UNITED STATES
SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM 10-K

(Mark One)

☑ ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934
For the Fiscal Year Ended December 31, 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

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

Securities registered pursuant to Section 12(g) of the Act: None

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. Yes ☐ No ☑

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Act. Yes ☐ No ☑

Indicate by check mark whether the registrant: (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes ☑ No ☐

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§ 232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). Yes ☑ No ☐

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

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

Emerging growth company ☐

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

Indicate by check mark whether the registrant has filed a report on and attestation to its management's assessment of the effectiveness of its internal control over financial reporting under Section 404(b) of the Sarbanes-Oxley Act (15 U.S.C. 7262(b)) by the registered public accounting firm that prepared or issued its audit report. ☑

If securities are registered pursuant to Section 12(b) of the Act, indicate by check mark whether the financial statements of the registrant included in the filing reflect the correction of an error to previously issued financial statements. ☐

Indicate by check mark whether any of those error corrections are restatements that required a recovery analysis of incentive-based compensation received by any of the registrant's executive officers during the relevant recovery period pursuant to §240.10D-1(b). ☐

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Act). Yes ☐ No ☑

As of June 30, 2023, the aggregate market value of the registrant's common stock (Common Stock) held by non-affiliates was approximately $228,187,725,798. At February 16, 2024, there were 7,872,657,542 shares of Common Stock outstanding.

Documents incorporated by reference: Portions of the definitive proxy statement relating to the registrant's 2024 annual meeting of shareholders are incorporated by reference in this Form 10-K in response to Items 10, 11, 12, 13 and 14 of Part III.

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Part I

Bank of America Corporation and Subsidiaries

Item 1. Business

Bank of America 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. As part of our efforts to streamline the Corporation's organizational structure and reduce complexity and costs, the Corporation has reduced and intends to continue to reduce the number of its corporate subsidiaries, including through intercompany mergers.

Bank of America is one of the world's largest financial institutions, serving individual consumers, small- and middle-market businesses, institutional investors, large corporations and governments with a full range of banking, investing, asset management and other financial and risk management products and services. Our principal executive offices are located in the Bank of America Corporate Center, 100 North Tryon Street, Charlotte, North Carolina 28255.

Bank of America'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 of our website, in addition to our press releases, U.S. Securities and Exchange Commission (SEC) filings, public conference calls and webcasts. Our Annual Reports on Form 10-K, Quarterly Reports on Form 10-Q, Current Reports on Form 8-K and amendments to those reports filed or furnished pursuant to Section 13(a) or 15(d) of the Securities Exchange Act of 1934 (Exchange Act) are available on the Investor Relations portion of our website as soon as reasonably practicable after we electronically file such reports with, or furnish them to, the SEC and at the SEC's website, www.sec.gov. Notwithstanding the foregoing, the information contained on our website as referenced in this paragraph, or otherwise in this Annual Report on Form 10-K, is not incorporated by reference into this Annual Report on Form 10-K. Also, we make

Segments

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. Additional information related to our business segments and the products and services they provide is included in the information set forth on pages 34 through 43 of Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations (MD&A) and Note 23 – Business Segment Information to the Consolidated Financial Statements.

Competition

We operate in a highly competitive environment. Our competitors include banks, thrifts, credit unions, investment banking firms, investment advisory firms, brokerage firms, investment companies, insurance companies, mortgage banking companies, credit card issuers, mutual fund companies, hedge funds, private equity firms, and e-commerce and other internet-based companies, including merchant banks and companies providing nonbank financial services. We compete with some of these competitors globally and with others on a regional or product-specific basis. We are increasingly competing with firms offering products solely over the internet and with nonfinancial companies, including firms utilizing emerging technologies, such as digital assets, rather than, or in addition to, traditional banking products.

Competition is based on a number of factors including, among others, customer service and convenience, the pricing, quality and range of products and services offered, lending limits, the quality and delivery of our technology and our reputation, experience and relationships in relevant markets. Our ability to continue to compete effectively also depends in large part on our ability to attract new employees and develop, retain and motivate our existing employees, while managing compensation and other costs.

Human Capital Resources

We strive to make Bank of America a great place to work for our employees. We value our employees and seek to establish and maintain human resource policies that are consistent with our core values and help to realize the power of our people. Our Board and its Compensation and

Diversity and Inclusion

The Corporation's commitment to diversity and inclusion starts at the top with oversight from our Board and Chief Executive Officer (CEO). The Chief Human Resources Officer and Chief Diversity & Inclusion Officer partner with our CEO and senior management to drive our diversity and inclusion strategy, programs, initiatives and policies. Our Global Diversity and Inclusion Council, which has been in place for over 20 years, is chaired by our CEO and consists of senior executives from every line of business and region. The Council sponsors and supports business, operating unit and regional diversity and inclusion councils to align diversity and inclusion strategies and aspirational goals across the enterprise.

Our practices and policies have resulted in strong representation across the Corporation where our broad employee population mirrors the clients and communities we serve. Our Board and senior management team are 62 percent and 55 percent racially, ethnically and gender diverse. The following table presents diversity metrics for our global employees who self-identified as women and our U.S.-based employees who self-identified as people of color, including those who self-identified as Asian, Black/African American and Hispanic/Latino. These workforce diversity metrics are reported regularly to the senior management team and Board.

Diversity Metrics as of December 31, 2023

	Total Employees	Top Three Management Levels	Managers at All Levels
Global employees			
Women	50 %	41 %	42 %
U.S.-based employees			
People of color	51	27	43
Asian	14	11	14
Black/African American	15	8	10
Hispanic/Latino	19	7	16

We invest in our talent by offering a range of development programs and resources that are designed to allow all employees to develop and progress in their careers. We reinforce our commitment to diversity and inclusion by investing internally in our employee networks and by facilitating voluntary enterprise-wide learning development of horizontal skills delivered throughout the organization. Senior leaders, managers and teammates are onboarded and build both horizontal and role-specific skills, to help drive high performance. This approach also helps facilitate internal mobility and promotion of talent to build a bench of qualified managers and leaders. In 2023, more than 5,000 employees found new roles within the Corporation, and we delivered approximately 6.7 million hours of training and development to our teammates through Bank of America Academy. Additionally, our Board oversees CEO and senior management succession planning, which is formally reviewed at least annually.

Fair and Equitable Compensation

Our compensation philosophy is to pay for performance over the long term, as well as on an annual basis. Our performance considerations encompass both financial and nonfinancial measures, including the manner in which results are achieved. These considerations are designed to reinforce and promote our Responsible Growth strategy and maintain alignment with our Risk Framework.

The Corporation is committed to racial and gender pay equity and strives to compensate all of our employees fairly and equitably. We maintain robust policies and practices that reinforce our commitment, including reviews conducted by a third-party consultant with oversight from our Board and senior management. In 2023, our review showed that compensation received by women globally, on average, was greater than 99 percent of that received by men in comparable positions. In the U.S., compensation received by people of color was, on average, greater than 99 percent of that received by teammates who are not people of color in comparable positions.

We pay our employees fairly based on market rates for their roles, experience and how they perform. We regularly benchmark against other companies both within and outside our industry to confirm our pay is competitive. In 2021, the Corporation announced it would increase its minimum hourly wage for U.S. employees to $25 per hour by 2025. In October 2023, as a next step towards that goal, the Corporation increased its hourly minimum wage for U.S. employees to $23 per hour. In addition, in January 2024, for the seventh year since 2017, we announced that we recognized our teammates with Sharing Success compensation awards for their efforts during 2023. Approximately 97 percent of employees globally will receive an award in the first quarter

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continued to enhance access to care across the Corporation, through near-site health centers, vaccination clinics and wellness screenings in many of our U.S. locations, as we believe primary and preventive care are important to our teammates' health and safety.

We offer an extensive benefit package and support work-life balance for our teammates, which includes in the U.S., 16 weeks of paid parental leave for both primary and secondary caregivers and 50 days per year of child and adult backup dependent care. Globally, teammates and members of their households can utilize our Employee Assistance Program for 12 free, in-person confidential counseling sessions, and unlimited phone consultations. Beginning in 2023, teammates celebrating at least 15 years of continuous service with the Corporation may participate in its global Sabbatical Program.

For more information about our human capital management, see the Corporation's website and 2023 Annual Report to shareholders that we expect to be available on the Investor Relations portion of our website in March 2024 (the content of which is not incorporated by reference into this Annual Report on Form 10-K).

Government Supervision and Regulation

The following discussion describes, among other things, elements of an extensive regulatory framework applicable to BHCs, financial holding companies, banks and broker-dealers, including specific information about Bank of America.

