quarterly. Home equity loans are evaluated using combined loan-to-value (CLTV), which measures the carrying value of the Corporation's loan and available line of credit combined with any outstanding senior liens against the property as a percentage of the value of the property securing the loan, refreshed quarterly. FICO score measures the creditworthiness of the borrower based on the financial obligations of the borrower and the borrower's credit history. FICO scores are typically refreshed quarterly or more frequently. Certain borrowers (e.g., borrowers that have had debts discharged in a bankruptcy proceeding) may not have their FICO scores updated. FICO scores are also a primary credit quality indicator for the Credit Card and Other Consumer portfolio segment and the business card portfolio within U.S. small business commercial. Within the Commercial portfolio segment, loans are evaluated using the internal classifications of pass rated or reservable criticized as the primary credit quality indicators. The term reservable criticized refers to those commercial loans that are internally classified or listed by the Corporation as Special Mention, Substandard or Doubtful, which are asset quality categories defined by regulatory authorities. These assets have an elevated level of risk and may have a high probability of default or total loss. Pass rated refers to all loans not considered reservable criticized. In addition to these primary credit quality indicators, the Corporation uses other credit quality indicators for certain types of loans.

The following tables present certain credit quality indicators and gross charge-offs for the Corporation's Consumer Real Estate, Credit Card and Other Consumer, and Commercial portfolio segments by year of origination, except for revolving loans and revolving loans that were modified into term loans, which are shown on an aggregate basis at March 31, 2023.

Residential Mortgage – Credit Quality Indicators By Vintage

(Dollars in millions)	Total as of March 31, 2023	Term Loans by Origination Year 2023	2022	2021	2020	2019	Prior
Residential Mortgage							
Refreshed LTV							
Less than or equal to 90 percent	**$ 214,159**	$ 3,115	$ 39,127	$ 79,059	$ 37,281	$ 18,552	$ 37,025
Greater than 90 percent but less than or equal to 100 percent	**2,352**	196	1,404	612	96	19	25
Greater than 100 percent	**934**	105	479	240	46	16	48
Fully-insured loans	**11,382**	44	464	3,624	3,033	924	3,293
Total Residential Mortgage	**$ 228,827**	$ 3,460	$ 41,474	$ 83,535	$ 40,456	$ 19,511	$ 40,391
Residential Mortgage							
Refreshed FICO score							
Less than 620	**$ 2,112**	$ 21	$ 385	$ 519	$ 357	$ 109	$ 721
Greater than or equal to 620 and less than 680	**4,885**	68	1,082	1,266	818	327	1,324
Greater than or equal to 680 and less than 740	**23,704**	309	5,033	7,482	4,046	2,033	4,801
Greater than or equal to 740	**186,744**	3,018	34,510	70,644	32,202	16,118	30,252
Fully-insured loans	**11,382**	44	464	3,624	3,033	924	3,293
Total Residential Mortgage	**$ 228,827**	$ 3,460	$ 41,474	$ 83,535	$ 40,456	$ 19,511	$ 40,391
Gross charge-offs	**$ 8**	$ —	$ 3	$ 1	$ 1	$ —	$ 3

Home Equity - Credit Quality Indicators

(Dollars in millions)	Total	Home Equity Loans and Reverse Mortgages [1]	Revolving Loans	Revolving Loans Converted to Term Loans
	March 31, 2023			
Home Equity				
Refreshed LTV				
Less than or equal to 90 percent	**$ 25,692**	**$ 1,238**	**$ 19,627**	**$ 4,827**
Greater than 90 percent but less than or equal to 100 percent	**72**	**21**	**35**	**16**
Greater than 100 percent	**104**	**36**	**38**	**30**
Total Home Equity	**$ 25,868**	**$ 1,295**	**$ 19,700**	**$ 4,873**
Home Equity				
Refreshed FICO score				
Less than 620	**$ 677**	**$ 167**	**$ 197**	**$ 313**
Greater than or equal to 620 and less than 680	**1,138**	**144**	**504**	**490**
Greater than or equal to 680 and less than 740	**4,186**	**292**	**2,728**	**1,166**
Greater than or equal to 740	**19,867**	**692**	**16,271**	**2,904**
Total Home Equity	**$ 25,868**	**$ 1,295**	**$ 19,700**	**$ 4,873**
Gross charge-offs	**$ 6**	**$ 1**	**$ 3**	**$ 2**

(1) Includes reverse mortgages of $893 million and home equity loans of $402 million, which are no longer originated.

Credit Card and Direct/Indirect Consumer – Credit Quality Indicators By Vintage

(Dollars in millions)	Direct/Indirect: Total Direct/Indirect as of March 31, 2023	Revolving Loans	Term Loans by Origination Year 2023	2022	2021	2020	2019	Prior	Credit Card: Total Credit Card as of March 31, 2023	Revolving Loans	Revolving Loans Converted to Term Loans [1]
Refreshed FICO score											
Less than 620	**$ 940**	$ 12	$ 32	$ 308	$ 318	$ 113	$ 76	$ 81	**$ 4,268**	$ 4,052	$ 216
Greater than or equal to 620 and less than 680	**2,463**	11	245	1,022	707	225	121	132	**10,732**	10,526	206
Greater than or equal to 680 and less than 740	**8,693**	49	1,059	3,563	2,375	821	422	404	**31,858**	31,673	185
Greater than or equal to 740	**40,766**	77	5,101	15,273	10,501	4,837	2,527	2,450	**45,611**	45,566	45
Other internal credit metrics [2,3]	**51,678**	50,942	52	181	191	63	59	190	**—**	—	—
Total credit card and other consumer	**$ 104,540**	$ 51,091	$ 6,489	$ 20,347	$ 14,092	$ 6,059	$ 3,205	$ 3,257	**$ 92,469**	$ 91,817	$ 652
Gross charge-offs	**$ 40**	$ 1	$ —	$ 17	$ 11	$ 4	$ 2	$ 5	**$ 650**	$ 633	**$ 17**

(1) Represents loans that were modified into term loans.
(2) Other internal credit metrics may include delinquency status, geography or other factors.
(3) Direct/indirect consumer includes $50.9 billion of securities-based lending, which is typically supported by highly liquid collateral with market value greater than or equal to the outstanding loan balance and therefore has minimal credit risk at March 31, 2023.

Commercial – Credit Quality Indicators By Vintage (1)

(Dollars in millions)	Total as of March 31, 2023	Term Loans – Amortized Cost Basis by Origination Year 2023	2022	2021	2020	2019	Prior	Revolving Loans
U.S. Commercial								
Risk ratings								
Pass rated	**$ 350,224**	$ 9,255	$ 55,496	$ 33,787	$ 17,310	$ 15,264	$ 37,296	$ 181,816
Reservable criticized	**10,431**	49	605	803	582	885	1,925	5,582
Total U.S. Commercial	**$ 360,655**	$ 9,304	$ 56,101	$ 34,590	$ 17,892	$ 16,149	$ 39,221	$ 187,398
Gross charge-offs	**$ 59**	$ —	$ 3	$ 18	$ —	$ —	$ 5	$ 33
Non-U.S. Commercial								
Risk ratings								
Pass rated	**$ 122,545**	$ 4,204	$ 19,937	$ 18,102	$ 4,634	$ 3,736	$ 6,585	$ 65,347
Reservable criticized	**2,282**	81	144	321	277	254	225	980
Total Non-U.S. Commercial	**$ 124,827**	$ 4,285	$ 20,081	$ 18,423	$ 4,911	$ 3,990	$ 6,810	$ 66,327
Gross charge-offs	**$ 23**	$ —	$ —	$ 8	$ 7	$ 1	$ —	$ 7
Commercial Real Estate								
Risk ratings								
Pass rated	**$ 67,512**	$ 1,856	$ 16,836	$ 13,350	$ 5,281	$ 8,861	$ 12,414	$ 8,914
Reservable criticized	**5,539**	—	11	829	538	1,737	2,217	207
Total Commercial Real Estate	**$ 73,051**	$ 1,856	$ 16,847	$ 14,179	$ 5,819	$ 10,598	$ 14,631	$ 9,121
Gross charge-offs	**$ 24**	$ —	$ —	$ —	$ —	$ 13	$ 11	$ —
Commercial Lease Financing								
Risk ratings								
Pass rated	**$ 13,227**	$ 613	$ 3,208	$ 2,576	$ 1,775	$ 1,428	$ 3,627	$ —
Reservable criticized	**221**	—	20	43	17	36	105	—
Total Commercial Lease Financing	**$ 13,448**	$ 613	$ 3,228	$ 2,619	$ 1,792	$ 1,464	$ 3,732	$ —
Gross charge-offs	**$ —**	$ —	$ —	$ —	$ —	$ —	$ —	$ —
U.S. Small Business Commercial (2)								
Risk ratings								
Pass rated	**$ 8,653**	$ 453	$ 1,806	$ 1,833	$ 1,209	$ 826	$ 2,401	$ 125
Reservable criticized	**352**	—	22	52	52	72	151	3
Total U.S. Small Business Commercial	**$ 9,005**	$ 453	$ 1,828	$ 1,885	$ 1,261	$ 898	$ 2,552	$ 128
Gross charge-offs	**$ 13**	$ —	$ —	$ —	$ 8	$ 1	$ 1	$ 3
Total	**$ 580,986**	$ 16,511	$ 98,085	$ 71,696	$ 31,675	$ 33,099	$ 66,946	$ 262,974
Total gross charge-offs	**$ 119**	$ —	$ 3	$ 26	$ 15	$ 15	$ 17	$ 43

(1) Excludes $4.1 billion of loans accounted for under the fair value option at March 31, 2023.
(2) Excludes U.S. Small Business Card loans of $9.2 billion. Refreshed FICO scores for this portfolio are $360 million for less than 620; $931 million for greater than or equal to 620 and less than 680; $2.5 billion for greater than or equal to 680 and less than 740; and $5.4 billion greater than or equal to 740. Excludes U.S. Small Business Card loans gross charge-offs of $62 million.

The following tables present certain credit quality indicators for the Corporation's Consumer Real Estate, Credit Card and Other Consumer, and Commercial portfolio segments by year of origination, except for revolving loans and revolving loans that were modified into term loans, which are shown on an aggregate basis at December 31, 2022.

Residential Mortgage – Credit Quality Indicators By Vintage

		Term Loans by Origination Year					
(Dollars in millions)	Total as of December 31, 2022	2022	2021	2020	2019	2018	Prior
Residential Mortgage							
Refreshed LTV							
Less than or equal to 90 percent	$ 215,713	$ 39,625	$ 81,437	$ 37,228	$ 18,980	$ 5,734	$ 32,709
Greater than 90 percent but less than or equal to 100 percent	1,615	950	530	93	15	8	19
Greater than 100 percent	648	374	169	43	15	8	39
Fully-insured loans	11,694	580	3,667	3,102	949	156	3,240
Total Residential Mortgage	$ 229,670	$ 41,529	$ 85,803	$ 40,466	$ 19,959	$ 5,906	$ 36,007
Residential Mortgage							
Refreshed FICO score							
Less than 620	$ 2,156	$ 377	$ 518	$ 373	$ 124	$ 84	$ 680
Greater than or equal to 620 and less than 680	4,978	1,011	1,382	840	329	233	1,183
Greater than or equal to 680 and less than 740	25,444	5,411	8,290	4,369	2,187	830	4,357
Greater than or equal to 740	185,398	34,150	71,946	31,782	16,370	4,603	26,547
Fully-insured loans	11,694	580	3,667	3,102	949	156	3,240
Total Residential Mortgage	$ 229,670	$ 41,529	$ 85,803	$ 40,466	$ 19,959	$ 5,906	$ 36,007
Gross charge-offs	$ 161	$ —	$ 6	$ 5	$ 6	$ 1	$ 143

Home Equity - Credit Quality Indicators

(Dollars in millions)	Total	Home Equity Loans and Reverse Mortgages [1]	Revolving Loans	Revolving Loans Converted to Term Loans
	December 31, 2022			
Home Equity				
Refreshed LTV				
Less than or equal to 90 percent	$ 26,395	$ 1,304	$ 19,960	$ 5,131
Greater than 90 percent but less than or equal to 100 percent	62	20	24	18
Greater than 100 percent	106	37	35	34
Total Home Equity	$ 26,563	$ 1,361	$ 20,019	$ 5,183
Home Equity				
Refreshed FICO score				
Less than 620	$ 683	$ 166	$ 189	$ 328
Greater than or equal to 620 and less than 680	1,190	152	507	531
Greater than or equal to 680 and less than 740	4,321	312	2,747	1,262
Greater than or equal to 740	20,369	731	16,576	3,062
Total Home Equity	$ 26,563	$ 1,361	$ 20,019	$ 5,183
Gross charge-offs	$ 45	$ 5	$ 24	$ 16

(1) Includes reverse mortgages of $937 million and home equity loans of $424 million, which are no longer originated.

Credit Card and Direct/Indirect Consumer – Credit Quality Indicators By Vintage

	Direct/Indirect									Credit Card		
			Term Loans by Origination Year									
(Dollars in millions)	Total Direct/ Indirect as of December 31, 2022	Revolving Loans	2022	2021	2020	2019	2018	Prior	Total Credit Card as of December 31, 2022	Revolving Loans	Revolving Loans Converted to Term Loans [1]
Refreshed FICO score											
Less than 620	$ 847	$ 12	$ 237	$ 301	$ 113	$ 84	$ 43	$ 57	$ 4,056	$ 3,866	$ 190
Greater than or equal to 620 and less than 680	2,521	12	1,108	816	269	150	69	97	10,994	10,805	189
Greater than or equal to 680 and less than 740	8,895	52	4,091	2,730	992	520	214	296	32,186	32,017	169
Greater than or equal to 740	39,679	83	16,663	11,392	5,630	2,992	1,236	1,683	46,185	46,142	43
Other internal credit metrics [2, 3]	54,294	53,404	259	305	70	57	40	159	—	—	—
Total credit card and other consumer	$ 106,236	$ 53,563	$ 22,358	$ 15,544	$ 7,074	$ 3,803	$ 1,602	$ 2,292	$ 93,421	$ 92,830	$ 591
Gross charge-offs	$ 232	$ 7	$ 31	$ 79	$ 34	$ 27	$ 14	$ 40	$ 1,985	$ 1,909	$ 76

(1) Represents TDRs that were modified into term loans.
(2) Other internal credit metrics may include delinquency status, geography or other factors.
(3) Direct/indirect consumer includes $53.4 billion of securities-based lending, which is typically supported by highly liquid collateral with market value greater than or equal to the outstanding loan balance and therefore has minimal credit risk at December 31, 2022.

Commercial – Credit Quality Indicators By Vintage [1]

		Term Loans						
		Amortized Cost Basis by Origination Year						
(Dollars in millions)	Total as of December 31, 2022	2022	2021	2020	2019	2018	Prior	Revolving Loans
U.S. Commercial								
Risk ratings								
Pass rated	$ 348,447	$ 61,200	$ 39,717	$ 18,609	$ 16,566	$ 8,749	$ 30,282	$ 173,324
Reservable criticized	10,034	278	794	697	884	1,202	856	5,323
Total U.S. Commercial	$ 358,481	$ 61,478	$ 40,511	$ 19,306	$ 17,450	$ 9,951	$ 31,138	$ 178,647
Gross charge-offs	$ 151	$ 2	$ 24	$ 24	$ 9	$ 6	$ 13	$ 73
Non-U.S. Commercial								
Risk ratings								
Pass rated	$ 121,890	$ 24,839	$ 19,098	$ 5,183	$ 3,882	$ 2,423	$ 4,697	$ 61,768
Reservable criticized	2,589	45	395	331	325	98	475	920
Total Non-U.S. Commercial	$ 124,479	$ 24,884	$ 19,493	$ 5,514	$ 4,207	$ 2,521	$ 5,172	$ 62,688
Gross charge-offs	$ 41	$ —	$ 3	$ 1	$ —	$ 37	$ —	$ —
Commercial Real Estate								
Risk ratings								
Pass rated	$ 64,619	$ 15,290	$ 13,089	$ 5,756	$ 9,013	$ 4,384	$ 8,606	$ 8,481
Reservable criticized	5,147	11	837	545	1,501	1,151	1,017	85
Total Commercial Real Estate	$ 69,766	$ 15,301	$ 13,926	$ 6,301	$ 10,514	$ 5,535	$ 9,623	$ 8,566
Gross charge-offs	$ 75	$ —	$ —	$ 6	$ —	$ 26	$ 43	$ —
Commercial Lease Financing								
Risk ratings								
Pass rated	$ 13,404	$ 3,255	$ 2,757	$ 1,955	$ 1,578	$ 1,301	$ 2,558	$ —
Reservable criticized	240	9	35	12	71	50	63	—
Total Commercial Lease Financing	$ 13,644	$ 3,264	$ 2,792	$ 1,967	$ 1,649	$ 1,351	$ 2,621	$ —
Gross charge-offs	$ 8	$ —	$ 4	$ —	$ 4	$ —	$ —	$ —
U.S. Small Business Commercial [2]								
Risk ratings								
Pass rated	$ 8,726	$ 1,825	$ 1,953	$ 1,408	$ 864	$ 624	$ 1,925	$ 127
Reservable criticized	329	11	35	48	76	51	105	3
Total U.S. Small Business Commercial	$ 9,055	$ 1,836	$ 1,988	$ 1,456	$ 940	$ 675	$ 2,030	$ 130
Gross charge-offs	$ 31	$ —	$ 1	$ 11	$ 4	$ 1	$ 6	$ 8
Total	$ 575,425	$ 106,763	$ 78,710	$ 34,544	$ 34,760	$ 20,033	$ 50,584	$ 250,031
Total gross charge-offs	$ 306	$ 2	$ 32	$ 42	$ 17	$ 70	$ 62	$ 81

(1) Excludes $5.4 billion of loans accounted for under the fair value option at December 31, 2022.
(2) Excludes U.S. Small Business Card loans of $8.5 billion. Refreshed FICO scores for this portfolio are $297 million for less than 620; $859 million for greater than or equal to 620 and less than 680; $2.4 billion for greater than or equal to 680 and less than 740; and $5.0 billion greater than or equal to 740. Excludes U.S. Small Business Card loans gross charge-offs of $172 million.