We are subject to an extensive regulatory framework applicable to BHCs, financial holding companies and banks and other financial services entities. U.S. federal regulation of banks, BHCs and financial holding companies is intended primarily for the protection of depositors and the Deposit Insurance Fund (DIF) rather than for the protection of shareholders and creditors.

As a registered financial holding company and BHC, the Corporation is subject to the supervision of, and regular inspection by, the Board of Governors of the Federal Reserve System (Federal Reserve). Our U.S. bank subsidiaries (the Banks), organized as national banking associations, are subject to regulation, supervision and examination by the Office of the Comptroller of the Currency (OCC), the Federal Deposit Insurance Corporation (FDIC) and the Federal Reserve. In addition, the Federal Reserve and the OCC have adopted guidelines that establish minimum standards for the design, implementation and board oversight of BHCs' and national banks' risk governance frameworks. U.S. financial holding companies, and

The scope of the laws and regulations and the intensity of the supervision to which we are subject have increased over the past several years, beginning with the response to the 2008 financial crisis, as well as other factors such as technological and market changes. In addition, the banking and financial services sector is subject to substantial regulatory enforcement and fines. Many of these changes have occurred as a result of the 2010 Dodd-Frank Wall Street Reform and Consumer Protection Act (the Financial Reform Act). We cannot assess whether or not there will be any additional major changes in the regulatory environment and expect that our business will remain subject to continuing and extensive regulation and supervision.

We are also subject to various other laws and regulations, as well as supervision and examination by other regulatory agencies, all of which directly or indirectly affect our entities, management and ability to make distributions to shareholders. For instance, our broker-dealer subsidiaries are subject to both U.S. and international regulation, including supervision by the SEC, Financial Industry Regulatory Authority and New York Stock Exchange, among others; our futures commission merchant subsidiary supporting commodities and derivatives businesses in the U.S. is subject to regulation by and supervision of the U.S. Commodity Futures Trading Commission (CFTC), National Futures Association, the Chicago Mercantile Exchange, and in the case of the Banks, certain banking regulators; our insurance activities are subject to licensing and regulation by state insurance regulatory agencies; and our consumer financial products and services are regulated by the Consumer Financial Protection Bureau (CFPB). In addition, certain U.S. and foreign subsidiaries are also registered with the CFTC as swap dealers, and conditionally registered with the SEC as security-based swap dealers.

Our non-U.S. businesses are also subject to extensive regulation by various non-U.S. regulators, including governments, securities exchanges, prudential regulators, central banks and other regulatory bodies, in the jurisdictions in which those businesses operate. For example, our financial services entities in the United Kingdom (U.K.), Ireland and France are subject to regulation by the Prudential Regulatory Authority and Financial Conduct Authority, the European Central Bank and Central Bank of Ireland, and the Autorité de Contrôle Prudentiel et de Résolution and Autorité des Marchés Financiers, respectively.

The Corporation is also subject to extensive

each subsidiary bank and to commit resources to support each such subsidiary. Similarly, under the cross-guarantee provisions of the Federal Deposit Insurance Corporation Improvement Act of 1991 (FDICIA), in the event of a loss suffered or anticipated by the FDIC, either as a result of default of a bank subsidiary or related to FDIC assistance provided to such a subsidiary in danger of default, the affiliate banks of such a subsidiary may be assessed for the FDIC's loss, subject to certain exceptions.

Transactions with Affiliates

Pursuant to Section 23A and 23B of the Federal Reserve Act, as implemented by the Federal Reserve's Regulation W, the Banks are subject to restrictions that limit certain types of transactions between the Banks and their nonbank affiliates. In general, U.S. banks are subject to quantitative and qualitative limits on extensions of credit, purchases of assets and certain other transactions involving their nonbank affiliates. Additionally, transactions between U.S. banks and their nonbank affiliates are required to be on arm's length terms and must be consistent with standards of safety and soundness.

Deposit Insurance

Deposits placed at U.S. domiciled banks are insured by the FDIC, subject to limits and conditions of applicable law and the FDIC's regulations. Pursuant to the Financial Reform Act, FDIC insurance coverage limits are $250,000 per depositor, per insured bank for each account ownership category. All insured depository institutions are required to pay assessments to the FDIC in order to fund the DIF.

The FDIC is required to maintain a statutory minimum ratio of the DIF to insured deposits in the U.S. of at least 1.35 percent and has established a long-term goal of a two percent DIF ratio. As of the date of this report, the DIF is below the statutory minimum ratio and the FDIC's long-term goal. In October 2022, the FDIC adopted a restoration plan that includes an increase in deposit insurance assessments across the industry of two basis points (bps). The FDIC has indicated that it intends to maintain such assessment rates for the foreseeable future. Deposit insurance assessment rates are subject to change by the FDIC and will be impacted by the overall economy and the stability of the banking industry as a whole. The FDIC also has the authority to charge special assessments from time to time, including in connection with systemic risk events. For example, on November 16, 2023, the FDIC issued its final rule to impose a special

For more information on regulatory capital rules, capital composition and pending or proposed regulatory capital changes, see Capital Management on page 47 and Note 16 – Regulatory Requirements and Restrictions to the Consolidated Financial Statements, which are incorporated by reference in this Item 1.

Distributions

We are subject to various regulatory policies and requirements relating to capital actions, including payment of dividends and common stock repurchases. For instance, Federal Reserve regulations require major U.S. BHCs to submit a capital plan as part of an annual Comprehensive Capital Analysis and Review (CCAR).

Our ability to pay dividends and make common stock repurchases depends in part on our ability to maintain regulatory capital levels above minimum requirements plus buffers and non-capital standards established under the FDICIA. To the extent that the Federal Reserve increases our stress capital buffer (SCB), global systemically important bank (G-SIB) surcharge or countercyclical capital buffer, our returns of capital to shareholders, including dividends and common stock repurchases, could decrease. As part of its CCAR, the Federal Reserve conducts stress testing on parts of our business using hypothetical economic scenarios prepared by the Federal Reserve. Those scenarios may affect our CCAR stress test results, which may impact the level of our SCB. For example, based on the results of our 2023 CCAR stress test, the Corporation's SCB decreased to 2.5 percent. Additionally, the Corporation's G-SIB surcharge increased to 3.0 percent on January 1, 2024. The Federal Reserve could also impose limitations or prohibitions on taking capital actions such as paying or increasing dividends or repurchasing common stock. For example, as a result of the economic uncertainty resulting from the COVID-19 pandemic, in the second half of 2020, the Federal Reserve introduced certain limitations to capital distributions for all large banks, including the Corporation, which were removed effective July 1, 2021.

If the Federal Reserve finds that any of our Banks are not "well-capitalized" or "well-managed," we would be required to enter into an agreement with the Federal Reserve to comply with all applicable capital and management requirements, which may contain additional limitations or conditions relating to our activities. Additionally, the applicable federal regulatory authority is authorized to determine, under certain circumstances relating to the financial

Resolution Planning

As a BHC with greater than $250 billion of assets, the Corporation is required by the Federal Reserve and the FDIC to periodically submit a plan for a rapid and orderly resolution in the event of material financial distress or failure.

Such resolution plan is intended to be a detailed roadmap for the orderly resolution of the BHC, including the continued operations or solvent wind down of its material entities, pursuant to the U.S. Bankruptcy Code under one or more hypothetical scenarios assuming no extraordinary government assistance.

If both the Federal Reserve and the FDIC determine that the BHC's plan is not credible, the Federal Reserve and the FDIC may jointly impose more stringent capital, leverage or liquidity requirements or restrictions on growth, activities or operations. A summary of our plan is available on the Federal Reserve and FDIC websites.

The FDIC also requires the submission of a resolution plan for Bank of America, National Association, which must describe how the insured depository institution would be resolved under the bank resolution provisions of the Federal Deposit Insurance Act. A description of this plan is available on the FDIC's website.

We continue to make substantial progress to enhance our resolvability, which includes continued improvements to our preparedness capabilities to implement our resolution plan, both from a financial and operational standpoint.

Across international jurisdictions, resolution planning is the responsibility of national resolution authorities (RA) and central resolution authorities (CA). Among those, the jurisdictions with the greatest impact to the Corporation's subsidiaries are the U.K., Ireland and France, where rules have been issued requiring the submission of significant information about locally incorporated subsidiaries as well as the Corporation's banking branches located in those jurisdictions that are deemed to be material for resolution planning purposes. As a result of the RA's and CA's review of the submitted information, we could be required to take certain actions over the next several years that could increase operating costs and potentially result in the restructuring of certain businesses and subsidiaries.

For more information regarding our resolution plan, see Item 1A. Risk Factors – Liquidity on page 9.

Insolvency and the Orderly Liquidation Authority

Under the Federal Deposit Insurance Act, the FDIC elimination of the value of a BHC's outstanding equity, as well as impairment or elimination of certain debt.

Under the FDIC's "single point of entry" strategy for resolving SIFIs, the FDIC could replace a distressed BHC with a bridge holding company, which could continue operations and result in an orderly resolution of the underlying bank, but whose equity is held solely for the benefit of creditors of the original BHC.

Furthermore, the Federal Reserve requires that BHCs maintain minimum levels of long-term debt required to provide adequate loss absorbing capacity in the event of a resolution.

For more information regarding our resolution, see Item 1A. Risk Factors – Liquidity on page 9.

Limitations on Acquisitions

The Riegle-Neal Interstate Banking and Branching Efficiency Act of 1994 permits a BHC to acquire banks located in states other than its home state without regard to state law, subject to certain conditions, including the condition that the BHC, after and as a result of the acquisition, controls no more than 10 percent of the total amount of deposits of insured depository institutions in the U.S. and no more than 30 percent or such lesser or greater amount set by state law of such deposits in that state. At June 30, 2023, we held greater than 10 percent of the total amount of deposits of insured depository institutions in the U.S.

In addition, the Financial Reform Act restricts acquisitions by a financial institution if, as a result of the acquisition, the total liabilities of the financial institution would exceed 10 percent of the total liabilities of all financial institutions in the U.S. At June 30, 2023, our liabilities did not exceed 10 percent of the total liabilities of all financial institutions in the U.S.

The Volcker Rule

The Volcker Rule prohibits insured depository institutions and companies affiliated with insured depository institutions (collectively, banking entities) from engaging in short-term proprietary trading of certain securities, derivatives, commodity futures and options for their own account. The Volcker Rule also imposes limits on banking entities' investments in, and other relationships with, hedge funds and private equity funds. The Volcker Rule provides exemptions for certain activities, including market making, underwriting, hedging, trading in government obligations, insurance company activities and organizing and offering hedge funds and private equity funds. The Volcker Rule also clarifies that

financial contracts could impede orderly resolution of G-SIBs, and additional jurisdictions are expected to follow suit. Generally, these regulations require amendment of certain financial contracts to provide for contractual recognition of stays of termination rights under various statutory resolution regimes and a stay on the exercise of cross-default rights based on an affiliate's entry into insolvency proceedings. Resolution regulations may also require contractual recognition by the counterparty that amounts owed to them may be written down or converted into equity as part of a bail in. As resolution stay regulations of a particular jurisdiction applicable to us go into effect, we amend impacted financial contracts in compliance with such regulations either as a regulated entity or as a counterparty facing a regulated entity in such jurisdiction.

Consumer Regulations

Our consumer businesses are subject to extensive regulation and oversight by federal and state regulators. Certain federal consumer finance laws to which we are subject, including the Equal Credit Opportunity Act, Home Mortgage Disclosure Act, Fair Housing Act, Electronic Fund Transfer Act (EFTA), Fair Credit Reporting Act, Real Estate Settlement Procedures Act, prohibitions on unfair, deceptive, or abusive acts or practices, Truth in Lending Act and Truth in Savings Act, are enforced by the CFPB. Other federal consumer finance laws, such as the Servicemembers Civil Relief Act, are enforced by the OCC.

Privacy and Information Security

We are subject to many U.S. federal, state and international laws and regulations governing requirements for maintaining policies and procedures regarding the collection, disclosure, use and protection of the non-public confidential information of our customers and employees. The Gramm-Leach-Bliley Act requires us to periodically disclose Bank of America's privacy policies and practices relating to sharing such information and enables retail customers to opt out of our ability to share information with unaffiliated third parties, under certain circumstances. The Gramm-Leach-Bliley Act and other laws also require us to implement a comprehensive information security program that includes administrative, technical and physical safeguards to provide the security and confidentiality of customer records and information. Security and privacy policies and procedures for the protection of personal and confidential information are in effect across all businesses and geographic locations.

Other laws and regulations, at the international, federal and state level, impact our ability to share certain information with affiliates and non-affiliates for marketing and/or non-marketing purposes, or contact customers with marketing offers and establish certain rights of consumers in connection with their personal information. For example, California's Consumer Privacy Act (CCPA), as modified by the California Privacy Rights Act (CPRA), provides consumers with the right to know what personal data is being collected, know whether their personal data is sold or disclosed and to whom and opt out of the sale of their personal data, among other rights. In addition, in the EU and other countries around the world, similar laws, like the General Data Protection Regulation (GDPR), afford those countries' residents with certain rights related to their information and may impose additional obligations on financial institutions. These laws' impact on the Corporation was assessed and addressed through comprehensive compliance implementation programs. These existing and evolving legal requirements in the U.S. and abroad, as well as court proceedings and changing guidance from regulatory bodies, including the validity of cross-border data transfer mechanisms from the EU and other jurisdictions, continue to lend uncertainty to privacy compliance globally.

Additionally, the Corporation is subject to evolving information security (including cybersecurity) laws, rules and regulations enacted by U.S. federal and state governments and non-U.S. jurisdictions, including requirements to develop cybersecurity programs, policies and frameworks, as well as provide disclosure and/or notifications of certain cybersecurity incidents and data breaches.

Item 1A. Risk Factors

The discussion below addresses our material risk factors of which we are aware. Any risk factor, either by itself or together with other risk factors, could materially and adversely affect our businesses, results of operations, cash flows and/or financial condition. References to third parties may include suppliers, service providers, counterparties, financial market utilities, exchanges and clearing houses, data aggregators and other partners and their upstream and downstream service providers (e.g., fourth parties, fifth parties) who may also contribute to our risks. Other factors not currently known to us or that we currently deem immaterial could also adversely affect our businesses, results of operations, cash flows and/or financial condition. Therefore, the risk factors below should not be considered all of the potential risks that we may face. For more information on how we manage risks, see Managing Risk in the MD&A beginning on page 44. For more information about the risks contained in this section, see Item 1. Business beginning on page 2, MD&A beginning on page 25 and Notes to Consolidated Financial Statements beginning on page 94.

Market

We may be adversely affected by the financial markets, fiscal, monetary, and regulatory policies, and economic conditions.

General economic, political, social and health conditions in the U.S. and abroad affect financial markets and our business. In particular, global markets may be affected by the level and volatility of interest rates, availability and market conditions of financing, changes in gross domestic product (GDP), economic growth or its sustainability, inflation, supply chain disruptions, consumer spending, employment levels, labor shortages, challenging labor market conditions, wage stagnation, federal government shutdowns, energy prices, home prices, commercial property values, bankruptcies and a default by a significant market participant or class of counterparties, including companies in emerging markets. Global markets also may be affected by adverse developments impacting the U.S. or global banking industry, including bank failures and liquidity concerns, fluctuations or other significant changes in both debt and equity capital markets and currencies, the transition of benchmark rates, including the Bloomberg Short-Term Bank Yield Index (BSBY), to alternative reference rates (ARRs), the impact of the volatility of digital assets on the broader market, the rate of growth financial markets and macroeconomic conditions and could result in additional market volatility and disruptions.

Global uncertainties regarding fiscal and monetary policies present economic challenges. Actions taken by the Federal Reserve or central banks in other jurisdictions, including changes in target rates, balance sheet management and lending facilities, are beyond our control and difficult to predict, particularly in an elevated inflation environment. This can affect interest rates and the value of financial instruments and other assets, such as debt securities, and impact our borrowers and potentially increase delinquency rates and may also raise government debt levels, adversely affect businesses and household incomes, adversely impact the banking sector generally, and increase uncertainty surrounding monetary policy. Monetary policy in response to high inflation has led to a significant increase in market interest rates and a flattening and/or inversion of the yield curve. This has resulted in and may continue to result in volatility of equity and other markets, further volatility of the U.S. dollar, a widening in credit spreads and higher interest rates and recessionary concerns, and could result in elevated unemployment, which could impact investor risk appetite and our borrowers, potentially increasing delinquency rates. Financial market volatility could also result from uncertainty about the timing and extent of rate cuts by the Federal Reserve in response to moderating inflation and/or weakening economic conditions. Elevated inflation may limit the scope of monetary support, including cuts to the federal funds rate, in the event of an economic downturn, resulting in a more protracted period of a flat and/or inverted yield curve.