During the three months ended March 31, 2023, commercial reservable criticized utilized exposure increased to $19.8 billion at March 31, 2023 from $19.3 billion (to 3.17 percent from 3.12 percent of total commercial reservable utilized exposure) at December 31, 2022, primarily driven by our U.S. commercial and industrial portfolio as well as commercial real estate.

Loan Modifications to Borrowers in Financial Difficulty

As part of its credit risk management, the Corporation may modify a loan agreement with a borrower experiencing financial difficulties through a refinancing or restructuring of the borrower's loan agreement (modification programs).

Consumer Real Estate

The following modification programs are offered for consumer real estate loans to borrowers experiencing financial difficulties. These modifications represented 0.09 percent and 0.15 percent of outstanding residential mortgage and home equity loans at March 31, 2023.

Forbearance and Other Payment Plans: Forbearance plans generally consist of the Corporation suspending the borrower's payments for a defined period with those payments then due at the conclusion of the forbearance period. The aging status of a loan is generally frozen when it enters into a forbearance plan. Alternatively, the Corporation may offer the borrower a payment plan, which allows the borrower to repay past due amounts through payments over a defined period. At March 31, 2023, the amortized cost of residential mortgage and home equity loans that were modified through these plans during the three months ended March 31, 2023 was $158 million and $30 million. The weighted-average duration of these modifications was 8.2 months and 8.9 months. The total forborne payments for these modifications was $7 million and $3 million for residential mortgage and home equity loans. If a borrower is unable to fulfill their obligations under the forbearance plans, they may be offered a trial or permanent modification.

Trial Modifications: Trial modification plans generally consist of the Corporation offering a borrower modified loan terms that reduce their contractual payments temporarily over a three-to-four-month trial period. If the customer successfully makes the modified payments during the trial period and formally accepts the modified terms, the modified loan terms become permanent. At March 31, 2023, the amortized cost of residential mortgage and home equity loans entering trial modifications during the three months ended March 31, 2023 was $21 million and $9 million.

Permanent Modifications: Permanent modifications include borrowers that have completed a trial modification and have had their contractual payment terms permanently modified, as well as borrowers that proceed directly to a permanent modification without a trial period. In a permanent modification, the borrower's payment terms are typically modified in more than one manner but generally include a term extension and an interest rate reduction. At times, the permanent modification may also include principal forgiveness and/or a deferral of past due principal and interest amounts to the end of the loan term. The combinations utilized are based on modifying the terms that give the borrower an improved ability to meet the contractual obligations. At March 31, 2023, the amortized cost of residential mortgage and home equity loans that were granted a permanent modification during the three months ended March 31, 2023 was $47 million and $10 million. The term extensions granted for residential mortgage and home equity permanent modifications vary widely and can be up to 30 years, but are mostly in the range of 1 to 10 years and 1 to 15 years. The weighted-average term extension of permanent modifications for residential mortgage and home equity loans was 7.7 years and 12.1 years, while the weighted-average interest rate reduction was 1.50 percent and 2.37 percent. Principal forgiveness and payment deferrals were insignificant for the three months ended March 31, 2023.

For consumer real estate borrowers in financial difficulty that received a forbearance, trial or permanent modification, there were no commitments to lend additional funds at March 31, 2023. Borrowers with a home equity line of credit that received a forbearance plan could have all or a portion of their lines reinstated in the future if they cure their payment default and meet certain Bank conditions.

Chapter 7 Discharges: If a borrower's consumer real estate obligation is discharged in a Chapter 7 bankruptcy proceeding, the contractual payment terms of the loan are not modified, although they can no longer be enforced against the individual borrower. The Corporation's ability to collect amounts due on the loan is limited to enforcement against the property through the foreclosure and sale of the collateral. The Corporation will only pursue foreclosure upon default by the borrower, and otherwise will recover pursuant to the loan terms or at the time of a sale. Residential mortgage and home equity loans that were granted a Chapter 7 discharge were insignificant for the three months ended March 31, 2023.

The Corporation tracks the performance of modified loans to assess effectiveness of modification programs. Defaults of modified consumer real estate loans since January 1, 2023 were insignificant during the three months ended March 31, 2023. The table below provides aging information as of March 31, 2023 for consumer real estate loans modified since January 1, 2023.

Consumer Real Estate - Payment Status of Modifications to Borrowers in Financial Difficulty [1]

	Current	30–89 Days Past Due	90+ Days Past Due	Total
(Dollars in millions)	March 31, 2023			
Residential mortgage	$ 126	$ 49	$ 30	$ 205
Home equity	23	7	10	40
Total	**$ 149**	**$ 56**	**$ 40**	**$ 245**

(1) Excludes trial modifications and Chapter 7 discharges.

Consumer real estate foreclosed properties totaled $117 million and $121 million at March 31, 2023 and December 31, 2022. The carrying value of consumer real estate loans, including fully-insured loans, for which formal foreclosure proceedings were in process at March 31, 2023 and December 31, 2022 was $819 million and $871 million. During the three months ended March 31, 2023 and 2022, the Corporation reclassified $37 million and $56 million of consumer real estate loans to foreclosed properties or, for properties acquired upon foreclosure of certain government-guaranteed loans (principally FHA-insured loans), to other assets. The reclassifications represent non-cash investing activities and, accordingly, are not reflected in the Consolidated Statement of Cash Flows.

Credit Card and Other Consumer

Credit card and other consumer loans are primarily modified by placing the customer on a fixed payment plan with a fixed interest rate. As of March 31, 2023, substantially all payment plans provided to customers had a 60-month term. In certain circumstances, the Corporation will forgive a portion of the outstanding balance if the borrower makes payments up to a set amount. The Corporation makes modifications directly with borrowers for loans held by the Corporation (internal programs) as well as through third-party renegotiation agencies that provide solutions to customers' entire unsecured debt structures (external programs). The March 31, 2023 amortized cost of credit card and other consumer loans that were modified through these programs during the three months ended March 31, 2023 was $157 million. The financial effect of modifications resulted in a weighted-average interest rate reduction of 18.65 percent and principal forgiveness of $11 million.

The Corporation tracks the performance of modified loans to assess the effectiveness of modification programs. Defaults of modified credit card and other consumer loans since January 1, 2023 were insignificant during the three months ended March 31, 2023. Of the $157 million in modified credit card and other consumer loans to borrowers experiencing financial difficulty as of March 31, 2023, $109 million were current, $24 million were 30-89 days past due, and $24 million were greater than 90 days past due. These modifications represented 0.08 percent of outstanding credit card and other consumer loans at March 31, 2023.

Commercial Loans

Modifications of loans to commercial borrowers experiencing financial difficulty are designed to reduce the Corporation's loss exposure while providing borrowers with an opportunity to work through financial difficulties, often to avoid foreclosure or bankruptcy. Each modification is unique, reflects the borrower's individual circumstances and is designed to benefit the borrower while mitigating the Corporation's risk exposure. Commercial modifications are primarily term extensions and payment forbearances. Payment forbearances involve the Bank forbearing its contractual right to collect certain payments or payment in full (maturity forbearance) for a defined period of time. Reductions in interest rates and principal forgiveness occur infrequently for commercial borrowers. Principal forgiveness may occur in connection with foreclosure, short sales or other settlement agreements, leading to termination or sale of the loan.

As of March 31, 2023, the amortized cost basis of modified commercial loans that were entered into during the three months ended March 31, 2023 was $822 million, including term extensions of $700 million, forbearances of $102 million and other miscellaneous modifications of $20 million. Term extensions granted during the three months ended March 31, 2023 increased the weighted-average life of the impacted loans by 1.3 years. The weighted-average duration of loan payments deferred under the Corporation's commercial loan forbearance program was 15 months, substantially all of which were deferred over a range of 12 to 24 months. Of the $822 million in modified Commercial loans to borrowers experiencing financial difficulty as of March 31, 2023, $775 million were current, $5 million were 30-89 days past due, and $42 million were greater than 90 days past due. These modifications represented 0.14 percent of outstanding commercial loans at March 31, 2023. Defaults of modified commercial loans since January 1, 2023 were insignificant during the three months ended March 31, 2023. For the three months ended March 31, 2023, the Corporation had commitments to lend $534 million to commercial borrowers experiencing financial difficulty whose loans were modified during the period.

Prior-period Troubled Debt Restructuring Disclosures

Prior to adopting the new accounting standard on loan modifications, the Corporation accounted for modifications of loans to borrowers experiencing financial difficulty as TDRs, when the modification resulted in a concession. The following discussion reflects loans that were considered TDRs prior to January 1, 2023. For more information on TDR accounting policies, see *Note 1 – Summary of Significant Accounting Principles* to the Consolidated Financial Statements of the Corporation's 2022 Annual Report on Form 10-K.

Consumer Real Estate

The following table presents the March 31, 2022 unpaid principal balance, carrying value, and average pre- and post-modification interest rates of consumer real estate loans that were modified in TDRs during the three months ended March 31, 2022. The following Consumer Real Estate portfolio segment tables include loans that were initially classified as TDRs during the period and also loans that had previously been classified as TDRs and were modified again during the period. Binding trial modifications are classified as TDRs when the trial offer is made and continue to be classified as TDRs regardless of whether the borrower enters into a permanent modification.

At December 31, 2022, remaining commitments to lend additional funds to debtors whose terms have been modified in a consumer real estate TDR were not significant.

Consumer Real Estate – TDRs Entered into During the Three Months Ended March 31, 2022

(Dollars in millions)	Unpaid Principal Balance	Carrying Value	Pre-Modification Interest Rate	Post-Modification Interest Rate [1]
	March 31, 2022			
Residential mortgage	$ 585	$ 539	3.50 %	3.33 %
Home equity	92	75	3.62	3.63
Total	$ 677	$ 614	3.52	3.37

(1) The post-modification interest rate reflects the interest rate applicable only to permanently completed modifications, which exclude loans that are in a trial modification period.

The table below presents the March 31, 2022 carrying value for consumer real estate loans that were modified in a TDR during the three months ended March 31, 2022, by type of modification.

Consumer Real Estate – Modification Programs

(Dollars in millions)	TDRs Entered into During the Three Months Ended March 31, 2022
Modifications under proprietary programs	552
Loans discharged in Chapter 7 bankruptcy [1]	5
Trial modifications	57
Total modifications	$ 614

(1) Includes loans discharged in Chapter 7 bankruptcy with no change in repayment terms that are classified as TDRs.

The table below presents the carrying value of consumer real estate loans that entered into payment default during the three months ended March 31, 2022 that were modified in a TDR during the 12 months preceding payment default. A payment default for consumer real estate TDRs is recognized when a borrower has missed three monthly payments (not necessarily consecutively) since modification.

Consumer Real Estate – TDRs Entering Payment Default that were Modified During the Preceding 12 Months

(Dollars in millions)	Three Months Ended March 31, 2022
Modifications under proprietary programs	40
Loans discharged in Chapter 7 bankruptcy [1]	1
Trial modifications [2]	4
Total modifications	$ 45

(1) Includes loans discharged in Chapter 7 bankruptcy with no change in repayment terms that are classified as TDRs.
(2) Includes trial modification offers to which the customer did not respond.

Credit Card and Other Consumer

The table below provides information on the Corporation's Credit Card and Other Consumer TDR portfolio including the March 31, 2022 unpaid principal balance, carrying value, and average pre- and post-modification interest rates of loans that were modified in TDRs during the three months ended March 31, 2022.

Credit Card and Other Consumer – TDRs Entered into During the Three Months Ended March 31, 2022

(Dollars in millions)	Unpaid Principal Balance	Carrying Value [1]	Pre-Modification Interest Rate	Post-Modification Interest Rate
	March 31, 2022			
Credit card	$ 69	$ 73	18.67 %	3.69 %
Direct/Indirect consumer	4	3	5.75	5.75
Total	$ 73	$ 76	18.03	3.77

(1) Includes accrued interest and fees.

The table below presents the March 31, 2022 carrying value for Credit Card and Other Consumer loans that were modified in a TDR during the three months ended March 31, 2022 by program type.

Credit Card and Other Consumer – TDRs by Program Type [(1)]

(Dollars in millions)	TDRs Entered into During the Three Months Ended March 31, 2022
Internal programs	$ 63
External programs	10
Other	3
Total	$ 76

[(1)] Includes accrued interest and fees.

Credit card and other consumer loans are deemed to be in payment default during the quarter in which a borrower misses the second of two consecutive payments. Payment defaults are one of the factors considered when projecting future cash flows in the calculation of the allowance for loan and lease losses for credit card and other consumer. Based on historical experience, the Corporation estimates that 10 percent of new credit card TDRs and 17 percent of new direct/indirect consumer TDRs may be in payment default within 12 months after modification.

Commercial Loans

During the three months ended March 31, 2022, the carrying value of the Corporation's commercial loans that were modified as TDRs was $848 million. At December 31, 2022, the Corporation had commitments to lend $358 million to commercial borrowers whose loans were classified as TDRs. The balance of commercial TDRs in payment default was $105 million at December 31, 2022.

Loans Held-for-sale

The Corporation had LHFS of $6.8 billion and $6.9 billion at March 31, 2023 and December 31, 2022. Cash and non-cash proceeds from sales and paydowns of loans originally classified as LHFS were $2.4 billion and $13.3 billion for the three months ended March 31, 2023 and 2022. Cash used for originations and purchases of LHFS totaled $2.3 billion and $6.8 billion for the three months ended March 31, 2023 and 2022. Also included were non-cash net transfers into LHFS of $459 million and $1.5 billion for the three months ended March 31, 2023 and 2022.

Accrued Interest Receivable

Accrued interest receivable for loans and leases and loans held-for-sale at March 31, 2023 and December 31, 2022 was $4.0 billion and $3.8 billion and is reported in customer and other receivables on the Consolidated Balance Sheet.

Outstanding credit card loan balances include unpaid principal, interest and fees. Credit card loans are not classified as nonperforming but are charged off no later than the end of the month in which the account becomes 180 days past due, within 60 days after receipt of notification of death or bankruptcy, or upon confirmation of fraud. During the three months ended March 31, 2023 and 2022, the Corporation reversed $118 million and $131 million of interest and fee income against the income statement line item in which it was originally recorded upon charge-off of the principal balance of the loan.

For the outstanding residential mortgage, home equity, direct/indirect consumer and commercial loan balances classified as nonperforming during the three months ended March 31, 2023 and 2022, interest and fee income reversed at the time the loans were classified as nonperforming was not significant. For more information on the Corporation's nonperforming loan policies, see *Note 1 – Summary of Significant Accounting Principles* to the Consolidated Financial Statements of the Corporation's 2022 Annual Report on Form 10-K.

Allowance for Credit Losses

The allowance for credit losses is estimated using quantitative and qualitative methods that consider a variety of factors, such as historical loss experience, the current credit quality of the portfolio and an economic outlook over the life of the loan. Qualitative reserves cover losses that are expected but, in the Corporation's assessment, may not be adequately reflected in the quantitative methods or the economic assumptions. The Corporation incorporates forward-looking information through the use of several macroeconomic scenarios in determining the weighted economic outlook over the forecasted life of the assets. These scenarios include key macroeconomic variables such as gross domestic product, unemployment rate, real estate prices and corporate bond spreads. The scenarios that are chosen each quarter and the weighting given to each scenario depend on a variety of factors including recent economic events, leading economic indicators, internal and third-party economist views, and industry trends. For more information on the Corporation's credit loss accounting policies including the allowance for credit losses, see *Note 1 – Summary of Significant Accounting Principles* to the Consolidated Financial Statements of the Corporation's 2022 Annual Report on Form 10-K.

The March 31, 2023 estimate for allowance for credit losses was based on various economic scenarios, including a baseline scenario derived from consensus estimates, an adverse scenario reflecting an extended moderate recession, a downside scenario reflecting persistent inflation and interest rates above the baseline scenario, a tail risk scenario similar to the severely adverse scenario used in stress testing and an upside scenario that considers the potential for improvement above the baseline scenario. The overall economic outlook is weighted 95 percent towards a mild recessionary environment in 2023. The weighted economic outlook assumes that the U.S. average unemployment rate will be above five percent by the fourth quarter of 2023 and will remain near this level through the fourth quarter of 2024. Additionally, in this economic outlook, U.S. real gross domestic product is forecasted to contract at 0.5 percent and grow at 1.4 percent year-over-year in the fourth quarters of 2023 and 2024. For comparison, as of December 31, 2022, the weighted economic outlook for the U.S. average unemployment rate was forecasted to be just above five and a half percent by the fourth quarter of 2023 and slowly decline to five percent by the fourth quarter of 2024 and U.S. real gross domestic product was forecasted to contract at 0.4 percent and grow at 1.2 percent year-over-year in the fourth quarters of 2023 and 2024, respectively. In addition, as of March 31, 2023, the latest estimate of the year-over-year real gross domestic product growth in the fourth quarter of 2022 was 0.9 percent. For comparison, as of December 31, 2022, the year-over-year baseline real gross domestic product growth in the fourth quarter of 2022 was forecasted at 0.4 percent.

The allowance for credit losses decreased $271 million from December 31, 2022 to $14.0 billion at March 31, 2023, which included a $123 million reserve increase related to the consumer portfolio and a $394 million reserve decrease related to the commercial portfolio. The decrease in the allowance reflected a reserve release in our commercial portfolio primarily driven by certain improved macroeconomic conditions, partially offset by a reserve build in our consumer portfolio primarily due to higher-than-expected credit card balances during the three months ended March 31, 2023. The decrease in allowance also includes the impact of the accounting change to remove the recognition and measurement guidance on TDRs, which reduced the allowance for credit losses by $243 million. The change in the allowance for credit losses was comprised of a net decrease of $168 million in the allowance for loan and lease losses and a decrease of $103 million in the reserve for unfunded lending commitments. The decrease in the allowance for credit losses was attributed to decreases in the commercial portfolio of $394 million and the consumer real estate portfolio of $18 million, partially offset by an increase in the credit card and other consumer portfolios of $141 million. The provision for credit losses increased $901 million to $931 million for the three months ended March 31, 2023 compared to the same period in 2022. The provision for credit losses for the three months ended March 31, 2023 was driven by our consumer portfolio primarily due to higher-than-expected credit card balances during the first quarter of 2023. This was partially offset by certain improved macroeconomic conditions that primarily benefited our commercial portfolio.