Any future change in monetary policy by the Federal Reserve, in an effort to stimulate the economy or otherwise, resulting in lower interest rates would likely result in lower revenue through lower net interest income, which could adversely affect our results of operations. Additionally, changes to existing U.S. laws and regulatory policies and evolving priorities, including those related to financial regulation, taxation, international trade, fiscal policy, climate change (including efforts to transition to a low-carbon economy) and healthcare, may adversely impact U.S. or global economic activity and our customers', our counterparties' and our earnings and operations. Globally, many central banks have simultaneously reduced monetary accommodation through interest rate or balance sheet policy, which has contributed and may

(China) could lead to further U.S. measures that adversely affect financial markets, disrupt world trade and commerce and lead to trade retaliation, including through the use of tariffs, foreign exchange measures or the large-scale sale of U.S. Treasury bonds. Any restrictions on the activities of businesses, could also negatively affect financial markets.

These developments could adversely affect our businesses, customers, securities and derivatives portfolios, including the risk of lower re-investment rates within those portfolios, our level of charge-offs and provision for credit losses, the carrying value of our deferred tax assets, our capital levels, our liquidity and our results of operations.

Increased market volatility and adverse changes in financial or capital market conditions may increase our market risk.

Our liquidity, competitive position, business, results of operations and financial condition are affected by market risks such as changes in interest and currency exchange rates, fluctuations in equity, commodity and futures prices, trading volumes and prices of securitized products, the implied volatility of interest rates and credit spreads and other economic and business factors. These market risks may adversely affect, among other things, the value of our securities, including our on- and off-balance sheet securities, trading assets and other financial instruments, the cost of debt capital and our access to credit markets, the value of assets under management (AUM), fee income relating to AUM, customer allocation of capital among investment alternatives, the volume of client activity in our trading operations, investment banking, underwriting and other capital market fees, which have already been negatively impacted, the general profitability and risk level of the transactions in which we engage and our competitiveness with respect to deposit pricing. The value of certain of our assets is sensitive to changes in market interest rates. If the Federal Reserve or a non-U.S. central bank changes or signals a change in monetary policy, market interest rates or credit spreads could be affected, which could adversely impact the value of such assets. Changes to fiscal policy, including expansion of U.S. federal deficit spending and resultant debt issuance, could also affect market interest rates. If interest rates decrease, our results of operations could be negatively impacted, including future revenue and earnings growth.

Our models and strategies to assess and control our market risk exposures are subject to

We have a large portfolio of financial instruments, including loans and loan commitments, securities financing agreements, asset-backed secured financings, derivative assets and liabilities, debt securities, marketable equity securities and certain other assets and liabilities that we measure at fair value and are subject to valuation and impairment assessments. We determine these values based on applicable accounting guidance, which, for financial instruments measured at fair value, requires an entity to base fair value on exit price and to maximize the use of observable inputs and minimize the use of unobservable inputs in fair value measurements. The fair values of these financial instruments include adjustments for market liquidity, credit quality, funding impact on certain derivatives and other transaction-specific factors, where appropriate.

Gains or losses on these instruments can have a direct impact on our results of operations, unless we have effectively mitigated the risk of our exposures. Increases in interest rates may cause decreases in residential mortgage loan originations and could impact the origination of corporate debt. In addition, increases in interest rates or changes in spreads may continue to adversely impact the fair value of our debt securities and, accordingly, for debt securities classified as available-for-sale (AFS), adversely affect accumulated other comprehensive income and, thus, our capital levels. Increases in interest rates could also adversely impact our regulatory liquidity position and requirements, which include certain AFS debt securities and the use of repurchase agreements against a portion of the held-to-maturity (HTM) debt securities. As our liquidity is dependent on the fair value of these assets, increases in market interest rates, which have adversely impacted and may continue to adversely impact the fair value of debt securities, could adversely affect liquidity levels.

Fair values may be impacted by declining values of the underlying assets or the prices at which observable market transactions occur and the continued availability of these transactions or indices. The financial strength of counterparties, with whom we have economically hedged some of our exposure to these assets, also will affect the fair value of these assets. Sudden declines and volatility in the prices of assets may curtail or eliminate trading activities in these assets, which may make it difficult to sell, hedge or value these assets. The inability to sell or effectively hedge assets reduces our ability to limit losses in such positions, and the difficulty in valuing assets may

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borrowing), changes to our relationships with our funding providers based on real or perceived changes in our risk profile, prolonged federal government shutdowns, or changes in regulations, guidance or GSE status that impact our funding.

Additionally, our liquidity or cost of funds may be negatively impacted by the unwillingness or inability of the Federal Reserve to act as lender of last resort, unexpected simultaneous draws on lines of credit or deposits, slower customer payment rates, restricted access to the assets of prime brokerage clients, the withdrawal of or failure to attract customer deposits or invested funds (which could result from attrition driven by customers seeking higher yielding deposits or securities products, customer desire to utilize an alternative financial institution perceived to be safer, changes in customer spending behavior due to inflation, decline in the economy or other drivers resulting in an increased need for cash), increased regulatory liquidity, capital and margin requirements for our U.S. or international banks and their nonbank subsidiaries, which could result in the inability to transfer liquidity internally and inefficient funding, changes in patterns of intraday liquidity usage resulting from a counterparty or technology failure or other idiosyncratic event or failure or default by a significant market participant or third party (including clearing agents, custodians, central banks or central counterparty clearinghouses (CCPs)). These factors may increase our borrowing costs and negatively impact our liquidity.

Several of these factors may arise due to circumstances beyond our control, such as general market volatility, disruption, shock or stress, the emergence or continuation of widespread health emergencies or pandemics, and military conflicts (including the Russia/Ukraine conflict and the conflict in the Middle East). Federal Reserve policy decisions (including fluctuations in interest rates or Federal Reserve balance sheet composition), negative views or loss of confidence about us or the financial services industry generally or due to a specific news event, changes in the regulatory environment or governmental fiscal or monetary policies, actions by credit rating agencies or an operational problem that affects third parties or us. The impact of these potentially sudden events, whether within our control or not, could include an inability to sell assets or redeem investments, unforeseen outflows of cash, the need to draw on liquidity facilities, the reduction of financing balances and the loss of equity secured funding, debt repurchases to support the secondary currencies or counterparties, can also reduce our funding efficiency.

Reduction in our credit ratings could limit our access to funding or the capital markets, increase borrowing costs or trigger additional collateral or funding requirements.

Our borrowing costs and ability to raise funds are directly impacted by our credit ratings. Credit ratings are also important to investors, customers or counterparties when we compete in certain markets and seek to engage in certain transactions, including over-the-counter (OTC) derivatives. Our credit ratings are subject to ongoing review by rating agencies, which consider a number of financial and nonfinancial factors, including our franchise, financial strength, performance and prospects, management, governance, risk management practices, capital adequacy, asset quality and operations, among other criteria, as well as factors not under our control, such as regulatory developments, the macroeconomic and geopolitical environment and changes to the methodologies used to determine our ratings.

Rating agencies could adjust our credit ratings at any time and there can be no assurance as to whether or when a downgrade could occur. Any reduction could result in a wider credit spread and negatively affect our access to credit markets, the related cost of funds, our businesses and certain trading revenues, particularly in those businesses where counterparty creditworthiness is critical. If the short-term credit ratings of our parent company, bank or broker-dealer subsidiaries were downgraded, we may experience loss of access to short-term funding sources such as repo financing, and/or incur increased cost of funds and increased collateral requirements. Under the terms of certain OTC derivative contracts and other trading agreements, if our or our subsidiaries' credit ratings are downgraded, the counterparties may require additional collateral or terminate these contracts or agreements.

While certain potential impacts are contractual and quantifiable, the full consequences of a credit rating downgrade are inherently uncertain and depend upon numerous dynamic, complex and inter-related factors and assumptions, including the relationship between long-term and short-term credit ratings and the behaviors of customers, investors and counterparties.

Bank of America Corporation is a holding company, is dependent on its subsidiaries for liquidity and may be restricted from transferring funds from subsidiaries.

and restrictions on their ability to use funds deposited with them in bank or brokerage accounts to fund their businesses. Intercompany arrangements we entered into in connection with our resolution planning submissions could restrict the amount of funding available to the parent company from our subsidiaries under certain adverse conditions.

Additional restrictions on related party transactions, increased capital and liquidity requirements and additional limitations on the use of funds on deposit in bank or brokerage accounts, as well as lower earnings, can reduce the amount of funds available to meet the obligations of the parent company and even require the parent company to provide additional funding to such subsidiaries. Also, regulatory action that requires additional liquidity at each of our subsidiaries could impede access to funds we need to pay our obligations or pay dividends. In addition, our right to participate in a distribution of assets upon a subsidiary's liquidation or reorganization is subject to prior claims of the subsidiary's creditors.