Outstanding loans and leases excluding loans accounted for under the fair value option increased $2.0 billion during the three months ended March 31, 2023 primarily driven by commercial loans, which increased $6.3 billion driven by broad-based growth, and consumer loans, which decreased $4.2 billion primarily driven by securities-based lending and credit card.

The changes in the allowance for credit losses, including net charge-offs and provision for loan and lease losses, are detailed in the table below.

(Dollars in millions)	Consumer Real Estate	Credit Card and Other Consumer	Commercial	Total
	Three Months Ended March 31, 2023			
Allowance for loan and lease losses, December 31	**$ 420**	**$ 6,817**	**$ 5,445**	**$ 12,682**
January 1, 2023 adoption of credit loss standard	**(67)**	**(109)**	**(67)**	**(243)**
Allowance for loan and lease losses, January 1	**353**	**6,708**	**5,378**	**12,439**
Loans and leases charged off	**(14)**	**(861)**	**(181)**	**(1,056)**
Recoveries of loans and leases previously charged off	**25**	**197**	**27**	**249**
Net charge-offs	**11**	**(664)**	**(154)**	**(807)**
Provision for loan and lease losses	**34**	**913**	**(47)**	**900**
Other	**5**	**1**	**(24)**	**(18)**
Allowance for loan and lease losses, March 31	**403**	**6,958**	**5,153**	**12,514**
Reserve for unfunded lending commitments, January 1	**94**	**—**	**1,446**	**1,540**
Provision for unfunded lending commitments	**(1)**	**—**	**(102)**	**(103)**
Reserve for unfunded lending commitments, March 31	**93**	**—**	**1,344**	**1,437**
Allowance for credit losses, March 31	**$ 496**	**$ 6,958**	**$ 6,497**	**$ 13,951**
	Three Months Ended March 31, 2022			
Allowance for loan and lease losses, January 1	$ 557	$ 6,476	$ 5,354	$ 12,387
Loans and leases charged off	(23)	(619)	(92)	(734)
Recoveries of loans and leases previously charged off	63	239	40	342
Net charge-offs	40	(380)	(52)	(392)
Provision for loan and lease losses	(126)	146	88	108
Other	2	—	(1)	1
Allowance for loan and lease losses, March 31	473	6,242	5,389	12,104
Reserve for unfunded lending commitments, January 1	96	—	1,360	1,456
Provision for unfunded lending commitments	(6)	—	(72)	(78)
Other	1	—	—	1
Reserve for unfunded lending commitments, March 31	91	—	1,288	1,379
Allowance for credit losses, March 31	$ 564	$ 6,242	$ 6,677	$ 13,483

NOTE 6 Securitizations and Other Variable Interest Entities

The Corporation utilizes VIEs in the ordinary course of business to support its own and its customers' financing and investing needs. The tables in this Note present the assets and liabilities of consolidated and unconsolidated VIEs at March 31, 2023 and December 31, 2022 in situations where the Corporation has continuing involvement with transferred assets or if the Corporation otherwise has a variable interest in the VIE. The tables also present the Corporation's maximum loss exposure at March 31, 2023 and December 31, 2022 resulting from its involvement with consolidated VIEs and unconsolidated VIEs in which the Corporation holds a variable interest. For more information on the Corporation's use of VIEs and related maximum loss exposure, see *Note 1 – Summary of Significant Accounting Principles* and *Note 6 – Securitizations and Other Variable Interest Entities* to the Consolidated Financial Statements of the Corporation's 2022 Annual Report on Form 10-K.

The Corporation invests in ABS issued by third-party VIEs with which it has no other form of involvement and enters into certain commercial lending arrangements that may also incorporate the use of VIEs, for example to hold collateral.

These securities and loans are included in *Note 4 – Securities* or *Note 5 – Outstanding Loans and Leases and Allowance for Credit Losses.* In addition, the Corporation has used VIEs in connection with its funding activities.

The Corporation did not provide financial support to consolidated or unconsolidated VIEs during the three months ended March 31, 2023 or the year ended December 31, 2022 that it was not previously contractually required to provide, nor does it intend to do so.

The Corporation had liquidity commitments, including written put options and collateral value guarantees, with certain unconsolidated VIEs of $975 million and $978 million at March 31, 2023 and December 31, 2022.

First-lien Mortgage Securitizations

As part of its mortgage banking activities, the Corporation securitizes a portion of the first-lien residential mortgage loans it originates or purchases from third parties. Except as described in *Note 10 – Commitments and Contingencies*, the Corporation does not provide guarantees or recourse to the securitization trusts other than standard representations and warranties.

The table below summarizes select information related to first-lien mortgage securitizations for the three months ended March 31, 2023 and 2022.

First-lien Mortgage Securitizations

	Residential Mortgage - Agency		Commercial Mortgage	
	Three Months Ended March 31			
(Dollars in millions)	**2023**	2022	**2023**	2022
Proceeds from loan sales [(1)]	**$ 1,347**	$ 2,322	**$ 142**	$ 2,428
Gains on securitizations [(2)]	**(5)**	8	**3**	13
Repurchases from securitization trusts [(3)]	**9**	32	**—**	—

(1) The Corporation transfers residential mortgage loans to securitizations sponsored primarily by the government-sponsored enterprises or Government National Mortgage Association (GNMA) in the normal course of business and primarily receives residential mortgage-backed securities in exchange. Substantially all of these securities are classified as Level 2 within the fair value hierarchy and are typically sold shortly after receipt.

(2) A majority of the first-lien residential mortgage loans securitized are initially classified as LHFS and accounted for under the fair value option. Gains recognized on these LHFS prior to securitization, which totaled $10 million and $20 million net of hedges, during the three months ended March 31, 2023 and 2022, are not included in the table above.

(3) The Corporation may have the option to repurchase delinquent loans out of securitization trusts, which reduces the amount of servicing advances it is required to make. The Corporation may also repurchase loans from securitization trusts to perform modifications. Repurchased loans include FHA-insured mortgages collateralizing GNMA securities.

The Corporation recognizes consumer MSRs from the sale or securitization of consumer real estate loans. The unpaid principal balance of loans serviced for investors, including residential mortgage and home equity loans, totaled $98.3 billion and $110.4 billion at March 31, 2023 and 2022. Servicing fee and ancillary fee income on serviced loans was $69 million and $70 million during the three months ended March 31, 2023 and 2022. Servicing advances on serviced loans, including loans serviced for others and loans held for investment, were $1.5 billion and $1.6 billion at March 31, 2023 and December 31, 2022. For more information on MSRs, see *Note 14 – Fair Value Measurements*.

During the three months ended March 31, 2023 and 2022, the Corporation deconsolidated agency residential mortgage securitization trusts with total assets of $328 million and $527 million.

The following table summarizes select information related to first-lien mortgage securitization trusts in which the Corporation held a variable interest at March 31, 2023 and December 31, 2022.

First-lien Mortgage VIEs

	Residential Mortgage									
			Non-agency							
	Agency		Prime		Subprime		Alt-A		Commercial Mortgage	
(Dollars in millions)	March 31 2023	December 31 2022	March 31 2023	December 31 2022	March 31 2023	December 31 2022	March 31 2023	December 31 2022	March 31 2023	December 31 2022
Unconsolidated VIEs										
Maximum loss exposure [1]	**$ 8,848**	$ 9,112	**$ 90**	$ 91	**$ 683**	$ 735	**$ 8**	$ 28	**$ 1,490**	$ 1,594
On-balance sheet assets										
Senior securities:										
Trading account assets	**$ 197**	$ 232	**$ 3**	$ 3	**$ 26**	$ 25	**$ 6**	$ 26	**$ 32**	$ 91
Debt securities carried at fair value	**2,893**	3,027	**—**	—	**361**	410	**—**	—	**—**	—
Held-to-maturity securities	**5,758**	5,853	**—**	—	**—**	—	**—**	—	**1,272**	1,268
All other assets	**—**	—	**3**	3	**22**	25	**2**	2	**59**	101
Total retained positions	**$ 8,848**	$ 9,112	**$ 6**	$ 6	**$ 409**	$ 460	**$ 8**	$ 28	**$ 1,363**	$ 1,460
Principal balance outstanding [2]	**$ 80,077**	$ 81,644	**$ 3,872**	$ 3,973	**$ 4,929**	$ 5,034	**$ 11,259**	$ 11,568	**$ 80,157**	$ 85,101
Consolidated VIEs										
Maximum loss exposure [1]	**$ 1,886**	$ 1,735	**$ —**	$ —	**$ —**	$ 78	**$ —**	$ —	**$ —**	$ —
On-balance sheet assets										
Trading account assets	**$ 1,886**	$ 1,735	**$ —**	$ —	**$ —**	$ 78	**$ —**	$ —	**$ —**	$ —
Loans and leases, net	**—**	—	**—**	—	**—**	—	**—**	—	**—**	—
Total assets	**$ 1,886**	$ 1,735	**$ —**	$ —	**$ —**	$ 78	**$ —**	$ —	**$ —**	$ —
Total liabilities	**$ —**	$ —	**$ —**	$ —	**$ —**	$ —	**$ —**	$ —	**$ —**	$ —

(1) Maximum loss exposure includes obligations under loss-sharing reinsurance and other arrangements for non-agency residential mortgage and commercial mortgage securitizations, but excludes the reserve for representations and warranties obligations and corporate guarantees and also excludes servicing advances and other servicing rights and obligations. For more information, see *Note 10 – Commitments and Contingencies* and *Note 14 – Fair Value Measurements*.

(2) Principal balance outstanding includes loans where the Corporation was the transferor to securitization VIEs with which it has continuing involvement, which may include servicing the loans.

Other Asset-backed Securitizations

The table below summarizes select information related to home equity, credit card and other asset-backed VIEs in which the Corporation held a variable interest at March 31, 2023 and December 31, 2022.

Home Equity Loan, Credit Card and Other Asset-backed VIEs

	Home Equity [1]		Credit Card [2]		Resecuritization Trusts		Municipal Bond Trusts	
(Dollars in millions)	March 31 2023	December 31 2022	March 31 2023	December 31 2022	March 31 2023	December 31 2022	March 31 2023	December 31 2022
Unconsolidated VIEs								
Maximum loss exposure	**$ 8**	$ 119	**$ —**	$ —	**$ 4,473**	$ 4,243	**$ 2,530**	$ 2,537
On-balance sheet assets								
Securities [3]:								
Trading account assets	**$ —**	$ —	**$ —**	$ —	**$ 910**	$ 456	**$ —**	$ —
Debt securities carried at fair value	**—**	1	**—**	—	**1,105**	1,259	**—**	—
Held-to-maturity securities	**—**	—	**—**	—	**2,458**	2,528	**—**	—
Total retained positions	**$ —**	$ 1	**$ —**	$ —	**$ 4,473**	$ 4,243	**$ —**	$ —
Total assets of VIEs	**$ 301**	$ 326	**$ —**	$ —	**$ 13,802**	$ 12,255	**$ 3,032**	$ 3,016
Consolidated VIEs								
Maximum loss exposure	**$ 29**	$ 32	**$ 8,994**	$ 9,555	**$ 277**	$ 551	**$ 1,390**	$ —
On-balance sheet assets								
Trading account assets	**$ —**	$ —	**$ —**	$ —	**$ 656**	$ 650	**$ 1,390**	$ —
Loans and leases	**99**	97	**13,989**	14,555	**—**	—	**—**	—
Allowance for loan and lease losses	**11**	12	**(807)**	(808)	**—**	—	**—**	—
All other assets	**2**	2	**67**	68	**—**	—	**—**	—
Total assets	**$ 112**	$ 111	**$ 13,249**	$ 13,815	**$ 656**	$ 650	**$ 1,390**	$ —
On-balance sheet liabilities								
Short-term borrowings	**$ —**	$ —	**$ —**	$ —	**$ —**	$ —	**$ 1,317**	$ —
Long-term debt	**83**	79	**4,248**	4,247	**379**	99	**—**	—
All other liabilities	**—**	—	**7**	13	**—**	—	**—**	—
Total liabilities	**$ 83**	$ 79	**$ 4,255**	$ 4,260	**$ 379**	$ 99	**$ 1,317**	$ —

(1) For unconsolidated home equity loan VIEs, the maximum loss exposure includes outstanding trust certificates issued by trusts in rapid amortization, net of recorded reserves. For both consolidated and unconsolidated home equity loan VIEs, the maximum loss exposure excludes the reserve for representations and warranties obligations and corporate guarantees. For more information, see *Note 10 – Commitments and Contingencies*.

(2) At March 31, 2023 and December 31, 2022, loans and leases in the consolidated credit card trust included $4.7 billion and $3.3 billion of seller's interest.

(3) The retained senior securities were valued using quoted market prices or observable market inputs (Level 2 of the fair value hierarchy).

Home Equity Loans

The Corporation retains interests, primarily senior securities, in home equity securitization trusts to which it transferred home equity loans. In addition, the Corporation may be obligated to provide subordinate funding to the trusts during a rapid amortization event. This obligation is included in the maximum loss exposure in the preceding table. The charges that will ultimately be recorded as a result of the rapid amortization events depend on the undrawn portion of the home equity lines of credit, performance of the loans, the amount of subsequent draws and the timing of related cash flows.

Credit Card Securitizations

The Corporation securitizes originated and purchased credit card loans. The Corporation's continuing involvement with the securitization trust includes servicing the receivables, retaining an undivided interest (seller's interest) in the receivables, and holding certain retained interests, including subordinate interests in accrued interest and fees on the securitized receivables and cash reserve accounts.

No new senior debt securities were issued to third-party investors from the credit card securitization trust during the three months ended March 31, 2023 and 2022.

At March 31, 2023 and December 31, 2022, the Corporation held subordinate securities issued by the credit card securitization trust with a notional principal amount of $4.7 billion and $6.7 billion. These securities serve as a form of credit enhancement to the senior debt securities and have a stated interest rate of zero percent. No subordinate securities were issued by the credit card securitization trust during the three months ended March 31, 2023 and 2022.

Resecuritization Trusts

The Corporation transfers securities, typically MBS, into resecuritization VIEs generally at the request of customers seeking securities with specific characteristics. Generally, there are no significant ongoing activities performed in a resecuritization trust, and no single investor has the unilateral ability to liquidate the trust.

The Corporation resecuritized $1.6 billion and $9.5 billion of securities during the three months ended March 31, 2023 and 2022. Securities transferred into resecuritization VIEs were measured at fair value with changes in fair value recorded in market making and similar activities prior to the resecuritization and, accordingly, no gain or loss on sale was recorded. During the three months ended March 31, 2023 and 2022, resecuritization proceeds included securities with an initial fair value of $586 million and $699 million, of which substantially all of the securities were classified as trading account assets for both periods. Substantially all of the trading account securities carried at fair value were categorized as Level 2 within the fair value hierarchy.

Municipal Bond Trusts

The Corporation administers municipal bond trusts that hold highly-rated, long-term, fixed-rate municipal bonds. The trusts obtain financing by issuing floating-rate trust certificates that reprice on a weekly or other short-term basis to third-party investors.

The Corporation's liquidity commitments to unconsolidated municipal bond trusts, including those for which the Corporation was transferor, totaled $2.5 billion at both March 31, 2023 and December 31, 2022. The weighted-average remaining life of bonds held in the trusts at March 31, 2023 was 11.0 years. There were no significant write-downs or downgrades of assets or issuers during the three months ended March 31, 2023 and 2022.

Other Variable Interest Entities

The table below summarizes select information related to other VIEs in which the Corporation held a variable interest at March 31, 2023 and December 31, 2022.

Other VIEs

	Consolidated	Unconsolidated	Total	Consolidated	Unconsolidated [1]	Total [1]
(Dollars in millions)	March 31, 2023			December 31, 2022		
Maximum loss exposure	**$ 1,874**	**$ 48,061**	**$ 49,935**	$ 2,286	$ 47,477	$ 49,763
On-balance sheet assets						
Trading account assets	**$ 344**	**$ 2,126**	**$ 2,470**	$ 353	$ 2,187	$ 2,540
Debt securities carried at fair value	**—**	**247**	**247**	—	473	473
Loans and leases	**1,666**	**14,536**	**16,202**	2,086	14,243	16,329
Allowance for loan and lease losses	**(1)**	**(98)**	**(99)**	(1)	(99)	(100)
All other assets	**60**	**30,717**	**30,777**	46	30,221	30,267
Total	**$ 2,069**	**$ 47,528**	**$ 49,597**	$ 2,484	$ 47,025	$ 49,509
On-balance sheet liabilities						
Short-term borrowings	**$ 22**	**$ —**	**$ 22**	$ 42	$ —	$ 42
Long-term debt	**173**	**—**	**173**	156	—	156
All other liabilities	**—**	**7,357**	**7,357**	—	7,318	7,318
Total	**$ 195**	**$ 7,357**	**$ 7,552**	$ 198	$ 7,318	$ 7,516

(1) Prior period has been revised to include unconsolidated CLOs.

Customer VIEs

Customer VIEs include credit-linked, equity-linked and commodity-linked note VIEs, repackaging VIEs and asset acquisition VIEs, which are typically created on behalf of customers who wish to obtain market or credit exposure to a specific company, index, commodity or financial instrument.

The Corporation's involvement in the VIE is limited to its loss exposure. The Corporation's maximum loss exposure to consolidated and unconsolidated customer VIEs totaled $1.0 billion and $914 million at March 31, 2023 and December 31, 2022, including the notional amount of derivatives to which the Corporation is a counterparty, net of losses previously recorded, and the Corporation's investment, if any, in securities issued by the VIEs. Total assets of the consolidated and unconsolidated VIEs were $1.5 billion at both March 31, 2023 and December 31, 2022.