Bank of America Corporation's liquidity and financial condition, and the ability to pay dividends and obligations, could be adversely affected in the event of a resolution.

Bank of America Corporation, our parent holding company, is required to periodically submit a plan to the FDIC and Federal Reserve describing its resolution strategy under the U.S. Bankruptcy Code in the event of material financial distress or failure. Bank of America Corporation's preferred resolution strategy is a "single point of entry" strategy, whereby only the parent holding company would file for bankruptcy under the U.S. Bankruptcy Code. Certain key operating subsidiaries would be provided with sufficient capital and liquidity to operate through severe stress and to enable such subsidiaries to continue operating or be wound down in a solvent manner following a bankruptcy of the parent holding company. Bank of America Corporation has entered into intercompany arrangements resulting in the contribution of most of its capital and liquidity to key subsidiaries. Pursuant to these arrangements, if Bank of America Corporation's liquidity resources deteriorate so severely that resolution becomes imminent, it will no longer be able to draw liquidity from its key subsidiaries and will be required to contribute its remaining financial assets to a wholly-owned holding company subsidiary. This could adversely affect our liquidity and financial condition, including the

If the Corporation is resolved under the U.S. Bankruptcy Code or the FDIC's orderly liquidation authority, third-party creditors of our subsidiaries may receive significant or full recoveries on their claims, while security holders of Bank of America Corporation could face significant or complete losses.

Credit

Economic or market disruptions and insufficient credit loss reserves may result in a higher provision for credit losses.

A number of our products expose us to credit risk, including loans, letters of credit, derivatives, debt securities, trading account assets and assets held-for-sale. Deterioration in the financial condition of our consumer and commercial borrowers, counterparties or underlying collateral could adversely affect our results of operations and financial condition.

Our credit portfolios may be impacted by U.S. and global macroeconomic and market conditions, events and disruptions, including declines in GDP, consumer spending or property values, asset price corrections, increasing consumer and corporate leverage, increases in corporate bond spreads, government shutdowns or policies such as student loan debt payment resumptions, tax changes, rising or elevated unemployment levels, elevated inflation, fluctuations in foreign exchange or interest rates, as well as the emergence or continuation of widespread health emergencies or pandemics, extreme weather events and the impacts of climate change, including acute and/or chronic extreme weather events and efforts to transition to a low-carbon economy. Significant economic or market stresses and disruptions typically have a negative impact on the business environment and financial markets, which could impact the underlying credit quality of our borrowers, counterparties and assets. Property value declines or asset price corrections could increase the risk of borrowers or counterparties defaulting or becoming delinquent in their obligations to us, and could decrease the value of the collateral we hold, which could increase credit losses. Credit risk could also be magnified by lending to leveraged borrowers or declining asset prices, including property or collateral values, unrelated to macroeconomic stress. Simultaneous drawdowns on lines of credit and/or an increase in a borrower's leverage in a weakening economic environment, or otherwise, could result in deterioration in our credit portfolio, should borrowers be unable to fulfill competing financial obligations. Increased delinquency and default rates could adversely affect our credit

We establish an allowance for credit losses, which includes the allowance for loan and lease losses and the reserve for unfunded lending commitments, based on management's best estimate of lifetime expected credit losses (ECL) inherent in our relevant financial assets. The process to determine the allowance for credit losses uses models and assumptions that require us to make difficult and complex judgments that are often interrelated, including forecasting how borrowers or counterparties may perform in changing economic conditions. The ability of our borrowers or counterparties to repay their obligations may be impacted by changes in future economic conditions, which in turn could impact the accuracy of our loss forecasts and allowance estimates. There is also the possibility that we have failed or will fail to accurately identify the appropriate economic indicators or accurately estimate their impacts to our borrowers or counterparties, which could impact the accuracy of our loss forecasts and allowance estimates.

If the models, estimates and assumptions we use to establish reserves or the judgments we make in extending credit to our borrowers or counterparties, which are more sensitive due to the current uncertain macroeconomic and geopolitical environment, prove inaccurate in predicting future events, we may suffer losses in excess of our ECL. In addition, changes to external factors can negatively impact our recognition of credit losses in our portfolios and allowance for credit losses.

The allowance for credit losses is our best estimate of ECL; however, there is no guarantee that it will be sufficient to address credit losses, particularly if the economic outlook deteriorates significantly, quickly, or unexpectedly. As circumstances change, we may increase our allowance, which would reduce our earnings. If economic conditions worsen, impacting our consumer and commercial borrowers, counterparties or underlying collateral, and credit losses are worse than expected, we may increase our provision for credit losses, which could adversely affect our results of operations and financial condition.

Our concentrations of credit risk could adversely affect our credit losses, results of operations and financial condition.

We may be subject to concentrations of credit risk because of a common characteristic or common sensitivity to economic, financial, public health or business developments. Concentrations of credit risk may reside in a particular industry, geography, product, asset class, counterparty or derivatives exposure due to us, which may occur as a result of events that impact the value of the collateral, such as a sudden change in asset price or fraud. Disputes with obligors as to the valuation of collateral could increase in times of significant market stress, volatility or illiquidity, and we could suffer losses during such periods if we are unable to realize the fair value of the collateral or manage declines in the value of collateral.

We have concentrations of credit risk, including with respect to our consumer real estate and consumer credit card exposure, as well as our commercial real estate and asset managers and funds portfolios, which represent a significant percentage of our overall credit portfolio. Declining home price valuations and demand where we have large concentrations could result in increased servicing advances and expenses, defaults, delinquencies or credit losses. The impacts of earthquakes, as well as climate change, such as rising average global temperatures and sea levels, and the increasing frequency and severity of extreme weather events and natural disasters, including droughts, floods, wildfires and hurricanes, could negatively impact collateral, the valuations of home or commercial real estate or our customers’ ability and/or willingness to pay fees, outstanding loans or afford new products. This could also cause insurability risk and/or increased insurance costs to customers.

Economic weaknesses, sustained elevated inflation, adverse business conditions, market disruptions, adverse economic or market events, rising interest or capitalization rates, declining asset prices, greater volatility in areas where we have concentrated credit risk or deterioration in real estate values or household incomes may cause us to experience higher credit losses in our portfolios or write down the value of certain assets. We could also experience continued and long-term negative impacts to our commercial credit exposure and an increase in credit losses within those industries that may be permanently impacted by a change in consumer preferences or other industry disruptions.

We also enter into transactions with sovereign nations, U.S. states and municipalities. Unfavorable economic or political conditions, disruptions to capital markets, currency fluctuations, changes in oil prices, social instability and changes in government or monetary policies could adversely impact the operating budgets or credit ratings of these government entities and expose us to credit and liquidity risk.

Liquidity disruptions in the financial markets

representations and warranties exposures, and adversely affect our results of operations and financial condition.

Our derivatives businesses may expose us to unexpected risks, which may result in losses and adversely affect liquidity.

We are party to a large number of derivatives transactions that may expose us to unexpected market, credit and operational risks that could cause us to suffer unexpected losses. Fluctuations in asset values or rates or an unanticipated credit event, including unforeseen circumstances that may cause previously uncorrelated factors to become correlated, may lead to losses resulting from risks not taken into account or anticipated in the development, structuring or pricing of a derivative instrument. Certain derivative contracts and other trading agreements provide that upon the occurrence of certain specified events, such as a change to our or our affiliates' credit ratings, we may be required to provide additional collateral or take other remedial actions, and we could experience increased difficulty obtaining funding or hedging risks. In some cases our counterparties may have the right to terminate or otherwise diminish our rights under these contracts or agreements upon the occurrence of such events.

We are also a member of various CCPs, which results in credit risk exposure to those CCPs. In the event that one or more members of a CCP default on their obligations, we may be required to pay a portion of any losses incurred by the CCP as a result of that default. A CCP may also, at its discretion, modify the margin we are required to post, which could mean unexpected and increased funding costs and exposure to that CCP. As a clearing member, we are exposed to the risk of non-performance by our clients for which we clear transactions, which may not be covered by available collateral. Additionally, default by a significant market participant may result in further risk and potential losses.

Geopolitical

We are subject to numerous political, economic, market, reputational, operational, compliance, legal, regulatory and other risks in the jurisdictions in which we operate.

We do business throughout the world, including in emerging markets. Economic or geopolitical stress in one or more countries could have a negative impact regionally or globally, resulting in, among other things, market volatility, reduced market value and economic output. Our liquidity and credit risk could be adversely impacted by, and our businesses and revenues derived from businesses and revenues, as well as our customers and counterparties, including their credit quality.

Slowing growth, recessionary conditions, adverse geopolitical conditions and/or political or civil unrest, labor shortages, wage pressures and elevated inflation in certain countries pose challenges, including in the form of volatility in financial markets. Foreign exchange rates against the U.S. dollar remain an area of uncertainty and potential volatility, and depreciation could increase our financial risks with clients that deal in non-U.S. currencies but have U.S. dollar-denominated debt.

We invest or trade in the securities of corporations and governments located in non-U.S. jurisdictions, including emerging markets. Revenues from the trading of non-U.S. securities may be subject to negative fluctuations as a result of the above factors. Furthermore, the impact of these fluctuations could be magnified because non-U.S. trading markets, particularly in emerging markets, are generally smaller, less liquid and more volatile than U.S. trading markets. Risks in one nation can limit our opportunities for portfolio growth and negatively affect our operations in other nations, including our U.S. operations. Market and economic disruptions may affect consumer confidence levels and spending, corporate investment and job creation, bankruptcy rates, levels of incurrence and default on consumer and corporate debt, economic growth rates and asset values, among other factors.

Elevated government debt levels raise the risk of volatility, significant valuation changes, political tensions among EU members regarding fiscal policy or defaults on or devaluation of sovereign debt, which could expose us to substantial losses. Financial markets have been and may continue to be sensitive to government plans to lower taxes or increase spending.

Our non-U.S. businesses are also subject to extensive regulation by governments, securities exchanges and regulators, central banks and other regulatory bodies. In many countries, the laws and regulations applicable to the financial services and securities industries are less predictable, prone to change and uncertainty, and regularly evolving. Significant resources are spent on determining, understanding and monitoring foreign laws, rules and regulations, as well as managing our relationships with multiple regulators in various jurisdictions. Our inability to remain in compliance with local laws and manage our relationships with regulators could result in

weaken the U.S. dollar, cause market volatility, negatively impact the global economy and banking system and adversely affect our financial condition, including our liquidity. Additionally, changes in fiscal, monetary, regulatory and/or foreign policy, including as a result of the election cycle, labor shortages, wage pressures, supply chain disruptions and higher inflation, could increase our compliance costs and adversely affect our business operations, organizational structure and results of operations. Emerging market currency values and monetary policy settings are particularly sensitive to such changes in U.S. monetary policy. Additionally, further restrictive U.S. monetary policy, potentially including further rate increases, could result in additional currency volatility and recessionary conditions in a number of non-U.S. markets.

We are also subject to geopolitical risks, including economic sanctions, acts or threats of international or domestic terrorism, including responses by the U.S. or other governments thereto, increased state-sponsored cyberattacks or campaigns, civil unrest and/or military conflicts, including the escalation of tensions between China and Taiwan, which could adversely affect business, market trade and general economic conditions abroad and in the U.S. The Russia/Ukraine conflict and the conflict in the Middle East have magnified such risks and resulted in regional instability and adversely impacted commodity and other financial markets, as well as economic conditions, especially in Europe. Widening regional conflicts resulting in the involvement of neighboring countries and/or North Atlantic Treaty Organization member countries could result in additional economic disruptions, financial market volatility, higher inflation and changes to asset valuations, which could disrupt our operations and adversely affect our results of operations.

Business Operations

A failure in or breach of our operations or information systems, or those of third parties or the financial services industry, could cause disruptions, adversely impact our businesses, results of operations and financial condition, and cause legal or reputational harm.

Operational risk exposure exists throughout our organization and as a result of our extensive interactions with, and reliance on, third parties and the financial services industry, including the processing and reporting of a large number of transactions in many currencies and jurisdictions. Our operations and information systems, which comprise the hardware, software, infrastructure, infrastructure or manual processes, technology project implementation challenges and supply chain disruptions. Operational disruptions and prolonged operational outages could also result from events arising from natural disasters, including acute and chronic weather events, such as wildfires, tornadoes, hurricanes and floods, some of which are happening with more frequency and severity, and earthquakes, as well as local or larger scale political or social matters, including civil unrest, terrorist acts and military conflict.

We continue to have greater reliance on our and our third parties' remote access tools and technology, and employees' personal systems and increased data utilization and dependence upon our information systems to operate our businesses remotely, including as a result of evolving customer preferences, which has led to increased reliance on digital banking and other digital services provided by our businesses. Effective management of our business continuity increasingly depends on the security, reliability and adequacy of such systems.

We also rely on our employees, representatives and third parties in our day-to-day operations, who may, due to illness, unavailability, the emergence or continuation of health emergencies or pandemics, human error, misconduct (including errors in judgment, malice, fraud or illegal activity), malfeasance or a failure or breach of information systems, cause disruptions to our organization and expose us to operational losses, regulatory risk and reputational harm. Our and our third parties' inability to properly introduce, deploy and manage operational changes, including with regard to internal financial and governance processes, existing products, services and technology, and new product innovations and technology, could also result in additional operational and regulatory risk.

Regardless of the measures we have taken to implement training, procedures, backup systems and other safeguards to support our operations and bolster our operational resilience, our ability to conduct business may be adversely affected by significant disruptions to us or to third parties with whom we interact or upon whom we rely, including localized or systemic cyber events that result in information systems outages and unavailability of part or all of the internet, cloud services and/or the financial services industry infrastructure (including electronic trading and algorithmic platforms and critical banking activities). Our ability to implement backup systems and other safeguards with respect to

business operations and customer services, a failure to identify or effectively respond to operational risks in a timely manner and/or a failure to continue to deliver our services through an operational disruption could impact the confidentiality, integrity or availability of data and expose us to a number of risks, including market abuse, customer attrition, regulatory, market, privacy and liquidity risk, adversely impact our results of operations and financial condition and cause legal, regulatory or reputational harm.

The Corporation and third parties with whom we interact and/or on whom we rely, are subject to cybersecurity incidents, information and security breaches, and technology failures that have and in the future could adversely affect our ability to conduct our businesses, result in the misuse, destruction or disclosure of information, damage our reputation, increase our regulatory and legal risks, result in additional costs or financial losses and/or otherwise adversely impact our businesses and results of operations.

Our business is highly dependent on the security, controls and efficacy of our information systems, and the information systems of our customers, third parties, the financial services industry and financial data aggregators with whom we interact, on whom we rely or who have access to our customers' personal or account information. We rely on effective access management and the secure collection, processing, maintenance, use, sharing, dissemination and disposition of information in our and our third parties’ information systems. Our cybersecurity risk and exposure remains heightened because of, among other things, our prominent size and scale, high-profile brand, geographic footprint and international presence and role in the financial services industry and the broader economy. The proliferation of third-party financial data aggregators and emerging technologies, including our and our third parties’ use of automation, artificial intelligence (AI) and robotics, increases our cybersecurity risks and exposure.

We, our employees, customers, regulators and third parties are ongoing targets of an increasing number of cybersecurity threats and cyberattacks. The tactics, techniques and procedures used in cyberattacks are pervasive, sophisticated and designed to evade security measures, including computer viruses, malicious or destructive code (such as ransomware), social engineering (including phishing, vishing and smishing), denial management failures could impact the confidentiality, integrity or availability of data. Additionally, the failure of our employees to exercise sound judgment and vigilance when targeted with social engineering or other cyberattacks increases our vulnerability.

Our risk from and exposure to cybersecurity threats and incidents, information and security breaches and technology failures continues to increase due to the acceptance and use of digital banking and other digital products and services, including mobile banking products, and reliance on remote access tools and technology, which have increased our reliance on virtual or digital interactions and a larger number of access points to our information systems that must be secured, and results in greater amounts of information being available for access. Greater demand on our information systems and security tools and processes will likely continue.

We also face significant third-party technology, cybersecurity and operational risks relating to the large number of customers and third parties with whom we do business, the financial services industry, upon whom we rely to facilitate or enable our business activities or upon whom our customers rely, including the secure collection, processing, maintenance, use, sharing, dissemination and disposition of customer and other sensitive information, providers of products and/or services, financial counterparties, financial data aggregators, financial intermediaries, such as clearing agents, exchanges and clearing houses, regulators, providers of outsourced infrastructure, such as internet access, cloud service providers and electrical power, and retailers for whom we process transactions. Such third-party information systems extend beyond our security and control systems, and such third parties have varying levels of security and cybersecurity resources, expertise, safeguards, controls and capabilities. Threat actors may actively seek to exploit security and cybersecurity weaknesses at our third parties and the relationships of our third parties with us may increase the risk that they are targeted by the same threats we face, and such third parties may be less prepared for such threats. We are also at additional risk resulting from critical third-party information security and open-source software vulnerabilities. We must rely on our third parties to adequately detect and promptly report cybersecurity incidents, and their failure to do so could adversely affect our ability to report or respond to cybersecurity incidents effectively or timely.

our protective measures, investigate and remediate software and network vulnerabilities, and defend against, detect and respond to cybersecurity threats and incidents whether specific to us, a third party, the industry or businesses in general, and enhance our capabilities to respond and recover.