CDO and CLO VIEs

The Corporation holds investments in unconsolidated CDO and CLO VIEs, that hold diversified pools of fixed-income securities, typically corporate debt, ABS or non-investment grade corporate loans, which are funded by multiple tranches of debt instruments and equity securities issued by the VIEs. The VIEs are managed by third-party portfolio managers. The Corporation holds $16.3 billion of loans and securities issued by CDO and CLO VIEs at both March 31, 2023 and December 31, 2022. The Corporation's loss exposure is limited to its loan and debt security holdings and the notional amount of any derivatives to which the Corporation is a counterparty. The Corporation's maximum loss exposure to consolidated and unconsolidated CDOs and CLOs totaled $16.3 billion at both March 31, 2023 and December 31, 2022, which is insignificant to the total assets of the VIEs.

Investment VIEs

The Corporation sponsors, invests in or provides financing, which may be in connection with the sale of assets, to a variety of investment VIEs that hold loans, real estate, debt securities or other financial instruments and are designed to provide the desired investment profile to investors or the Corporation. At March 31, 2023 and December 31, 2022, the Corporation's consolidated investment VIEs had total assets of $454 million and $854 million. The Corporation also held investments in unconsolidated VIEs with total assets of $15.1 billion and $12.2 billion at March 31, 2023 and December 31, 2022. The Corporation's maximum loss exposure associated with both consolidated and unconsolidated investment VIEs totaled $2.2 billion and $2.4 billion at March 31, 2023 and December 31, 2022 comprised primarily of on-balance sheet assets less non-recourse liabilities.

Leveraged Lease Trusts

The Corporation's net investment in consolidated leveraged lease trusts totaled $1.2 billion at both March 31, 2023 and December 31, 2022. The trusts hold long-lived equipment such as rail cars, power generation and distribution equipment, and commercial aircraft. The Corporation structures the trusts and holds a significant residual interest. The net investment represents the Corporation's maximum loss exposure to the trusts in the unlikely event that the leveraged lease investments become worthless. Debt issued by the leveraged lease trusts is non-recourse to the Corporation.

Tax Credit VIEs

The Corporation holds equity investments in unconsolidated limited partnerships and similar entities that construct, own and operate affordable housing, renewable energy and certain other projects. The total assets of these unconsolidated tax credit VIEs were $76.0 billion and $74.8 billion as of March 31, 2023 and December 31, 2022. An unrelated third party is typically the general partner or managing member and has control over the significant activities of the VIE. As an investor, tax credits associated with the investments in these entities are allocated to the Corporation, as provided by the U.S. Internal Revenue Code and related regulations, and are recognized as income tax benefits in the Corporation's Consolidated Statement of Income in the year they are earned, which varies based on the type of investments. Tax credits from environmental, social and governance (ESG) investments in affordable housing are recognized ratably over a term of up to 10 years, and tax credits from renewable energy investments are recognized either at inception for transactions electing Investment Tax Credits (ITCs) or as energy is produced for transactions electing Production Tax Credits (PTCs), which is generally up to a 10-year time period. The volume and types of investments held by the Corporation will influence the amount of tax credits recognized each period.

The Corporation's equity investments in affordable housing and other projects totaled $14.7 billion at both March 31, 2023 and December 31, 2022, which included unfunded capital contributions of $7.0 billion and $6.9 billion and are probable to be paid over the next five years. The Corporation may be asked to invest additional amounts to support a troubled affordable housing project. Such additional investments have not been and are not expected to be significant. During the three months ended March 31, 2023 and 2022, the Corporation recognized tax credits and other tax benefits related to affordable housing and other tax credit equity investments of $527 million and $419 million and reported pretax losses in other income of $372 million and $337 million. The Corporation's equity investments in renewable energy totaled $14.1 billion and $13.9 billion at March 31, 2023 and December 31, 2022. In addition, the Corporation had unfunded capital contributions for renewable energy investments of $5.6 billion and $1.9 billion at March 31, 2023 and December 31, 2022, which are contingent on various conditions precedent to funding over the next two years. The Corporation's risk of loss is generally mitigated by policies requiring the project to qualify for the expected tax credits prior to making its investment. During the three months ended March 31, 2023 and 2022, the Corporation recognized tax credits and other tax benefits related to renewable energy equity investments of $996 million and $865 million and reported pretax losses in other income of $561 million and $530 million. The Corporation may also enter into power purchase agreements with renewable energy tax credit entities. The maximum loss exposure for tax credit VIEs was $28.8 billion at both March 31, 2023 and December 31, 2022.

NOTE 7 Goodwill and Intangible Assets

Goodwill

The table below presents goodwill balances by business segment at March 31, 2023 and December 31, 2022. The reporting units utilized for goodwill impairment testing are the operating segments or one level below.

Goodwill

(Dollars in millions)		**March 31 2023**		December 31 2022
Consumer Banking	$	**30,137**	$	30,137
Global Wealth & Investment Management		**9,677**		9,677
Global Banking		**24,026**		24,026
Global Markets		**5,182**		5,182
Total goodwill	$	**69,022**	$	69,022

Intangible Assets

At both March 31, 2023 and December 31, 2022, the net carrying value of intangible assets was $2.1 billion. At both March 31, 2023 and December 31, 2022, intangible assets included $1.6 billion of intangible assets associated with trade names, substantially all of which had an indefinite life and, accordingly, are not being amortized. Amortization of intangibles expense was $20 million for both the three months ended March 31, 2023 and 2022.

NOTE 8 Leases

The Corporation enters into both lessor and lessee arrangements. For more information on lease accounting, see *Note 1 – Summary of Significant Accounting Principles* and *Note 8 – Leases* to the Consolidated Financial Statements of the Corporation's 2022 Annual Report on Form 10-K. For more information on lease financing receivables, see *Note 5 – Outstanding Loans and Leases and Allowance for Credit Losses*.

Lessor Arrangements

The Corporation's lessor arrangements primarily consist of operating, sales-type and direct financing leases for equipment. Lease agreements may include options to renew and for the lessee to purchase the leased equipment at the end of the lease term.

The following table presents the net investment in sales-type and direct financing leases at March 31, 2023 and December 31, 2022.

Net Investment [1]

(Dollars in millions)	March 31 2023	December 31 2022
Lease receivables	$ 14,895	$ 15,123
Unguaranteed residuals	2,116	2,143
Total net investment in sales-type and direct financing leases	**$ 17,011**	$ 17,266

(1) In certain cases, the Corporation obtains third-party residual value insurance to reduce its residual asset risk. The carrying value of residual assets with third-party residual value insurance for at least a portion of the asset value was $6.4 billion and $6.5 billion at March 31, 2023 and December 31, 2022.

The table below presents lease income for the three months ended March 31, 2023 and 2022.

Lease Income

	Three Months Ended March 31	
(Dollars in millions)	2023	2022
Sales-type and direct financing leases	$ 172	$ 142
Operating leases	238	232
Total lease income	**$ 410**	$ 374

Lessee Arrangements

The Corporation's lessee arrangements predominantly consist of operating leases for premises and equipment; the Corporation's financing leases are not significant.

The table below provides information on the right-of-use assets and lease liabilities at March 31, 2023 and December 31, 2022.

Lessee Arrangements

(Dollars in millions)	March 31 2023	December 31 2022
Right-of-use asset	$ 9,527	$ 9,755
Lease liabilities	10,137	10,359

NOTE 9 Securities Financing Agreements, Collateral and Restricted Cash

The Corporation enters into securities financing agreements which include securities borrowed or purchased under agreements to resell and securities loaned or sold under agreements to repurchase. These financing agreements (also referred to as "matched-book transactions") are to accommodate customers, obtain securities to cover short positions and finance inventory positions. The Corporation elects to account for certain securities financing agreements under the fair value option. For more information on the fair value option, see *Note 15 – Fair Value Option*.

Offsetting of Securities Financing Agreements

The Securities Financing Agreements table presents securities financing agreements included on the Consolidated Balance Sheet in federal funds sold and securities borrowed or purchased under agreements to resell, and in federal funds purchased and securities loaned or sold under agreements to repurchase at March 31, 2023 and December 31, 2022. Balances are presented on a gross basis, prior to the application of counterparty netting. Gross assets and liabilities are adjusted on an aggregate basis to take into consideration the effects of legally enforceable master netting agreements. For more information on the offsetting of derivatives, see *Note 3 – Derivatives.* For more information on the securities financing agreements and the offsetting of securities financing transactions, see *Note 10 – Securities Financing Agreements, Short-term Borrowings, Collateral and Restricted Cash* to the Consolidated Financial Statements of the Corporation's 2022 Annual Report on Form 10-K.

Securities Financing Agreements

(Dollars in millions)	Gross Assets/ Liabilities [1]	Amounts Offset	Net Balance Sheet Amount	Financial Instruments [2]	Net Assets/ Liabilities
			March 31, 2023		
Securities borrowed or purchased under agreements to resell [3]	**$ 633,124**	**$ (335,046)**	**$ 298,078**	**$ (268,791)**	**$ 29,287**
Securities loaned or sold under agreements to repurchase	**$ 649,426**	**$ (335,046)**	**$ 314,380**	**$ (287,074)**	**$ 27,306**
Other [4]	**11,993**	**—**	**11,993**	**(11,993)**	**—**
Total	**$ 661,419**	**$ (335,046)**	**$ 326,373**	**$ (299,067)**	**$ 27,306**
			December 31, 2022		
Securities borrowed or purchased under agreements to resell [3]	$ 597,847	$ (330,273)	$ 267,574	$ (240,120)	$ 27,454
Securities loaned or sold under agreements to repurchase	$ 525,908	$ (330,273)	$ 195,635	$ (183,265)	$ 12,370
Other [4]	8,427	—	8,427	(8,427)	—
Total	$ 534,335	$ (330,273)	$ 204,062	$ (191,692)	$ 12,370

(1) Includes activity where uncertainty exists as to the enforceability of certain master netting agreements under bankruptcy laws in some countries or industries.

(2) Includes securities collateral received or pledged under repurchase or securities lending agreements where there is a legally enforceable master netting agreement. These amounts are not offset on the Consolidated Balance Sheet, but are shown as a reduction to derive a net asset or liability. Securities collateral received or pledged where the legal enforceability of the master netting agreements is uncertain is excluded from the table.

(3) Excludes repurchase activity of $9.9 billion and $8.7 billion reported in loans and leases on the Consolidated Balance Sheet at March 31, 2023 and December 31, 2022.

(4) Balance is reported in accrued expenses and other liabilities on the Consolidated Balance Sheet and relates to transactions where the Corporation acts as the lender in a securities lending agreement and receives securities that can be pledged as collateral or sold. In these transactions, the Corporation recognizes an asset at fair value, representing the securities received, and a liability, representing the obligation to return those securities.

Repurchase Agreements and Securities Loaned Transactions Accounted for as Secured Borrowings

The following tables present securities sold under agreements to repurchase and securities loaned by remaining contractual term to maturity and class of collateral pledged. Included in "Other" are transactions where the Corporation acts as the lender in a securities lending agreement and receives securities that can be pledged as collateral or sold. Certain agreements contain a right to substitute collateral and/or terminate the agreement prior to maturity at the option of the Corporation or the counterparty. Such agreements are included in the table below based on the remaining contractual term to maturity.

Remaining Contractual Maturity

(Dollars in millions)	Overnight and Continuous	30 Days or Less	After 30 Days Through 90 Days	Greater than 90 Days [1]	Total
			March 31, 2023		
Securities sold under agreements to repurchase	**$ 262,304**	**$ 226,589**	**$ 44,524**	**$ 46,041**	**$ 579,458**
Securities loaned	**64,599**	**604**	**654**	**4,111**	**69,968**
Other	**11,993**	**—**	**—**	**—**	**11,993**
Total	**$ 338,896**	**$ 227,193**	**$ 45,178**	**$ 50,152**	**$ 661,419**
			December 31, 2022		
Securities sold under agreements to repurchase	$ 200,087	$ 181,632	$ 41,666	$ 30,107	$ 453,492
Securities loaned	66,909	288	1,139	4,080	72,416
Other	8,427	—	—	—	8,427
Total	$ 275,423	$ 181,920	$ 42,805	$ 34,187	$ 534,335

(1) No agreements have maturities greater than four years.

Class of Collateral Pledged

(Dollars in millions)	Securities Sold Under Agreements to Repurchase	Securities Loaned	Other	Total
		March 31, 2023		
U.S. government and agency securities	**$ 313,725**	**$ —**	**$ —**	**$ 313,725**
Corporate securities, trading loans and other	**17,056**	**2,319**	**323**	**19,698**
Equity securities	**11,543**	**67,574**	**11,665**	**90,782**
Non-U.S. sovereign debt	**233,043**	**75**	**5**	**233,123**
Mortgage trading loans and ABS	**4,091**	**—**	**—**	**4,091**
Total	**$ 579,458**	**$ 69,968**	**$ 11,993**	**$ 661,419**
		December 31, 2022		
U.S. government and agency securities	$ 193,005	$ 18	$ —	$ 193,023
Corporate securities, trading loans and other	14,345	2,896	317	17,558
Equity securities	10,249	69,432	8,110	87,791
Non-U.S. sovereign debt	232,171	70	—	232,241
Mortgage trading loans and ABS	3,722	—	—	3,722
Total	$ 453,492	$ 72,416	$ 8,427	$ 534,335

Collateral

The Corporation accepts securities and loans as collateral that it is permitted by contract or practice to sell or repledge. At March 31, 2023 and December 31, 2022, the fair value of this collateral was $891.0 billion and $827.6 billion, of which $878.4 billion and $764.1 billion was sold or repledged. The primary source of this collateral is securities borrowed or purchased under agreements to resell. For more information on collateral, see *Note 10 – Securities Financing Agreements, Short-term Borrowings, Collateral and Restricted Cash* to the Consolidated Financial Statements of the Corporation's 2022 Annual Report on Form 10-K.

Restricted Cash

At March 31, 2023 and December 31, 2022, the Corporation held restricted cash included within cash and cash equivalents on the Consolidated Balance Sheet of $6.5 billion and $7.6 billion, predominantly related to cash segregated in compliance with securities regulations and cash held on deposit with central banks to meet reserve requirements.

NOTE 10 Commitments and Contingencies

In the normal course of business, the Corporation enters into a number of off-balance sheet commitments. These commitments expose the Corporation to varying degrees of credit and market risk and are subject to the same credit and market risk limitation reviews as those instruments recorded on the Consolidated Balance Sheet. For more information on commitments and contingencies, see *Note 12 – Commitments and Contingencies* to the Consolidated Financial Statements of the Corporation's 2022 Annual Report on Form 10-K.

Credit Extension Commitments

The Corporation enters into commitments to extend credit such as loan commitments, standby letters of credit (SBLCs) and commercial letters of credit to meet the financing needs of its customers. The following table includes the notional amount of unfunded legally binding lending commitments net of amounts distributed (i.e., syndicated or participated) to other financial institutions. The distributed amounts were $10.1 billion and $10.4 billion at March 31, 2023 and December 31, 2022. The carrying value of the Corporation's credit extension commitments at March 31, 2023 and December 31, 2022, excluding commitments accounted for under the fair value option, was $1.5 billion and $1.6 billion, which predominantly related to the reserve for unfunded lending commitments. The carrying value of these commitments is classified in accrued expenses and other liabilities on the Consolidated Balance Sheet.

Legally binding commitments to extend credit generally have specified rates and maturities. Certain of these commitments have adverse change clauses that help to protect the Corporation against deterioration in the borrower's ability to pay.

The table below includes the notional amount of commitments of $3.1 billion and $3.0 billion at March 31, 2023 and December 31, 2022 that are accounted for under the fair value option. However, the table excludes the cumulative net fair value for these commitments of $122 million and $110 million at March 31, 2023 and December 31, 2022, which is classified in accrued expenses and other liabilities. For more information regarding the Corporation's loan commitments accounted for under the fair value option, see *Note 15 – Fair Value Option.*

Credit Extension Commitments

(Dollars in millions)	Expire in One Year or Less	Expire After One Year Through Three Years	Expire After Three Years Through Five Years	Expire After Five Years	Total
			March 31, 2023		
Notional amount of credit extension commitments					
Loan commitments [1]	**$ 117,267**	**$ 160,450**	**$ 219,304**	**$ 15,920**	**$ 512,941**
Home equity lines of credit	**1,667**	**7,986**	**11,652**	**22,660**	**43,965**
Standby letters of credit and financial guarantees [2]	**22,417**	**9,328**	**2,755**	**528**	**35,028**
Letters of credit	**963**	**32**	**42**	**26**	**1,063**
Other commitments [3]	**3**	**68**	**137**	**1,059**	**1,267**
Legally binding commitments	**142,317**	**177,864**	**233,890**	**40,193**	**594,264**
Credit card lines [4]	**429,384**	**—**	**—**	**—**	**429,384**
Total credit extension commitments	**$ 571,701**	**$ 177,864**	**$ 233,890**	**$ 40,193**	**$ 1,023,648**
			December 31, 2022		
Notional amount of credit extension commitments					
Loan commitments [1]	$ 113,962	$ 162,890	$ 221,374	$ 13,667	$ 511,893
Home equity lines of credit	1,479	7,230	11,578	22,154	42,441
Standby letters of credit and financial guarantees [2]	22,565	9,237	2,787	628	35,217
Letters of credit	853	46	52	49	1,000
Other commitments [3]	5	93	71	1,103	1,272
Legally binding commitments	138,864	179,496	235,862	37,601	591,823
Credit card lines [4]	419,144	—	—	—	419,144
Total credit extension commitments	$ 558,008	$ 179,496	$ 235,862	$ 37,601	$ 1,010,967

(1) At March 31, 2023 and December 31, 2022, $2.9 billion and $2.6 billion of these loan commitments were held in the form of a security.
(2) The notional amounts of SBLCs and financial guarantees classified as investment grade and non-investment grade based on the credit quality of the underlying reference name within the instrument were $25.0 billion and $9.4 billion at March 31, 2023, and $25.1 billion and $9.5 billion at December 31, 2022. Amounts in the table include consumer SBLCs of $563 million and $575 million at March 31, 2023 and December 31, 2022.
(3) Primarily includes second-loss positions on lease-end residual value guarantees.
(4) Includes business card unused lines of credit.

Other Commitments

At March 31, 2023 and December 31, 2022, the Corporation had commitments to purchase loans (e.g., residential mortgage and commercial real estate) of $749 million and $636 million, which upon settlement will be included in trading account assets, loans or LHFS, and commitments to purchase commercial loans of $226 million and $294 million, which upon settlement will be included in trading account assets.

At March 31, 2023 and December 31, 2022, the Corporation had commitments to enter into resale and forward-dated resale and securities borrowing agreements of $116.5 billion and $92.0 billion, and commitments to enter into forward-dated repurchase and securities lending agreements of $90.1 billion and $57.8 billion. These commitments generally expire within the next 12 months.

At March 31, 2023 and December 31, 2022, the Corporation had a commitment to originate or purchase up to $4.1 billion and $3.7 billion on a rolling 12-month basis, of auto loans and leases from a strategic partner. This commitment extends through November 2026 and can be terminated with 12 months prior notice.

At March 31, 2023 and December 31, 2022, the Corporation had unfunded equity investment commitments of $534 million and $571 million.

Other Guarantees

Bank-owned Life Insurance Book Value Protection

The Corporation sells products that offer book value protection to insurance carriers who offer group life insurance policies to corporations, primarily banks. At both March 31, 2023 and December 31, 2022, the notional amount of these guarantees totaled $4.3 billion. At March 31, 2023 and December 31, 2022, the Corporation's maximum exposure related to these guarantees totaled $633 million and $632 million, with estimated maturity dates between 2033 and 2039.

Merchant Services

The Corporation in its role as merchant acquirer or as a sponsor of other merchant acquirers may be held liable for any reversed charges that cannot be collected from the merchants, due to, among other things, merchant fraud or insolvency. If charges are properly reversed after a purchase and cannot be collected from either the merchants or merchant acquirers, the Corporation may be held liable for these reversed charges. The ability to reverse a charge is primarily governed by the applicable payment network rules and regulations, which include, but are not limited to, the type of charge, type of payment used and time limits. The total amount of transactions subject to reversal under payment network rules and regulations processed for the preceding six-month period, which was approximately $470 billion, is an estimate of the Corporation's maximum potential exposure as of March 31, 2023. The Corporation's risk in this area primarily relates to circumstances where a cardholder has purchased goods or services for future delivery. The Corporation mitigates this risk by requiring cash deposits, guarantees, letters of credit or other types of collateral from certain merchants. The Corporation's reserves for contingent losses and the losses incurred related to the merchant processing activity were not significant.

Representations and Warranties Obligations and Corporate Guarantees

For more information on representations and warranties obligations and corporate guarantees, see *Note 12 – Commitments and Contingencies* to the Consolidated Financial Statements of the Corporation's 2022 Annual Report on Form 10-K.

The reserve for representations and warranties obligations and corporate guarantees was $622 million and $612 million at March 31, 2023 and December 31, 2022 and is included in accrued expenses and other liabilities on the Consolidated Balance Sheet, and the related provision is included in other income in the Consolidated Statement of Income. The representations and warranties reserve represents the Corporation's best estimate of probable incurred losses, is based on its experience in previous negotiations, and is subject to judgment, a variety of assumptions, and known or unknown uncertainties. Future representations and warranties losses may occur in excess of the amounts recorded for these exposures; however, the Corporation does not expect such amounts to be material to the Corporation's financial condition and liquidity. See Litigation and Regulatory Matters below for the Corporation's combined range of possible loss in excess of the reserve for representations and warranties and the accrued liability for litigation.

Fixed Income Clearing Corporation Sponsored Member Repo Program

The Corporation acts as a sponsoring member in a repo program whereby the Corporation clears certain eligible resale and repurchase agreements through the Government Securities Division of the Fixed Income Clearing Corporation on behalf of clients that are sponsored members in accordance with the Fixed Income Clearing Corporation's rules. As part of this program, the Corporation guarantees the payment and performance of its sponsored members to the Fixed Income Clearing Corporation. The Corporation's guarantee obligation is secured by a security interest in cash or high-quality securities collateral placed by clients with the clearinghouse and therefore, the potential for the Corporation to incur significant losses under this arrangement is remote. The Corporation's maximum potential exposure, without taking into consideration the related collateral, was $46.7 billion and $59.6 billion at March 31, 2023 and December 31, 2022.

Other Guarantees

In the normal course of business, the Corporation periodically guarantees the obligations of its affiliates in a variety of transactions including ISDA-related transactions and non-ISDA related transactions such as commodities trading, repurchase agreements, prime brokerage agreements and other transactions.

Guarantees of Certain Long-term Debt

The Corporation, as the parent company, fully and unconditionally guarantees the securities issued by BofA Finance LLC, a consolidated finance subsidiary of the Corporation, and effectively provides for the full and unconditional guarantee of trust securities issued by certain statutory trust companies that are 100 percent owned finance subsidiaries of the Corporation.

Litigation and Regulatory Matters

The following disclosures supplement the disclosure in *Note 12 – Commitments and Contingencies* to the Consolidated Financial Statements of the Corporation's 2022 Annual Report on Form 10-K (the prior commitments and contingencies disclosure).

In the ordinary course of business, the Corporation and its subsidiaries are routinely defendants in or parties to many pending and threatened legal, regulatory and governmental actions and proceedings. In view of the inherent difficulty of predicting the outcome of such matters, particularly where the claimants seek very large or indeterminate damages or where the matters present novel legal theories or involve a large number of parties, the Corporation generally cannot predict the eventual outcome of the pending matters, timing of the ultimate resolution of these matters, or eventual loss, fines or penalties related to each pending matter.

As a matter develops, the Corporation, in conjunction with any outside counsel handling the matter, evaluates whether such matter presents a loss contingency that is probable and estimable, and, for the matters disclosed below and in the prior commitments and contingencies disclosure, whether a loss in excess of any accrued liability is reasonably possible in future periods. Once the loss contingency is deemed to be both probable and estimable, the Corporation will establish an accrued liability and record a corresponding amount of litigation-related expense. The Corporation continues to monitor the matter for further developments that could affect the amount of the accrued liability that has been previously established. Excluding expenses of internal and external legal service providers, litigation and regulatory investigation-related expense of $89 million and $106 million was recognized for the three months ended March 31, 2023 and 2022.

For any matter disclosed in this Note and in the prior commitments and contingencies disclosure for which a loss in future periods is reasonably possible and estimable (whether in excess of an accrued liability or where there is no accrued liability) and for representations and warranties exposures, the Corporation's estimated range of possible loss is $0 to $0.8 billion in excess of the accrued liability, if any, as of March 31, 2023.

The accrued liability and estimated range of possible loss are based upon currently available information and subject to significant judgment, a variety of assumptions and known and unknown uncertainties. The matters underlying the accrued liability and estimated range of possible loss are unpredictable and may change from time to time, and actual losses may vary significantly from the current estimate and accrual. The estimated range of possible loss does not represent the Corporation's maximum loss exposure.

Information is provided below and in the prior commitments and contingencies disclosure regarding the nature of the litigation and, where specified, associated claimed damages. Based on current knowledge, and taking into account accrued liabilities, management does not believe that loss contingencies arising from pending matters, including the matters described below and in the prior commitments and contingencies disclosure, will have a material adverse effect on the consolidated financial condition or liquidity of the Corporation. However, in light of the significant judgment, variety of assumptions and uncertainties involved in those matters, some of which are beyond the Corporation's control, and the very large or indeterminate damages sought in some of those matters, an adverse outcome in one or more of those matters could be material to the Corporation's business or results of operations for any particular reporting period, or cause significant reputational harm.

Deposit Insurance Assessment

On April 10, 2023, the magistrate judge issued a report and recommendation (the Report) for resolving the parties' pending summary judgment motions. The Report recommends granting the Federal Deposit Insurance Corporation's (FDIC) motion for summary judgment on BANA's statutory liability for the unpaid assessments, subject to BANA's statute of limitations defenses to assessments for the quarters ended March 31, 2012 through March 31, 2013, on which the Report recommends that relevant issues should be resolved at trial. The Report also recommends denying BANA's counterclaims challenging the adoption of the relevant assessment regulations and granting BANA's motion for summary judgment on the FDIC's claims for unjust enrichment and disgorgement. The Report will be submitted to the district court judge for consideration, and the parties have the opportunity to file objections to the recommendations in the Report.

NOTE 11 Shareholders' Equity

Common Stock

Declared Quarterly Cash Dividends on Common Stock [(1)]

Declaration Date	Record Date	Payment Date	Dividend Per Share
April 26, 2023	June 2, 2023	June 30, 2023	$ 0.22
February 1, 2023	March 3, 2023	March 31, 2023	0.22

(1) In 2023, and through May 1, 2023.

During the three months ended March 31, 2023, the Corporation repurchased and retired 67 million shares of common stock, which reduced shareholders' equity by $2.2 billion.

During the three months ended March 31, 2023, in connection with employee stock plans, the Corporation issued 68 million shares of its common stock and, to satisfy tax withholding obligations, repurchased 26 million shares of its common stock. At March 31, 2023, the Corporation had reserved 425 million unissued shares of common stock for future issuances under employee stock plans, convertible notes and preferred stock.

On April 26, 2023, the Board of Directors declared a quarterly common stock dividend of $0.22 per share.

Preferred Stock

During the three months ended March 31, 2023, the Corporation declared $505 million of cash dividends on preferred stock. For more information on the Corporation's preferred stock, including liquidation preference, dividend requirements and redemption period, see *Note 13 – Shareholders' Equity* to the Consolidated Financial Statements of the Corporation's 2022 Annual Report on Form 10-K.

NOTE 12 Accumulated Other Comprehensive Income (Loss)

The table below presents the changes in accumulated OCI after-tax for the three months ended March 31, 2023 and 2022.

(Dollars in millions)	Debt Securities	Debit Valuation Adjustments	Derivatives	Employee Benefit Plans	Foreign Currency	Total
Balance, December 31, 2021	$ 3,045	$ (1,636)	$ (1,880)	$ (3,642)	$ (991)	$ (5,104)
Net change	(3,447)	261	(5,179)	24	28	(8,313)
Balance, March 31, 2022	$ (402)	$ (1,375)	$ (7,059)	$ (3,618)	$ (963)	$ (13,417)
Balance, December 31, 2022	$ (2,983)	$ (881)	$ (11,935)	$ (4,309)	$ (1,048)	$ (21,156)
Net change	**555**	**10**	**2,042**	**10**	**12**	**2,629**
Balance, March 31, 2023	**$ (2,428)**	**$ (871)**	**$ (9,893)**	**$ (4,299)**	**$ (1,036)**	**$ (18,527)**

The table below presents the net change in fair value recorded in accumulated OCI, net realized gains and losses reclassified into earnings and other changes for each component of OCI pre- and after-tax for the three months ended March 31, 2023 and 2022.

	Pretax	Tax effect	After-tax	Pretax	Tax effect	After-tax
	Three Months Ended March 31					
(Dollars in millions)	2023			2022		
Debt securities:						
Net increase (decrease) in fair value	**$ 521**	**$ (123)**	**$ 398**	$ (4,565)	$ 1,123	$ (3,442)
Net realized (gains) losses reclassified into earnings [(1)]	**210**	**(53)**	**157**	(7)	2	(5)
Net change	**731**	**(176)**	**555**	(4,572)	1,125	(3,447)
Debit valuation adjustments:						
Net increase (decrease) in fair value	**9**	**(2)**	**7**	343	(83)	260
Net realized (gains) losses reclassified into earnings [(1)]	**4**	**(1)**	**3**	1	—	1
Net change	**13**	**(3)**	**10**	344	(83)	261
Derivatives:						
Net increase (decrease) in fair value	**2,568**	**(643)**	**1,925**	(6,893)	1,719	(5,174)
Reclassifications into earnings:						
Net interest income	**161**	**(40)**	**121**	6	(2)	4
Compensation and benefits expense	**(5)**	**1**	**(4)**	(12)	3	(9)
Net realized (gains) losses reclassified into earnings	**156**	**(39)**	**117**	(6)	1	(5)
Net change	**2,724**	**(682)**	**2,042**	(6,899)	1,720	(5,179)
Employee benefit plans:						
Net actuarial losses and other reclassified into earnings [(2)]	**13**	**(3)**	**10**	42	(18)	24
Net change	**13**	**(3)**	**10**	42	(18)	24
Foreign currency:						
Net increase (decrease) in fair value	**(77)**	**89**	**12**	80	(52)	28
Net change	**(77)**	**89**	**12**	80	(52)	28
Total other comprehensive income (loss)	**$ 3,404**	**$ (775)**	**$ 2,629**	$(11,005)	$ 2,692	$ (8,313)

(1) Reclassifications of pretax debt securities, DVA and foreign currency (gains) losses are recorded in other income in the Consolidated Statement of Income.
(2) Reclassifications of pretax employee benefit plan costs are recorded in other general operating expense in the Consolidated Statement of Income.

NOTE 13 Earnings Per Common Share

The calculation of earnings per common share (EPS) and diluted EPS for the three months ended March 31, 2023 and 2022 is presented below. For more information on the calculation of EPS, see *Note 1 – Summary of Significant Accounting Principles* to the Consolidated Financial Statements of the Corporation's 2022 Annual Report on Form 10-K.

	Three Months Ended March 31	
(In millions, except per share information)	**2023**	2022
Earnings per common share		
Net income	**$ 8,161**	$ 7,067
Preferred stock dividends	**(505)**	(467)
Net income applicable to common shareholders	**$ 7,656**	$ 6,600
Average common shares issued and outstanding	**8,065.9**	8,136.8
Earnings per common share	**$ 0.95**	$ 0.81
Diluted earnings per common share		
Net income applicable to common shareholders	**$ 7,656**	$ 6,600
Add preferred stock dividends due to assumed conversions	**56**	—
Net income allocated to common shareholders	**$ 7,712**	$ 6,600
Average common shares issued and outstanding	**8,065.9**	8,136.8
Dilutive potential common shares [1]	**116.4**	65.3
Total diluted average common shares issued and outstanding	**8,182.3**	8,202.1
Diluted earnings per common share	**$ 0.94**	$ 0.80

[1] Includes incremental dilutive shares from preferred stock, restricted stock units, restricted stock and warrants.

For the three months ended March 31, 2023, 62 million average dilutive potential common shares associated with the Series L preferred stock were included in the diluted share count under the "if-converted" method, whereas they were antidilutive for the three months ended March 31, 2022.

NOTE 14 Fair Value Measurements

Under applicable accounting standards, fair value is defined as the exchange price that would be received for an asset or paid to transfer a liability (an exit price) in the principal or most advantageous market for the asset or liability in an orderly transaction between market participants on the measurement date. The Corporation determines the fair values of its financial instruments under applicable accounting standards and conducts a review of fair value hierarchy classifications on a quarterly basis. Transfers into or out of fair value hierarchy classifications are made if the significant inputs used in the financial models measuring the fair values of the assets and liabilities become unobservable or observable in the current marketplace. During the three months ended March 31, 2023, there were no changes to valuation approaches or techniques that had, or are expected to have, a material impact on the Corporation's consolidated financial position or results of operations.

For more information regarding the fair value hierarchy, how the Corporation measures fair value and valuation techniques, see *Note 1 – Summary of Significant Accounting Principles* and *Note 20 – Fair Value Measurements* to the Consolidated Financial Statements of the Corporation's 2022 Annual Report on Form 10-K. The Corporation accounts for certain financial instruments under the fair value option. For more information, see *Note 15 – Fair Value Option*.

Recurring Fair Value

Assets and liabilities carried at fair value on a recurring basis at March 31, 2023 and December 31, 2022, including financial instruments that the Corporation accounts for under the fair value option, are summarized in the following tables.

(Dollars in millions)	March 31, 2023 Fair Value Measurements Level 1	Level 2	Level 3	Netting Adjustments [(1)]	Assets/Liabilities at Fair Value
Assets					
Time deposits placed and other short-term investments	$ 921	$ —	$ —	$ —	$ 921
Federal funds sold and securities borrowed or purchased under agreements to resell	—	163,505	—	—	163,505
Trading account assets:					
U.S. Treasury and government agencies	63,966	8	—	—	63,974
Corporate securities, trading loans and other	—	41,121	2,322	—	43,443
Equity securities	90,424	37,493	212	—	128,129
Non-U.S. sovereign debt	9,180	28,892	541	—	38,613
Mortgage trading loans, MBS and ABS:					
U.S. government-sponsored agency guaranteed	—	30,959	11	—	30,970
Mortgage trading loans, ABS and other MBS	—	8,560	1,289	—	9,849
Total trading account assets [(2)]	163,570	147,033	4,375	—	314,978
Derivative assets	14,626	342,584	3,555	(319,818)	40,947
AFS debt securities:					
U.S. Treasury and government agencies	100,579	928	—	—	101,507
Mortgage-backed securities:					
Agency	—	23,252	—	—	23,252
Agency-collateralized mortgage obligations	—	2,035	—	—	2,035
Non-agency residential	—	114	293	—	407
Commercial	—	6,440	—	—	6,440
Non-U.S. securities	—	12,933	187	—	13,120
Other taxable securities	—	4,746	—	—	4,746
Tax-exempt securities	—	10,852	51	—	10,903
Total AFS debt securities	100,579	61,300	531	—	162,410
Other debt securities carried at fair value:					
U.S. Treasury and government agencies	1,323	—	—	—	1,323
Non-agency residential MBS	—	206	94	—	300
Non-U.S. and other securities	2,989	5,488	—	—	8,477
Total other debt securities carried at fair value	4,312	5,694	94	—	10,100
Loans and leases	—	4,154	243	—	4,397
Loans held-for-sale	—	1,180	206	—	1,386
Other assets [(3)]	9,905	877	1,769	—	12,551
Total assets [(4)]	$ 293,913	$ 726,327	$ 10,773	$ (319,818)	$ 711,195
Liabilities					
Interest-bearing deposits in U.S. offices	$ —	$ 378	$ —	$ —	$ 378
Federal funds purchased and securities loaned or sold under agreements to repurchase	—	234,338	—	—	234,338
Trading account liabilities:					
U.S. Treasury and government agencies	13,886	5	—	—	13,891
Equity securities	44,410	5,528	—	—	49,938
Non-U.S. sovereign debt	12,659	8,165	—	—	20,824
Corporate securities and other	—	7,735	64	—	7,799
Total trading account liabilities	70,955	21,433	64	—	92,452
Derivative liabilities	15,976	341,556	6,334	(323,697)	40,169
Short-term borrowings	—	1,796	9	—	1,805
Accrued expenses and other liabilities	11,042	2,597	20	—	13,659
Long-term debt	—	38,641	772	—	39,413
Total liabilities [(4)]	$ 97,973	$ 640,739	$ 7,199	$ (323,697)	$ 422,214

(1) Amounts represent the impact of legally enforceable master netting agreements and also cash collateral held or placed with the same counterparties.