While we and our third parties have experienced cybersecurity incidents, information and security breaches and technology failures, as well as adverse impacts from such events, including as described in this risk factor, we have not experienced material losses or other material consequences relating to cybersecurity incidents, information or security breaches or technology failures, whether directed at us or our third parties. However, we expect to continue to experience such events and impacts with increased frequency and severity due to the evolving threat environment, and there can be no assurance that future cybersecurity incidents, information and security breaches and technology failures, including as a result of cybersecurity incidents, information and security breaches and technology failures experienced by our third parties, will not have a material adverse impact on us, including our businesses, results of operations and financial condition.

Any future cybersecurity incident, information or security breach or technology failure suffered by us or our third parties could result in disruption to our day-to-day business activities, an inability to effect transactions, execute trades, service our customers, manage our exposure to risk, expand our businesses, detect and prevent fraudulent or unauthorized transactions, including transactions impacting our customers, maintain information systems access and business operations and customer services, in the U.S. and/or globally. Additionally, we could experience the loss of customers and business opportunities, the withdrawal of customer deposits, the misappropriation, alteration or destruction of our or our third parties' intellectual property or confidential information, the unauthorized access to or temporary or permanent loss or theft of personally identifiable information, including of our employees and customers, significant lost revenue, losses and claims brought by third parties, violations of applicable privacy, cybersecurity and other laws, rules and regulations, litigation exposure, economic sanctions, enforcement actions, government fines, penalties or intervention and other negative consequences. Although we maintain cyber insurance, there can be no assurance that any act or omission on our part that involves willful misfeasance, bad faith, gross negligence or reckless disregard of our duties. If any such breach was found to have occurred, it may harm our reputation, increase our servicing costs or losses due to potential indemnification obligations, result in litigation or regulatory action or adversely impact our results of operations. Additionally, foreclosures may result in costs, litigation or losses due to irregularities in the underlying documentation, or if the validity of a foreclosure action is challenged by a borrower or overturned by a court because of errors or deficiencies in the foreclosure process. We may also incur costs or losses relating to delays or alleged deficiencies in processing documents necessary to comply with state law governing foreclosure.

Changes in the structure of and relationship among the GSEs could adversely impact our business.

We rely on the GSEs to guarantee or purchase mortgage loans that meet their conforming loan requirements. During 2023, we sold approximately $3.1 billion of loans to GSEs, primarily Freddie Mac (FHLMC). FHLMC and Fannie Mae (FNMA) are currently in conservatorship, with the Federal Housing Finance Agency (FHFA) acting as conservator. In 2019, the Treasury Department published a proposal to recapitalize FHLMC and FNMA and remove them from conservatorship and reduce their role in the marketplace. In January 2021, the Treasury Department further amended the agreement that governs the conservatorship of FHLMC and FNMA and delineated the continued objective to remove the GSEs from conservatorship. However, we cannot predict the future prospects of the GSEs, timing of the recapitalization or release from conservatorship, or content of legislative or rulemaking proposals regarding the future status of the GSEs in the housing market. If the GSEs take a reduced role in the marketplace, including by limiting the mortgage products they offer, we could be required to seek alternative funding sources, retain additional loans on our balance sheet, secure funding through the Federal Home Loan Bank system, or securitize the loans through Private Label Securitization, which could increase our cost of funds related to the origination of new mortgage loans, increase credit risk and/or impact our capacity to originate new mortgage loans. Uncertainty regarding their future and the MBS they guarantee continues to exist for the foreseeable future. These developments could adversely affect our securities portfolios, capital

Our ability to manage risk is dependent on our ability to consistently execute all elements of our risk management program, develop and maintain a culture of managing risk well throughout the Corporation and manage risks associated with third parties, including providers of products and/or services, to allow for effective risk management and help confirm that risks are appropriately considered, evaluated and responded to in a timely manner. Uncertain economic and geopolitical conditions, health emergencies and pandemics, heightened legislative and regulatory scrutiny of and change within the financial services industry, the pace of technological changes, accounting, tax and market developments, the failure of employees, representatives and third parties to comply with our policies and Risk Framework and the overall complexity of our operations, among other developments, have in the past and may in the future result in a heightened level of risk, including operational, reputational and compliance risk. Our failure to manage evolving risks or properly anticipate, manage, control or mitigate risks could result in additional losses and adversely affect our results of operations.

Regulatory, Compliance and Legal

We are highly regulated and subject to evolving government legislation and regulations and certain settlements, orders and agreements with government authorities from time to time.

Our businesses are highly regulated and we are subject to evolving and comprehensive regulation under federal and state laws in the U.S. and the laws of the various foreign jurisdictions in which we operate, including increasing and complex economic sanctions regimes. These laws and regulations significantly affect and have the potential to restrict the scope of our existing businesses, require changes to our business strategies, limit our ability to pursue certain business opportunities, including the products and services we offer, reduce certain fees and rates and/or make our products and services more expensive for our clients. We are also required to file various financial and nonfinancial regulatory reports to comply with laws, rules and regulations in the jurisdictions in which we operate, which results in additional compliance risk.

We continue to adjust our business and operations, legal entity structure, disclosure and policies, processes, procedures and controls, including with regard to capital and liquidity management, risk management and data with respect to the scope and requirements of existing, prospective and proposed laws, rules and regulations in our business planning and strategies. If these assumptions prove incorrect, we could be subject to increased regulatory, legal and compliance risks and costs, as well as potential reputational harm. Also, U.S. and regulatory initiatives abroad may overlap, and non-U.S. regulation and initiatives may be inconsistent or may conflict with current or proposed U.S. regulations, which could lead to compliance risks and increased costs.

Our regulators' prudential and supervisory authority gives them broad power and discretion to direct our actions, and they have assumed an active oversight, inspection and investigatory role across the financial services industry. Regulatory focus is not limited to laws, rules and regulations applicable to the financial services industry, but includes other significant laws, rules and regulations that apply across industries and jurisdictions, including those related to anti-money laundering, anti-bribery, anti-corruption know-your-customer requirements, embargo programs and economic sanctions.

We are also subject to laws, rules and regulations in the U.S. and abroad, including the GDPR and CCPA as modified by the CPRA, and a number of additional jurisdictions enacting or considering similar laws or amendments to existing laws, regarding privacy and the disclosure, collection, use, sharing and safeguarding of personally identifiable information, including our employees, customers, suppliers, counterparties and other third parties, the violation of which could result in litigation, regulatory fines, enforcement actions and operational loss. Additionally, we are and will continue to be subject to new and evolving data privacy laws in the U.S. and abroad, which could result in additional costs of compliance, litigation, regulatory fines and enforcement actions. There remains complexity and uncertainty, including potential suspension or prohibition, regarding data transfer because of concerns over compliance with laws, rules and regulations for cross-border flows and transfers of personal data from the European Economic Area (EEA) to the U.S. and other jurisdictions outside of the EEA, resulting from judicial and regulatory guidance. To the extent that a new EU-U.S. Data Privacy Framework leads to a relaxation of applicable legislation and regulations, regardless of transfer mechanism, challenges are expected from consumer advocacy groups. Other jurisdictions, including China and India, have commenced consultation efforts or

Our response to regulators and other government authorities may be time-consuming, expensive and divert management attention from our business. The outcome of any matter, which may last years, may be difficult to predict or estimate.

The terms of settlements, orders and agreements that we have entered into with government entities and regulatory authorities have also imposed, or could impose, significant operational and compliance costs on us with respect to enhancements to our procedures and controls, losses with respect to fraudulent transactions perpetrated against our customers, expansion of our risk and control functions within our lines of business, investment in technology and the hiring of significant numbers of additional risk, control and compliance personnel. If we fail to meet the requirements of the regulatory settlements, orders or agreements to which we are subject, or, more generally, fail to maintain risk and control procedures and processes that meet the heightened standards established by our regulators and other government authorities, we could be required to enter into further settlements, orders or agreements and pay additional fines, penalties or judgments, or accept material regulatory restrictions on our businesses.

Improper actions, behaviors or practices by us, our employees or representatives that are illegal, unethical or contrary to our core values could harm us, our shareholders or customers or damage the integrity of the financial markets, and are subject to regulatory scrutiny across jurisdictions. The complexity of the regulatory and enforcement regimes in the U.S., coupled with the global scope of our operations and the regulatory environment worldwide, also means that a single event or practice or a series of related events or practices may give rise to a significant number of overlapping investigations and regulatory proceedings, either by multiple federal and state agencies in the U.S. or by multiple regulators and other governmental entities in different jurisdictions. Actions by other members of the financial services industry related to business activities in which we participate may result in investigations by regulators or other government authorities.