(2) Includes securities with a fair value of $18.2 billion that were segregated in compliance with securities regulations or deposited with clearing organizations. This amount is included in the parenthetical disclosure on the Consolidated Balance Sheet. Trading account assets also includes certain commodities inventory of $91 million that is accounted for at the lower of cost or net realizable value, which is the current selling price less any costs to sell.

(3) Includes MSRs, which are classified as Level 3 assets, of $986 million.

(4) Total recurring Level 3 assets were 0.34 percent of total consolidated assets, and total recurring Level 3 liabilities were 0.25 percent of total consolidated liabilities.

(Dollars in millions)	December 31, 2022				
	Fair Value Measurements				
	Level 1	Level 2	Level 3	Netting Adjustments [1]	Assets/Liabilities at Fair Value
Assets					
Time deposits placed and other short-term investments	$ 868	$ —	$ —	$ —	$ 868
Federal funds sold and securities borrowed or purchased under agreements to resell	—	146,999	—	—	146,999
Trading account assets:					
U.S. Treasury and government agencies	58,894	212	—	—	59,106
Corporate securities, trading loans and other	—	46,897	2,384	—	49,281
Equity securities	77,868	35,065	145	—	113,078
Non-U.S. sovereign debt	7,392	26,306	518	—	34,216
Mortgage trading loans, MBS and ABS:					
U.S. government-sponsored agency guaranteed	—	28,563	34	—	28,597
Mortgage trading loans, ABS and other MBS	—	10,312	1,518	—	11,830
Total trading account assets [2]	144,154	147,355	4,599	—	296,108
Derivative assets	14,775	380,380	3,213	(349,726)	48,642
AFS debt securities:					
U.S. Treasury and government agencies	158,102	920	—	—	159,022
Mortgage-backed securities:					
Agency	—	23,442	—	—	23,442
Agency-collateralized mortgage obligations	—	2,221	—	—	2,221
Non-agency residential	—	128	258	—	386
Commercial	—	6,407	—	—	6,407
Non-U.S. securities	—	13,212	195	—	13,407
Other taxable securities	—	4,645	—	—	4,645
Tax-exempt securities	—	11,207	51	—	11,258
Total AFS debt securities	158,102	62,182	504	—	220,788
Other debt securities carried at fair value:					
U.S. Treasury and government agencies	561	—	—	—	561
Non-agency residential MBS	—	248	119	—	367
Non-U.S. and other securities	3,027	5,251	—	—	8,278
Total other debt securities carried at fair value	3,588	5,499	119	—	9,206
Loans and leases	—	5,518	253	—	5,771
Loans held-for-sale	—	883	232	—	1,115
Other assets [3]	6,898	897	1,799	—	9,594
Total assets [4]	$ 328,385	$ 749,713	$ 10,719	$ (349,726)	$ 739,091
Liabilities					
Interest-bearing deposits in U.S. offices	$ —	$ 311	$ —	$ —	$ 311
Federal funds purchased and securities loaned or sold under agreements to repurchase	—	151,708	—	—	151,708
Trading account liabilities:					
U.S. Treasury and government agencies	13,906	181	—	—	14,087
Equity securities	36,937	4,825	—	—	41,762
Non-U.S. sovereign debt	9,636	8,228	—	—	17,864
Corporate securities and other	—	6,628	58	—	6,686
Total trading account liabilities	60,479	19,862	58	—	80,399
Derivative liabilities	15,431	376,979	6,106	(353,700)	44,816
Short-term borrowings	—	818	14	—	832
Accrued expenses and other liabilities	7,458	2,262	32	—	9,752
Long-term debt	—	32,208	862	—	33,070
Total liabilities [4]	$ 83,368	$ 584,148	$ 7,072	$ (353,700)	$ 320,888

(1) Amounts represent the impact of legally enforceable master netting agreements and also cash collateral held or placed with the same counterparties.
(2) Includes securities with a fair value of $16.6 billion that were segregated in compliance with securities regulations or deposited with clearing organizations. This amount is included in the parenthetical disclosure on the Consolidated Balance Sheet. Trading account assets also includes certain commodities inventory of $40 million that is accounted for at the lower of cost or net realizable value, which is the current selling price less any costs to sell.
(3) Includes MSRs, which are classified as Level 3 assets, of $1.0 billion.
(4) Total recurring Level 3 assets were 0.35 percent of total consolidated assets, and total recurring Level 3 liabilities were 0.25 percent of total consolidated liabilities.

The following tables present a reconciliation of all assets and liabilities measured at fair value on a recurring basis using significant unobservable inputs (Level 3) during the three months ended March 31, 2023 and 2022, including net realized and unrealized gains (losses) included in earnings and accumulated OCI. Transfers into Level 3 occur primarily due to decreased price observability, and transfers out of Level 3 occur primarily due to increased price observability. Transfers occur on a regular basis for long-term debt instruments due to changes in the impact of unobservable inputs on the value of the embedded derivative in relation to the instrument as a whole.

Level 3 – Fair Value Measurements [1]

(Dollars in millions)	Balance January 1	Total Realized/ Unrealized Gains (Losses) in Net Income [2]	Gains (Losses) in OCI [3]	Gross				Gross Transfers into Level 3	Gross Transfers out of Level 3	Balance March 31	Change in Unrealized Gains (Losses) in Net Income Related to Financial Instruments Still Held [2]
				Purchases	Sales	Issuances	Settlements				
Three Months Ended March 31, 2023											
Trading account assets:											
Corporate securities, trading loans and other	$ 2,384	$ 27	$ 1	$ 126	$(120)	$ 14	$ (144)	$ 148	$ (114)	$ 2,322	$ 3
Equity securities	145	(4)	—	6	(12)	—	—	77	—	212	(4)
Non-U.S. sovereign debt	518	26	16	3	(6)	—	(16)	—	—	541	26
Mortgage trading loans, MBS and ABS	1,552	(9)	—	74	(150)	—	(116)	87	(138)	1,300	(25)
Total trading account assets	4,599	40	17	209	(288)	14	(276)	312	(252)	4,375	—
Net derivative assets (liabilities) [4]	(2,893)	69	—	249	(268)	—	(315)	321	58	(2,779)	154
AFS debt securities:											
Non-agency residential MBS	258	3	34	—	—	—	(2)	—	—	293	3
Non-U.S. and other taxable securities	195	—	3	—	—	—	(8)	—	(3)	187	—
Tax-exempt securities	51	—	—	—	—	—	—	—	—	51	—
Total AFS debt securities	504	3	37	—	—	—	(10)	—	(3)	531	3
Other debt securities carried at fair value – Non-agency residential MBS	119	(2)	—	—	(19)	—	(2)	—	(2)	94	(2)
Loans and leases [5]	253	2	—	9	—	—	(37)	16	—	243	2
Loans held-for-sale [5]	232	12	2	—	(16)	—	(24)	—	—	206	12
Other assets [6,7]	1,799	10	1	6	—	27	(76)	2	—	1,769	(17)
Trading account liabilities – Corporate securities and other	(58)	—	—	—	(2)	(1)	—	(4)	1	(64)	—
Short-term borrowings [5]	(14)	—	—	—	(3)	(1)	9	—	—	(9)	—
Accrued expenses and other liabilities [5]	(32)	24	—	(12)	—	—	—	—	—	(20)	24
Long-term debt [5]	(862)	87	(6)	(9)	—	—	11	—	7	(772)	87
Three Months Ended March 31, 2022											
Trading account assets:											
Corporate securities, trading loans and other	$ 2,110	$ (2)	$ —	$ 12	$(153)	$ —	$ (18)	$ 368	$ (128)	$ 2,189	$ (21)
Equity securities	190	16	—	16	(6)	—	(4)	8	(37)	183	13
Non-U.S. sovereign debt	396	20	53	2	—	—	(15)	45	(5)	496	17
Mortgage trading loans, MBS and ABS	1,527	(92)	—	129	(155)	—	(21)	251	(24)	1,615	(47)
Total trading account assets	4,223	(58)	53	159	(314)	—	(58)	672	(194)	4,483	(38)
Net derivative assets (liabilities) [4]	(2,662)	617	—	58	(185)	—	107	(143)	74	(2,134)	643
AFS debt securities:											
Non-agency residential MBS	316	4	(24)	—	(8)	—	(44)	—	—	244	5
Non-U.S. and other taxable securities	71	—	(1)	—	—	—	—	87	(2)	155	—
Tax-exempt securities	52	—	—	—	—	—	—	—	—	52	—
Total AFS debt securities	439	4	(25)	—	(8)	—	(44)	87	(2)	451	5
Other debt securities carried at fair value – Non-agency residential MBS	242	(39)	—	—	—	—	(65)	—	—	138	(39)
Loans and leases [5]	748	(30)	—	—	(1)	—	(27)	—	—	690	(30)
Loans held-for-sale [5]	317	7	12	104	—	—	(58)	—	—	382	5
Other assets [6,7]	1,572	144	3	—	1	40	(69)	4	—	1,695	132
Trading account liabilities – Corporate securities and other	(11)	—	—	—	—	—	—	—	—	(11)	1
Accrued expenses and other liabilities [5]	—	(50)	—	—	—	—	—	—	—	(50)	(31)
Long-term debt [5]	(1,075)	(109)	33	—	—	—	4	(6)	276	(877)	(111)

(1) Assets (liabilities). For assets, increase (decrease) to Level 3 and for liabilities, (increase) decrease to Level 3.
(2) Includes gains (losses) reported in earnings in the following income statement line items: Trading account assets/liabilities - primarily market making and similar activities; Net derivative assets (liabilities) - market making and similar activities and other income; AFS debt securities - other income; Other debt securities carried at fair value - other income; Loans and leases - market making and similar activities and other income; Loans held-for-sale - other income; Other assets - market making and similar activities and other income related to MSRs; Short-term borrowings - market making and similar activities; Accrued expenses and other liabilities - market making and similar activities and other income; Long-term debt - market making and similar activities.
(3) Includes unrealized gains (losses) in OCI on AFS debt securities, foreign currency translation adjustments and the impact of changes in the Corporation's credit spreads on long-term debt accounted for under the fair value option. Amounts include net unrealized gains of $50 million and $81 million related to financial instruments still held at March 31, 2023 and 2022.
(4) Net derivative assets (liabilities) include derivative assets of $3.6 billion and $3.7 billion and derivative liabilities of $6.3 billion and $5.9 billion at March 31, 2023 and 2022.
(5) Amounts represent instruments that are accounted for under the fair value option.
(6) Issuances represent MSRs recognized following securitizations or whole-loan sales.
(7) Settlements primarily represent the net change in fair value of the MSR asset due to the recognition of modeled cash flows and the passage of time.

The following tables present information about significant unobservable inputs related to the Corporation's material categories of Level 3 financial assets and liabilities at March 31, 2023 and December 31, 2022.

Quantitative Information about Level 3 Fair Value Measurements at March 31, 2023

(Dollars in millions)

Financial Instrument	Fair Value	Valuation Technique	Inputs: Significant Unobservable Inputs	Inputs: Ranges of Inputs	Inputs: Weighted Average [1]
Loans and Securities [2]					
Instruments backed by residential real estate assets	**$ 763**	Discounted cash flow, Market comparables	Yield	0% to 25%	10%
Trading account assets – Mortgage trading loans, MBS and ABS	230		Prepayment speed	0% to 37% CPR	12% CPR
Loans and leases	146		Default rate	0% to 3% CDR	1% CDR
AFS debt securities – Non-agency residential	293		Price	$0 to $113	$26
Other debt securities carried at fair value – Non-agency residential	94		Loss severity	0% to 100%	23%
Instruments backed by commercial real estate assets	**$ 384**	Discounted cash flow	Yield	0% to 25%	11%
Trading account assets – Corporate securities, trading loans and other	325		Price	$0 to $100	$78
Trading account assets – Mortgage trading loans, MBS and ABS	59				
Commercial loans, debt securities and other	**$ 4,090**	Discounted cash flow, Market comparables	Yield	6% to 45%	19%
Trading account assets – Corporate securities, trading loans and other	1,997		Prepayment speed	10% to 20%	15%
Trading account assets – Non-U.S. sovereign debt	541		Default rate	3% to 4%	4%
Trading account assets – Mortgage trading loans, MBS and ABS	1,011		Loss severity	35% to 40%	38%
AFS debt securities – Tax-exempt securities	51		Price	$0 to $157	$75
AFS debt securities – Non-U.S. and other taxable securities	187				
Loans and leases	97				
Loans held-for-sale	206				
Other assets, primarily auction rate securities	**$ 783**	Discounted cash flow, Market comparables	Price	$10 to $97	$94
			Discount rate	11%	n/a
MSRs	**$ 986**	Discounted cash flow	Weighted-average life, fixed rate [5]	0 to 13 years	6 years
			Weighted-average life, variable rate [5]	0 to 11 years	3 years
			Option-adjusted spread, fixed rate	7% to 14%	9%
			Option-adjusted spread, variable rate	9% to 15%	12%
Structured liabilities					
Long-term debt	**$ (772)**	Discounted cash flow, Market comparables, Industry standard derivative pricing [3]	Yield	32% to 45%	33%
			Equity correlation	1% to 96%	89%
			Price	$0 to $122	$92
			Natural gas forward price	$3/MMBtu to $8/MMBtu	$4 /MMBtu
Net derivative assets (liabilities)					
Credit derivatives	**$ 4**	Discounted cash flow, Stochastic recovery correlation model	Credit spreads	4 to 78 bps	62 bps
			Prepayment speed	15% CPR	n/a
			Default rate	2% CDR	n/a
			Credit correlation	21% to 57%	50%
			Price	$0 to $151	$95
Equity derivatives	**$ (1,403)**	Industry standard derivative pricing [3]	Equity correlation	0% to 100%	62%
			Long-dated equity volatilities	4% to 111%	43%
Commodity derivatives	**$ (495)**	Discounted cash flow, Industry standard derivative pricing [3]	Natural gas forward price	$3/MMBtu to $8/MMBtu	$4 /MMBtu
			Power forward price	$5 to $105	$40
Interest rate derivatives	**$ (885)**	Industry standard derivative pricing [4]	Correlation (IR/IR)	(35)% to 89%	66%
			Correlation (FX/IR)	11% to 58%	43%
			Long-dated inflation rates	0% to 48%	0%
			Long-dated inflation volatilities	1% to 5%	2%
			Interest rate volatilities	0% to 2%	1%
Total net derivative assets (liabilities)	**$ (2,779)**				

(1) For loans and securities, structured liabilities and net derivative assets (liabilities), the weighted average is calculated based upon the absolute fair value of the instruments.
(2) The categories are aggregated based upon product type, which differs from financial statement classification. The following is a reconciliation to the line items in the table on page 83: Trading account assets – Corporate securities, trading loans and other of $2.3 billion, Trading account assets – Non-U.S. sovereign debt of $541 million, Trading account assets – Mortgage trading loans, MBS and ABS of $1.3 billion, AFS debt securities of $531 million, Other debt securities carried at fair value - Non-agency residential of $94 million, Other assets, including MSRs, of $1.8 billion, Loans and leases of $243 million and LHFS of $206 million.
(3) Includes models such as Monte Carlo simulation and Black-Scholes.
(4) Includes models such as Monte Carlo simulation, Black-Scholes and other methods that model the joint dynamics of interest, inflation and foreign exchange rates.
(5) The weighted-average life is a product of changes in market rates of interest, prepayment rates and other model and cash flow assumptions.

CPR = Constant Prepayment Rate
CDR = Constant Default Rate
MMBtu = Million British thermal units
IR = Interest Rate
FX = Foreign Exchange
n/a = not applicable

Quantitative Information about Level 3 Fair Value Measurements at December 31, 2022

(Dollars in millions)

Financial Instrument	Fair Value	Valuation Technique	Inputs: Significant Unobservable Inputs	Inputs: Ranges of Inputs	Inputs: Weighted Average [1]
Loans and Securities [2]					
Instruments backed by residential real estate assets	$ 852	Discounted cash flow, Market comparables	Yield	0% to 25%	10%
Trading account assets – Mortgage trading loans, MBS and ABS	338		Prepayment speed	0% to 29% CPR	12% CPR
Loans and leases	137		Default rate	0% to 3% CDR	1% CDR
AFS debt securities - Non-agency residential	258		Price	$0 to $111	$26
Other debt securities carried at fair value - Non-agency residential	119		Loss severity	0% to 100%	24%
Instruments backed by commercial real estate assets	$ 362	Discounted cash flow	Yield	0% to 25%	10%
Trading account assets – Corporate securities, trading loans and other	292		Price	$0 to $100	$75
Trading account assets – Mortgage trading loans, MBS and ABS	66				
Loans held-for-sale	4				
Commercial loans, debt securities and other	$ 4,348	Discounted cash flow, Market comparables	Yield	5% to 43%	15%
Trading account assets – Corporate securities, trading loans and other	2,092		Prepayment speed	10% to 20%	15%
Trading account assets – Non-U.S. sovereign debt	518		Default rate	3% to 4%	4%
Trading account assets – Mortgage trading loans, MBS and ABS	1,148		Loss severity	35% to 40%	38%
AFS debt securities – Tax-exempt securities	51		Price	$0 to $157	$75
AFS debt securities – Non-U.S. and other taxable securities	195				
Loans and leases	116				
Loans held-for-sale	228				
Other assets, primarily auction rate securities	$ 779	Discounted cash flow, Market comparables	Price	$10 to $97	$94
			Discount rate	11%	n/a
MSRs	$ 1,020	Discounted cash flow	Weighted-average life, fixed rate [5]	0 to 14 years	6 years
			Weighted-average life, variable rate [5]	0 to 12 years	4 years
			Option-adjusted spread, fixed rate	7% to 14%	9%
			Option-adjusted spread, variable rate	9% to 15%	12%
Structured liabilities					
Long-term debt	$ (862)	Discounted cash flow, Market comparables, Industry standard derivative pricing [3]	Yield	22% to 43%	23%
			Equity correlation	0% to 95%	69%
			Price	$0 to $119	$90
			Natural gas forward price	$3/MMBtu to $13/MMBtu	$9/MMBtu
Net derivative assets (liabilities)					
Credit derivatives	$ (44)	Discounted cash flow, Stochastic recovery correlation model	Credit spreads	3 to 63 bps	22 bps
			Upfront points	0 to 100 points	83 points
			Prepayment speed	15% CPR	n/a
			Default rate	2% CDR	n/a
			Credit correlation	18% to 53%	44%
			Price	$0 to $151	$63
Equity derivatives	$ (1,534)	Industry standard derivative pricing [3]	Equity correlation	0% to 100%	73%
			Long-dated equity volatilities	4% to 101%	44%
Commodity derivatives	$ (291)	Discounted cash flow, Industry standard derivative pricing [3]	Natural gas forward price	$3/MMBtu to $13/MMBtu	$8/MMBtu
			Power forward price	$9 to $123	$43
Interest rate derivatives	$ (1,024)	Industry standard derivative pricing [4]	Correlation (IR/IR)	(35)% to 89%	67%
			Correlation (FX/IR)	11% to 58%	43%
			Long-dated inflation rates	0% to 39%	1%
			Long-dated inflation volatilities	0% to 5%	2%
			Interest rates volatilities	0% to 2%	1%
Total net derivative assets (liabilities)	$ (2,893)				

(1) For loans and securities, structured liabilities and net derivative assets (liabilities), the weighted average is calculated based upon the absolute fair value of the instruments.
(2) The categories are aggregated based upon product type, which differs from financial statement classification. The following is a reconciliation to the line items in the table on page 84: Trading account assets – Corporate securities, trading loans and other of $2.4 billion, Trading account assets – Non-U.S. sovereign debt of $518 million, Trading account assets – Mortgage trading loans, MBS and ABS of $1.6 billion, AFS debt securities of $504 million, Other debt securities carried at fair value - Non-agency residential of $119 million, Other assets, including MSRs, of $1.8 billion, Loans and leases of $253 million and LHFS of $232 million.
(3) Includes models such as Monte Carlo simulation and Black-Scholes.
(4) Includes models such as Monte Carlo simulation, Black-Scholes and other methods that model the joint dynamics of interest, inflation and foreign exchange rates.
(5) The weighted-average life is a product of changes in market rates of interest, prepayment rates and other model and cash flow assumptions.

CPR = Constant Prepayment Rate
CDR = Constant Default Rate
MMBtu = Million British thermal units
IR = Interest Rate
FX = Foreign Exchange
n/a = not applicable

Uncertainty of Fair Value Measurements from Unobservable Inputs

For information on the types of instruments, valuation approaches and the impact of changes in unobservable inputs used in Level 3 measurements, see *Note 20 – Fair Value Measurements* to the Consolidated Financial Statements of the Corporation's 2022 Annual Report on Form 10-K.

Nonrecurring Fair Value

The Corporation holds certain assets that are measured at fair value only in certain situations (e.g., the impairment of an asset), and these measurements are referred to herein as nonrecurring. The amounts below represent assets still held as of the reporting date for which a nonrecurring fair value adjustment was recorded during the three months ended March 31, 2023 and 2022.

Assets Measured at Fair Value on a Nonrecurring Basis

	March 31, 2023		Three Months Ended March 31, 2023
(Dollars in millions)	Level 2	Level 3	Gains (Losses)
Assets			
Loans held-for-sale	**$ 715**	**$ 3,428**	**$ (34)**
Loans and leases [1]	**—**	**57**	**(11)**
Foreclosed properties [2, 3]	**—**	**4**	**(1)**
Other assets	**—**	**30**	**(6)**
	March 31, 2022		Three Months Ended March 31, 2022
Assets			
Loans held-for-sale	$ 31	$ 543	$ (1)
Loans and leases [1]	—	68	(15)
Foreclosed properties [2, 3]	—	1	—
Other assets	—	50	(18)

(1) Includes $3 million and $6 million of losses on loans that were written down to a collateral value of zero during the three months ended March 31, 2023 and 2022.
(2) Amounts are included in other assets on the Consolidated Balance Sheet and represent the carrying value of foreclosed properties that were written down subsequent to their initial classification as foreclosed properties. Losses on foreclosed properties include losses recorded during the first 90 days after transfer of a loan to foreclosed properties.
(3) Excludes $60 million and $61 million of properties acquired upon foreclosure of certain government-guaranteed loans (principally FHA-insured loans) at March 31, 2023 and 2022.

The table below presents information about significant unobservable inputs utilized in the Corporation's nonrecurring Level 3 fair value measurements during the three months ended March 31, 2023 and the year ended December 31, 2022.

Quantitative Information about Nonrecurring Level 3 Fair Value Measurements

			Inputs		
Financial Instrument	Fair Value	Valuation Technique	Significant Unobservable Inputs	Ranges of Inputs	Weighted Average [1]
(Dollars in millions)			**Three Months Ended March 31, 2023**		
Loans held-for-sale	**$ 3,428**	Pricing model	Implied yield	12% to 26%	n/a
Loans and leases [2]	**57**	Market comparables	OREO discount	10% to 66%	26%
			Costs to sell	8% to 24%	9%
			Year Ended December 31, 2022		
Loans held-for-sale	$ 3,079	Pricing model	Implied yield	9% to 24%	n/a
Loans and leases [2]	166	Market comparables	OREO discount	10% to 66%	26%
			Costs to sell	8% to 24%	9%
Other assets [3]	165	Discounted cash flow	Discount rate	7 %	n/a

(1) The weighted average is calculated based upon the fair value of the loans.
(2) Represents residential mortgages where the loan has been written down to the fair value of the underlying collateral.
(3) Represents the fair value of certain impaired renewable energy investments.
n/a = not applicable

NOTE 15 Fair Value Option

The Corporation elects to account for certain financial instruments under the fair value option. For more information on the primary financial instruments for which the fair value option elections have been made, see *Note 21 – Fair Value Option* to the Consolidated Financial Statements of the Corporation's 2022 Annual Report on Form 10-K. The following tables provide information about the fair value carrying amount and the contractual principal outstanding of assets and liabilities accounted for under the fair value option at March 31, 2023 and December 31, 2022, and information about where changes in the fair value of assets and liabilities accounted for under the fair value option are included in the Consolidated Statement of Income for the three months ended March 31, 2023 and 2022.

Fair Value Option Elections

(Dollars in millions)	March 31, 2023 Fair Value Carrying Amount	March 31, 2023 Contractual Principal Outstanding	March 31, 2023 Fair Value Carrying Amount Less Unpaid Principal	December 31, 2022 Fair Value Carrying Amount	December 31, 2022 Contractual Principal Outstanding	December 31, 2022 Fair Value Carrying Amount Less Unpaid Principal
Federal funds sold and securities borrowed or purchased under agreements to resell	$ 163,505	$ 163,392	$ 113	$ 146,999	$ 147,158	$ (159)
Loans reported as trading account assets [1]	10,296	17,946	(7,650)	10,143	17,682	(7,539)
Trading inventory – other	22,423	n/a	n/a	20,770	n/a	n/a
Consumer and commercial loans	4,397	4,571	(174)	5,771	5,897	(126)
Loans held-for-sale [1]	1,386	2,240	(854)	1,115	1,873	(758)
Other assets	633	n/a	n/a	620	n/a	n/a
Long-term deposits	378	432	(54)	311	381	(70)
Federal funds purchased and securities loaned or sold under agreements to repurchase	234,338	234,496	(158)	151,708	151,885	(177)
Short-term borrowings	1,805	1,820	(15)	832	833	(1)
Unfunded loan commitments	122	n/a	n/a	110	n/a	n/a
Accrued expenses and other liabilities	1,544	1,523	21	1,217	1,161	56
Long-term debt	39,413	43,379	(3,966)	33,070	36,830	(3,760)

(1) A significant portion of the loans reported as trading account assets and LHFS are distressed loans that were purchased at a deep discount to par, and the remainder are loans with a fair value near contractual principal outstanding.
n/a = not applicable

Gains (Losses) Related to Assets and Liabilities Accounted for Under the Fair Value Option

	Three Months Ended March 31					
	2023			2022		
(Dollars in millions)	Market making and similar activities	Other Income	Total	Market making and similar activities	Other Income	Total
Loans reported as trading account assets	$ 57	$ —	$ 57	$ 4	$ —	$ 4
Trading inventory – other [1]	1,728	—	1,728	460	—	460
Consumer and commercial loans	(123)	30	(93)	(22)	(13)	(35)
Loans held-for-sale [2]	—	20	20	—	(132)	(132)
Short-term borrowings	5	—	5	559	—	559
Long-term debt [3]	(918)	(16)	(934)	1,124	(11)	1,113
Other [4]	29	(33)	(4)	(5)	10	5
Total	$ 778	$ 1	$ 779	$ 2,120	$ (146)	$ 1,974

(1) The gains (losses) in market making and similar activities are primarily offset by (losses) gains on trading liabilities that hedge these assets.
(2) Includes the value of IRLCs on funded loans, including those sold during the period.
(3) The net gains (losses) in market making and similar activities relate to the embedded derivatives in structured liabilities and are typically offset by (losses) gains on derivatives and securities that hedge these liabilities. For the cumulative impact of changes in the Corporation's own credit spreads and the amount recognized in accumulated OCI, see *Note 12 – Accumulated Other Comprehensive Income (Loss)*. For more information on how the Corporation's own credit spread is determined, see *Note 20 – Fair Value Measurements* to the Consolidated Financial Statements of the Corporation's 2022 Annual Report on Form 10-K.
(4) Includes gains (losses) on federal funds sold and securities borrowed or purchased under agreements to resell, other assets, long-term deposits, federal funds purchased and securities loaned or sold under agreements to repurchase, accrued expenses and other liabilities and unfunded loan commitments.

Gains (Losses) Related to Borrower-specific Credit Risk for Assets and Liabilities Accounted for Under the Fair Value Option

	Three Months Ended March 31	
(Dollars in millions)	2023	2022
Loans reported as trading account assets	$ 40	$ (31)
Consumer and commercial loans	24	(20)
Loans held-for-sale	2	(11)
Unfunded loan commitments	(24)	(7)

NOTE 16 Fair Value of Financial Instruments

The following disclosures include financial instruments that are not carried at fair value or only a portion of the ending balance is carried at fair value on the Consolidated Balance Sheet. Certain loans, deposits, long-term debt, unfunded lending commitments and other financial instruments are accounted for under the fair value option. For more information, see *Note 21 – Fair Value Option* to the Consolidated Financial Statements of the Corporation's 2022 Annual Report on Form 10-K.

Fair Value of Financial Instruments

The carrying values and fair values by fair value hierarchy of certain financial instruments where only a portion of the ending balance was carried at fair value at March 31, 2023 and December 31, 2022 are presented in the following table.

Fair Value of Financial Instruments

(Dollars in millions)	Carrying Value	Fair Value Level 2	Fair Value Level 3	Fair Value Total
	March 31, 2023			
Financial assets				
Loans	**$ 1,015,672**	**$ 48,940**	**$ 944,580**	**$ 993,520**
Loans held-for-sale	**6,809**	**3,073**	**3,736**	**6,809**
Financial liabilities				
Deposits [(1)]	**1,910,402**	**1,910,537**	**—**	**1,910,537**
Long-term debt	**283,873**	**280,599**	**997**	**281,596**
Commercial unfunded lending commitments [(2)]	**1,559**	**101**	**5,912**	**6,013**
	December 31, 2022			
Financial assets				
Loans	$ 1,014,593	$ 50,194	$ 935,282	$ 985,476
Loans held-for-sale	6,871	3,417	3,455	6,872
Financial liabilities				
Deposits [(1)]	1,930,341	1,930,165	—	1,930,165
Long-term debt	275,982	271,993	1,136	273,129
Commercial unfunded lending commitments [(2)]	1,650	77	6,596	6,673

(1) Includes demand deposits of $924.8 billion and $918.9 billion with no stated maturities at March 31, 2023 and December 31, 2022.
(2) The carrying value of commercial unfunded lending commitments is included in accrued expenses and other liabilities on the Consolidated Balance Sheet. The Corporation does not estimate the fair value of consumer unfunded lending commitments because, in many instances, the Corporation can reduce or cancel these commitments by providing notice to the borrower. For more information on commitments, see *Note 10 – Commitments and Contingencies*.

NOTE 17 Business Segment Information

The Corporation reports its results of operations through the following four business segments: *Consumer Banking*, *Global Wealth & Investment Management, Global Banking* and *Global Markets*, with the remaining operations recorded in *All Other*. For more information, see *Note 23 – Business Segment Information* to the Consolidated Financial Statements of the Corporation's 2022 Annual Report on Form 10-K. The following tables present net income and the components thereto (with net interest income on an FTE basis for the business segments, *All Other* and the total Corporation) for the three months ended March 31, 2023 and 2022, and total assets at March 31, 2023 and 2022 for each business segment, as well as *All Other.*

Results of Business Segments and All Other

At and for the three months ended March 31	**Total Corporation [(1)]**		**Consumer Banking**		**Global Wealth & Investment Management**	
(Dollars in millions)	**2023**	2022	**2023**	2022	**2023**	2022
Net interest income	**$ 14,582**	$ 11,678	**$ 8,593**	$ 6,680	**$ 1,876**	$ 1,668
Noninterest income	**11,810**	11,656	**2,113**	2,133	**3,439**	3,808
Total revenue, net of interest expense	**26,392**	23,334	**10,706**	8,813	**5,315**	5,476
Provision for credit losses	**931**	30	**1,089**	(52)	**25**	(41)
Noninterest expense	**16,238**	15,319	**5,473**	4,921	**4,067**	4,015
Income before income taxes	**9,223**	7,985	**4,144**	3,944	**1,223**	1,502
Income tax expense	**1,062**	918	**1,036**	966	**306**	368
Net income	**$ 8,161**	$ 7,067	**$ 3,108**	$ 2,978	**$ 917**	$ 1,134
Period-end total assets	**$ 3,194,657**	$ 3,238,223	**$ 1,124,438**	$ 1,166,443	**$ 349,888**	$ 433,122

	Global Banking		**Global Markets**		**All Other**	
	2023	2022	**2023**	2022	**2023**	2022
Net interest income	**$ 3,907**	$ 2,344	**$ 109**	$ 993	**$ 97**	$ (7)
Noninterest income	**2,296**	2,850	**5,517**	4,299	**(1,555)**	(1,434)
Total revenue, net of interest expense	**6,203**	5,194	**5,626**	5,292	**(1,458)**	(1,441)
Provision for credit losses	**(237)**	165	**(53)**	5	**107**	(47)
Noninterest expense	**2,940**	2,683	**3,351**	3,117	**407**	583
Income before income taxes	**3,500**	2,346	**2,328**	2,170	**(1,972)**	(1,977)
Income tax expense	**945**	622	**640**	575	**(1,865)**	(1,613)
Net income	**$ 2,555**	$ 1,724	**$ 1,688**	$ 1,595	**$ (107)**	$ (364)
Period-end total assets	**$ 591,231**	$ 623,168	**$ 861,477**	$ 883,304	**$ 267,623**	$ 132,186

(1) There were no material intersegment revenues.

The table below presents noninterest income and the associated components for the three months ended March 31, 2023 and 2022 for each business segment, *All Other* and the total Corporation. For more information, see *Note 2 – Net Interest Income and Noninterest Income*.

Noninterest Income by Business Segment and All Other

	Total Corporation		Consumer Banking		Global Wealth & Investment Management	
			Three Months Ended March 31			
(Dollars in millions)	**2023**	2022	**2023**	2022	**2023**	2022
Fees and commissions:						
Card income						
Interchange fees	**$ 956**	$ 935	**$ 753**	$ 743	**$ —**	$ 7
Other card income	**513**	468	**521**	442	**12**	11
Total card income	**1,469**	1,403	**1,274**	1,185	**12**	18
Service charges						
Deposit-related fees	**1,097**	1,530	**599**	844	**11**	19
Lending-related fees	**313**	303	**—**	—	**8**	—
Total service charges	**1,410**	1,833	**599**	844	**19**	19
Investment and brokerage services						
Asset management fees	**2,918**	3,286	**47**	52	**2,873**	3,234
Brokerage fees	**934**	1,006	**27**	31	**365**	420
Total investment and brokerage services	**3,852**	4,292	**74**	83	**3,238**	3,654
Investment banking fees						
Underwriting income	**569**	672	**—**	—	**39**	66
Syndication fees	**231**	312	**—**	—	**—**	—
Financial advisory services	**363**	473	**—**	—	**—**	—
Total investment banking fees	**1,163**	1,457	**—**	—	**39**	66
Total fees and commissions	**7,894**	8,985	**1,947**	2,112	**3,308**	3,757
Market making and similar activities	**4,712**	3,238	**5**	—	**34**	13
Other income (loss)	**(796)**	(567)	**161**	21	**97**	38
Total noninterest income	**$ 11,810**	$ 11,656	**$ 2,113**	$ 2,133	**$ 3,439**	$ 3,808

	Global Banking		Global Markets		All Other [1]	
			Three Months Ended March 31			
	2023	2022	**2023**	2022	**2023**	2022
Fees and commissions:						
Card income						
Interchange fees	**$ 187**	$ 175	**$ 16**	$ 14	**$ —**	$ (4)
Other card income	**3**	1	**—**	—	**(23)**	14
Total card income	**190**	176	**16**	14	**(23)**	10
Service charges						
Deposit-related fees	**467**	637	**20**	28	**—**	2
Lending-related fees	**247**	249	**58**	54	**—**	—
Total service charges	**714**	886	**78**	82	**—**	2
Investment and brokerage services						
Asset management fees	**—**	—	—	—	**(2)**	—
Brokerage fees	**9**	12	**533**	545	**—**	(2)
Total investment and brokerage services	**9**	12	**533**	545	**(2)**	(2)
Investment banking fees						
Underwriting income	**229**	275	**314**	402	**(13)**	(71)
Syndication fees	**126**	166	**105**	146	**—**	—
Financial advisory services	**313**	439	**50**	34	**—**	—
Total investment banking fees	**668**	880	**469**	582	**(13)**	(71)
Total fees and commissions	**1,581**	1,954	**1,096**	1,223	**(38)**	(61)
Market making and similar activities	**45**	49	**4,398**	3,190	**230**	(14)
Other income (loss)	**670**	847	**23**	(114)	**(1,747)**	(1,359)
Total noninterest income	**$ 2,296**	$ 2,850	**$ 5,517**	$ 4,299	**$ (1,555)**	$ (1,434)

(1) *All Other* includes eliminations of intercompany transactions.

Business Segment Reconciliations

(Dollars in millions)	Three Months Ended March 31 2023	2022
Segments’ total revenue, net of interest expense	$ 27,850	$ 24,775
Adjustments [1]:		
Asset and liability management activities	(225)	(67)
Liquidating businesses, eliminations and other	(1,233)	(1,374)
FTE basis adjustment	(134)	(106)
Consolidated revenue, net of interest expense	$ 26,258	$ 23,228
Segments’ total net income	8,268	7,431
Adjustments, net-of-tax [1]:		
Asset and liability management activities	(174)	(58)
Liquidating businesses, eliminations and other	67	(306)
Consolidated net income	$ 8,161	$ 7,067

	March 31 2023	2022
Segments’ total assets	$ 2,927,034	$ 3,106,037
Adjustments [1]:		
Asset and liability management activities, including securities portfolio	1,229,425	1,281,639
Elimination of segment asset allocations to match liabilities	(1,024,196)	(1,216,401)
Other	62,394	66,948
Consolidated total assets	$ 3,194,657	$ 3,238,223

(1) Adjustments include consolidated income, expense and asset amounts not specifically allocated to individual business segments.

Glossary

Alt-A Mortgage – A type of U.S. mortgage that is considered riskier than A-paper, or "prime," and less risky than "subprime," the riskiest category. Typically, Alt-A mortgages are characterized by borrowers with less than full documentation, lower credit scores and higher LTVs.

Assets Under Management (AUM) – The total market value of assets under the investment advisory and/or discretion of *GWIM* which generate asset management fees based on a percentage of the assets' market values. AUM reflects assets that are generally managed for institutional, high net worth and retail clients, and are distributed through various investment products including mutual funds, other commingled vehicles and separate accounts.

Banking Book – All on- and off-balance sheet financial instruments of the Corporation except for those positions that are held for trading purposes.

Brokerage and Other Assets – Non-discretionary client assets which are held in brokerage accounts or held for safekeeping.

Committed Credit Exposure – Any funded portion of a facility plus the unfunded portion of a facility on which the lender is legally bound to advance funds during a specified period under prescribed conditions.

Credit Derivatives – Contractual agreements that provide protection against a specified credit event on one or more referenced obligations.

Credit Valuation Adjustment (CVA) – A portfolio adjustment required to properly reflect the counterparty credit risk exposure as part of the fair value of derivative instruments.

Debit Valuation Adjustment (DVA) – A portfolio adjustment required to properly reflect the Corporation's own credit risk exposure as part of the fair value of derivative instruments and/or structured liabilities.

Funding Valuation Adjustment (FVA) – A portfolio adjustment required to include funding costs on uncollateralized derivatives and derivatives where the Corporation is not permitted to use the collateral it receives.

Interest Rate Lock Commitment (IRLC) – Commitment with a loan applicant in which the loan terms are guaranteed for a designated period of time subject to credit approval.

Letter of Credit – A document issued on behalf of a customer to a third party promising to pay the third party upon presentation of specified documents. A letter of credit effectively substitutes the issuer's credit for that of the customer.

Loan-to-value (LTV) – A commonly used credit quality metric. LTV is calculated as the outstanding carrying value of the loan divided by the estimated value of the property securing the loan.

Macro Products – Include currencies, interest rates and commodities products.

Margin Receivable – An extension of credit secured by eligible securities in certain brokerage accounts.

Matched Book – Repurchase and resale agreements or securities borrowed and loaned transactions where the overall asset and liability position is similar in size and/or maturity. Generally, these are entered into to accommodate customers where the Corporation earns the interest rate spread.

Mortgage Servicing Right (MSR) – The right to service a mortgage loan when the underlying loan is sold or securitized. Servicing includes collections for principal, interest and escrow payments from borrowers and accounting for and remitting principal and interest payments to investors.

Nonperforming Loans and Leases – Includes loans and leases that have been placed on nonaccrual status, including nonaccruing loans whose contractual terms have been restructured in a manner that grants a concession to a borrower experiencing financial difficulties.

Prompt Corrective Action (PCA) – A framework established by the U.S. banking regulators requiring banks to maintain certain levels of regulatory capital ratios, comprised of five categories of capitalization: "well capitalized," "adequately capitalized," "undercapitalized," "significantly undercapitalized" and "critically undercapitalized." Insured depository institutions that fail to meet certain of these capital levels are subject to increasingly strict limits on their activities, including their ability to make capital distributions, pay management compensation, grow assets and take other actions.

Subprime Loans – Although a standard industry definition for subprime loans (including subprime mortgage loans) does not exist, the Corporation defines subprime loans as specific product offerings for higher risk borrowers.

Troubled Debt Restructurings (TDRs) – Loans whose contractual terms have been restructured in a manner that grants a concession to a borrower experiencing financial difficulties. Certain consumer loans for which a binding offer to restructure has been extended are also classified as TDRs.

Value-at-Risk (VaR) – VaR is a model that simulates the value of a portfolio under a range of hypothetical scenarios in order to generate a distribution of potential gains and losses. VaR represents the loss the portfolio is expected to experience with a given confidence level based on historical data. A VaR model is an effective tool in estimating ranges of potential gains and losses on our trading portfolios.

Key Metrics

Active Digital Banking Users – Mobile and/or online active users over the past 90 days.

Active Mobile Banking Users – Mobile active users over the past 90 days.

Book Value – Ending common shareholders' equity divided by ending common shares outstanding.

Common Equity Ratio - Ending common shareholders' equity divided by ending total assets.

Deposit Spread – Annualized net interest income divided by average deposits.

Dividend Payout Ratio – Common dividends declared divided by net income applicable to common shareholders.

Efficiency Ratio – Noninterest expense divided by total revenue, net of interest expense.

Gross Interest Yield – Effective annual percentage rate divided by average loans.

Net Interest Yield – Net interest income divided by average total interest-earning assets.

Operating Margin – Income before income taxes divided by total revenue, net of interest expense.

Return on Average Allocated Capital – Adjusted net income divided by allocated capital.

Return on Average Assets – Net income divided by total average assets.

Return on Average Common Shareholders' Equity – Net income applicable to common shareholders divided by average common shareholders' equity.

Return on Average Shareholders' Equity – Net income divided by average shareholders' equity.

Risk-adjusted Margin – Difference between total revenue, net of interest expense, and net credit losses divided by average loans.

Acronyms

ABS	Asset-backed securities
AFS	Available-for-sale
ALM	Asset and liability management
ARR	Alternative reference rates
AUM	Assets under management
BANA	Bank of America, National Association
BHC	Bank holding company
BofAS	BofA Securities, Inc.
BofASE	BofA Securities Europe SA
bps	Basis points
CCAR	Comprehensive Capital Analysis and Review
CDO	Collateralized debt obligation
CDS	Credit default swap
CECL	Current expected credit losses
CET1	Common equity tier 1
CFTC	Commodity Futures Trading Commission
CLO	Collateralized loan obligation
CLTV	Combined loan-to-value
CVA	Credit valuation adjustment
DVA	Debit valuation adjustment
ECL	Expected credit losses
EPS	Earnings per common share
ESG	Environmental, social and governance
FCA	Financial Conduct Authority
FDIC	Federal Deposit Insurance Corporation
FHA	Federal Housing Administration
FHLB	Federal Home Loan Bank
FHLMC	Freddie Mac
FICC	Fixed income, currencies and commodities
FICO	Fair Isaac Corporation (credit score)
FNMA	Fannie Mae
FTE	Fully taxable-equivalent
FVA	Funding valuation adjustment
GAAP	Accounting principles generally accepted in the United States of America
GLS	Global Liquidity Sources
GNMA	Government National Mortgage Association
GWIM	Global Wealth & Investment Management
HELOC	Home equity line of credit
HQLA	High Quality Liquid Assets
HTM	Held-to-maturity
IBOR	Interbank Offered Rates
IRLC	Interest rate lock commitment
ISDA	International Swaps and Derivatives Association, Inc.
LCR	Liquidity Coverage Ratio
LHFS	Loans held-for-sale
LIBOR	London Interbank Offered Rate
LTV	Loan-to-value
MBS	Mortgage-backed securities
MD&A	Management's Discussion and Analysis of Financial Condition and Results of Operations
MLI	Merrill Lynch International
MLPCC	Merrill Lynch Professional Clearing Corp
MLPF&S	Merrill Lynch, Pierce, Fenner & Smith Incorporated
MSA	Metropolitan Statistical Area
MSR	Mortgage servicing right
NSFR	Net Stable Funding Ratio
OCI	Other comprehensive income
OREO	Other real estate owned
PCA	Prompt Corrective Action
PPP	Paycheck Protection Program
RMBS	Residential mortgage-backed securities
RSU	Restricted stock unit
RWA	Risk-weighted assets
SBA	Small Business Administration
SBLC	Standby letter of credit
SCB	Stress capital buffer
SEC	Securities and Exchange Commission
SLR	Supplementary leverage ratio
SOFR	Secured Overnight Financing Rate
TDR	Troubled debt restructuring
TLAC	Total loss-absorbing capacity
VaR	Value-at-Risk
VIE	Variable interest entity

Part II. Other Information

Bank of America Corporation and Subsidiaries

Item 1. Legal Proceedings

See Litigation and Regulatory Matters in *Note 10 – Commitments and Contingencies* to the Consolidated Financial Statements, which is incorporated by reference in this Item 1, for litigation and regulatory disclosure that supplements the disclosure in *Note 12 – Commitments and Contingencies* to the Consolidated Financial Statements of the Corporation's 2022 Annual Report on Form 10-K.

Item 1A. Risk Factors

There are no material changes from the risk factors set forth under Part 1, Item 1A. Risk Factors of the Corporation's 2022 Annual Report on Form 10-K.

Item 2. Unregistered Sales of Equity Securities and Use of Proceeds

The table below presents share repurchase activity for the three months ended March 31, 2023. The primary source of funds for cash distributions by the Corporation to its shareholders is dividends received from its banking subsidiaries. Each of the banking subsidiaries is subject to various regulatory policies and requirements relating to the payment of dividends, including requirements to maintain capital above regulatory minimums. All of the Corporation's preferred stock outstanding has preference over the Corporation's common stock with respect to payment of dividends.

(Dollars in millions, except per share information; shares in thousands)	Total Common Shares Repurchased [1,2]	Weighted-Average Per Share Price	Total Shares Purchased as Part of Publicly Announced Programs [2]	Remaining Buyback Authority Amounts [3]
January 1 - 31, 2023	11,828	$ 34.56	9,568	$ 15,529
February 1 - 28, 2023	43,057	35.58	23,341	14,886
March 1 - 31, 2023	37,564	31.44	33,881	14,101
Three months ended March 31, 2023	**92,449**	**33.77**	**66,790**	

(1) Includes 26 million shares of the Corporation's common stock acquired by the Corporation in connection with satisfaction of tax withholding obligations on vested restricted stock or restricted stock units and certain forfeitures and terminations of employment-related awards and for potential re-issuance to certain employees under equity incentive plans.

(2) In October 2021, the Corporation's Board of Directors (Board) authorized the repurchase of up to $25 billion of common stock over time (October 2021 Authorization). Additionally, the Board authorized repurchases to offset shares awarded under equity-based compensation plans. During the three months ended March 31, 2023, pursuant to the Board's authorizations, the Corporation repurchased 67 million shares, or $2.2 billion, of its common stock, including repurchases to offset shares awarded under equity-based compensation plans. For more information, see Capital Management - CCAR and Capital Planning in the MD&A on page 17 and *Note 11 – Shareholders' Equity* to the Consolidated Financial Statements.

(3) Remaining Buyback Authority Amounts represents the remaining buyback authority of the October 2021 Authorization. Excludes repurchases to offset shares awarded under equity-based compensation plans.

The Corporation did not have any unregistered sales of equity securities during the three months ended March 31, 2023.

Item 6. Exhibits

Exhibit No.	Description	Notes	Form	Exhibit	Filing Date	File No.
			Incorporated by Reference			
3.1	Restated Certificate of Incorporation, as amended and in effect on the date hereof		10-Q	3.1	4/29/22	1-6523
3.2	Amended and Restated Bylaws of the Corporation as in effect on the date hereof		10-K	3.2	2/22/23	1-6523
10.1	ESA Retention Agreement dated March 15, 2004 between the Corporation and Dean C. Athanasia	2	10-Q	10(c)	4/26/19	1-6523
22	Subsidiary Issuers of Guaranteed Securities		10-K	22	2/22/23	1-6523
31.1	Certification of the Chief Executive Officer pursuant to Section 302 of the Sarbanes-Oxley Act of 2002	1				
31.2	Certification of the Chief Financial Officer pursuant to Section 302 of the Sarbanes-Oxley Act of 2002	1				
32.1	Certification of the Chief Executive Officer pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002	3				
32.2	Certification of the Chief Financial Officer pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002	3				
101.INS	Inline XBRL Instance Document	4				
101.SCH	Inline XBRL Taxonomy Extension Schema Document	1				
101.CAL	Inline XBRL Taxonomy Extension Calculation Linkbase Document	1				
101.LAB	Inline XBRL Taxonomy Extension Label Linkbase Document	1				
101.PRE	Inline XBRL Taxonomy Extension Presentation Linkbase Document	1				
101.DEF	Inline XBRL Taxonomy Extension Definitions Linkbase Document	1				
104	Cover Page Interactive Data File (formatted as Inline XBRL and contained in Exhibit 101)					

(1) Filed herewith.
(2) Exhibit is a management contract or compensatory plan or arrangement.
(3) Furnished herewith. This exhibit shall not be deemed "filed" for purposes of Section 18 of the Securities Exchange Act of 1934, or otherwise subject to the liability of that Section. Such exhibit shall not be deemed incorporated into any filing under the Securities Act of 1933 or the Securities Exchange Act of 1934.
(4) The instance document does not appear in the interactive data file because its XBRL tags are embedded within the inline XBRL document.

Signature

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

Bank of America Corporation
Registrant

Date: May 1, 2023

/s/ Rudolf A. Bless

Rudolf A. Bless
Chief Accounting Officer

Exhibit 31.1

CERTIFICATION PURSUANT TO SECTION 302
OF THE SARBANES-OXLEY ACT OF 2002
FOR THE CHIEF EXECUTIVE OFFICER

I, Brian T. Moynihan, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of Bank of America Corporation;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant’s other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
    a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
    b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, 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;
    c) Evaluated the effectiveness of the registrant’s disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
    d) Disclosed in this report any change in the registrant’s internal control over financial reporting that occurred during the registrant’s most recent fiscal quarter (the registrant’s fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant’s internal control over financial reporting; and
5. The registrant’s other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant’s auditors and the audit committee of the registrant’s board of directors (or persons performing the equivalent functions):
    a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant’s ability to record, process, summarize and report financial information; and
    b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant’s internal control over financial reporting.

Date: May 1, 2023

/s/ Brian T. Moynihan
Brian T. Moynihan
Chief Executive Officer

Exhibit 31.2

CERTIFICATION PURSUANT TO SECTION 302
OF THE SARBANES-OXLEY ACT OF 2002
FOR THE CHIEF FINANCIAL OFFICER

I, Alastair M. Borthwick, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of Bank of America Corporation;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant’s other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
    a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
    b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, 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;
    c) Evaluated the effectiveness of the registrant’s disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
    d) Disclosed in this report any change in the registrant’s internal control over financial reporting that occurred during the registrant’s most recent fiscal quarter (the registrant’s fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant’s internal control over financial reporting; and
5. The registrant’s other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant’s auditors and the audit committee of the registrant’s board of directors (or persons performing the equivalent functions):
    a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant’s ability to record, process, summarize and report financial information; and
    b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant’s internal control over financial reporting.

Date: May 1, 2023

/s/ Alastair M. Borthwick
Alastair M. Borthwick
Chief Financial Officer

Exhibit 32.1

CERTIFICATION PURSUANT TO 18 U.S.C. SECTION 1350,
AS ADOPTED PURSUANT TO SECTION 906
OF THE SARBANES-OXLEY ACT OF 2002

I, Brian T. Moynihan, state and attest that:

1. I am the Chief Executive Officer of Bank of America Corporation (the registrant).
2. I hereby certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that:
    - the Quarterly Report on Form 10-Q of the registrant for the quarter ended March 31, 2023 (the periodic report) containing financial statements fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934 (15 U.S.C. 78m or 78o(d)); and
    - the information contained in the periodic report fairly presents, in all material respects, the financial condition and results of operations of the registrant.

Date: May 1, 2023

/s/ Brian T. Moynihan
Brian T. Moynihan
Chief Executive Officer

Exhibit 32.2

**CERTIFICATION PURSUANT TO 18 U.S.C. SECTION 1350,
AS ADOPTED PURSUANT TO SECTION 906
OF THE SARBANES-OXLEY ACT OF 2002**

I, Alastair M. Borthwick, state and attest that:

1. I am the Chief Financial Officer of Bank of America Corporation (the registrant).
2. I hereby certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that:
   - the Quarterly Report on Form 10-Q of the registrant for the quarter ended March 31, 2023 (the periodic report) containing financial statements fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934 (15 U.S.C. 78m or 78o(d)); and
   - the information contained in the periodic report fairly presents, in all material respects, the financial condition and results of operations of the registrant.

Date: May 1, 2023

/s/ Alastair M. Borthwick
Alastair M. Borthwick
Chief Financial Officer