While we believe that we have adopted appropriate risk management and compliance programs, compliance risks will continue to exist, particularly as we anticipate and adapt to new and evolving laws, rules and regulations and evolving interpretations. We also rely upon third parties who may expose us to compliance and legal risk. Future legislative or regulatory actions,

Financial institutions, including us, continue to be the subject of claims alleging anti-competitive conduct with respect to various products and markets, including U.S. antitrust class actions claiming joint and several liability for treble damages. As disclosed in Note 12 – Commitments and Contingencies to the Consolidated Financial Statements, we also face contractual indemnification and loan-repurchase claims arising from alleged breaches of representations and warranties in the sale of residential mortgages by legacy companies, which may result in a requirement that we repurchase the mortgage loans, or make whole or provide other remedies to counterparties.

U.S. regulators and government agencies regularly pursue enforcement claims against financial institutions, including us, for alleged violations of law and customer harm, including under the Financial Institutions Reform, Recovery, and Enforcement Act, the federal securities laws, the False Claims Act, fair lending laws and regulations (including the Equal Credit Opportunity Act and the Fair Housing Act), the FCPA, the BSA, regulations issued by OFAC, Home Mortgage Disclosure Act, antitrust laws, and consumer protection laws and regulations related to products and services such as overdraft and sales practices, including prohibitions on unfair, deceptive, and/or abusive acts and practices (UDAAP) under the Consumer Financial Protection Act and the Federal Trade Commission Act, and EFTA, as well as other enforcement action taken by prudential regulators with respect to safety, soundness and appropriateness of our business practices. Such claims may carry significant penalties, restitution and, in certain cases, treble damages, and the ultimate resolution of regulatory inquiries, investigations and other proceedings which we are subject to from time-to-time is difficult to predict.

There is also an increased focus on information security. This includes cybersecurity incidents perpetrated against us, our customers, providers of products and services, counterparties and other third parties, the collection, use and sharing of data, and safeguarding of personally identifiable information and corporate data, as well as the development, implementation, use and management of emerging technologies, including AI and machine learning. Related litigation or government enforcement, including with regard to compliance with U.S. and global laws, rules and regulations, could subject us to fines, judgments and/or settlements and involve reputational losses. Additionally, misconduct by our employees

regulatory enforcement, combined with uncertainty related to the continually evolving regulatory environment, have affected and will likely continue to affect operational and compliance costs and risks, including the adaptation of business strategies and/or limitation or cessation of our ability or feasibility to continue providing certain products and services. Lawsuits and regulatory actions have resulted in and will likely continue to result in judgments, orders, settlements, penalties and fines adverse to us. Further, we entered into orders with certain government agencies regarding credit card sales and marketing practices and the representment of non-sufficient fund fees, as well as our participation in implementing government relief measures related to the COVID-19 pandemic and other federal and state government assistance programs, including the processing of unemployment benefits for California and certain other states, and continue to be involved in related litigation that may result in judgments and/or settlements. Litigation and investigation costs, substantial legal liability or significant regulatory or government action against us could adversely affect our businesses, financial condition, including liquidity, and results of operations, and/or cause significant reputational harm.

U.S. federal banking agencies may require us to increase our regulatory capital, total loss-absorbing capacity (TLAC), long-term debt or liquidity requirements.

We are subject to U.S. regulatory capital and liquidity rules. These rules, among other things, establish minimum requirements to qualify as a well-capitalized institution. If any of our subsidiary insured depository institutions fail to maintain their status as well capitalized under the applicable regulatory capital rules, the Federal Reserve will require us to agree to bring the insured depository institution back to well-capitalized status. For the duration of such an agreement, the Federal Reserve may impose restrictions on our activities. If we were to fail to enter into or comply with such an agreement, the Federal Reserve may impose more severe restrictions on our activities, including requiring us to cease and desist activities permitted under the Bank Holding Company Act of 1956.

Capital and liquidity requirements are frequently introduced and amended. Regulators may increase regulatory capital requirements, including TLAC and long-term debt requirements, change how regulatory capital or RWA is calculated or increase liquidity requirements. In including a standardized approach for operational risk, revised market risk and credit risk requirements and removal of the use of certain internal models, which would increase our regulatory capital requirements, if adopted as proposed. Economic disruptions or events may also cause an increase in our balance sheet, RWA or leverage exposures, increasing required regulatory capital and liquidity amounts.

Changes to and compliance with the regulatory capital and liquidity requirements may impact our operations by requiring us to liquidate assets, increase borrowings, issue additional equity or other securities, reduce the amount of common stock repurchases or dividends, cease or alter certain operations, pricing strategies and business activities or hold highly liquid assets, which may adversely affect our results of operations.

Changes in accounting standards or assumptions in applying accounting policies could adversely affect us.

Accounting policies and methods are fundamental to how we record and report our financial condition and results of operations. Some of these policies require the use of estimates and assumptions that may affect the reported value of our assets or liabilities and results of operations and are critical because they require management to make difficult, subjective and complex judgments about matters that are inherently uncertain. If assumptions, estimates or judgments are erroneously applied, we could be required to correct and restate prior-period financial statements. Accounting standard-setters and those who interpret the accounting standards, including the SEC, banking regulators and our independent registered public accounting firm may also amend or even reverse their previous interpretations or positions on how various standards should be applied. These changes may be difficult to predict and could impact the preparation and reporting of our financial statements, including the application of new or revised standards retrospectively, resulting in revisions to prior-period financial statements.

We may be adversely affected by changes in U.S. and non-U.S. tax laws and regulations.

Governmental authorities in the U.S. and/or other countries could further change tax laws in a way that would materially adversely affect us, including changes to the Tax Cuts and Jobs Act of 2017 and Inflation Reduction Act of 2022. Also, new guidelines issued by the Organization for Economic Cooperation and Development (OECD), which are currently being enacted into law in some OECD countries in which we operate, are

Reputation

Damage to our reputation could harm our businesses, including our competitive position and business prospects.

Our ability to attract and retain customers, clients, investors and employees is impacted by our reputation. Harm to our reputation can arise from various sources, including actual or perceived activities of our officers, directors, employees, other representatives, customers and third parties, including counterparties, such as fraud, misconduct and unethical behavior (such as employees' sales practices), adequacy of our ability to detect, prevent and/or respond to fraud perpetrated against our customers, and the handling of related disputes with regard to the use of our products and services, including electronic payments, effectiveness of our internal controls, the fees charged to our customers, including overdraft and non-sufficient fund fees, compensation practices, lending practices, suitability or reasonableness of particular trading or investment strategies, the reliability of our research and models and prohibiting clients from engaging in certain transactions.

Our reputation may also be harmed by actual or perceived failure to deliver the products and standards of service and quality expected by our customers, clients and the community, including the overstatement or mislabeling of the environmental benefits of our products, services or transactions, the failure to protect our customers and/or recognize and address customer complaints, compliance failures, technology changes, the implementation, management and/or use of emerging technologies, including quantum computing, AI and machine learning, the failure to maintain effective data management, cybersecurity incidents and information and security breaches affecting us and our third parties, which have occurred and we expect to continue to experience with increased frequency and severity due to the evolving threat environment, prolonged or repeated system outages, the Corporation's privacy policies, the unintended disclosure of or failure to safeguard personal, proprietary or confidential information, the breach of the Corporation's fiduciary obligations and handling of the emergence or continuation of health emergencies and pandemics. Our reputation may be also be harmed by litigation and/or regulatory matters and their outcomes, relating to the topics discussed above or otherwise. For example, we entered into orders with certain government agencies regarding credit card sales and cybersecurity and other matters, as well as evolving and expansive interpretations of these laws and regulations. Principles concerning the appropriate scope of consumer and commercial privacy vary considerably in different jurisdictions, and regulatory and public expectations regarding the definition and scope of consumer and commercial privacy may remain fluid. These laws may be interpreted and applied by various jurisdictions in a manner inconsistent with our current or future practices, or with one another. If personal, confidential or proprietary information of customers in our possession, or in the possession of third parties or financial data aggregators, is mishandled, misused or mismanaged, or if we do not timely or adequately address such information, we may face regulatory, legal and operational risks, which could adversely affect our reputation, financial condition and results of operations.

We could suffer reputational harm if we fail to properly identify and manage potential conflicts of interest. Management of potential conflicts of interest has become increasingly complex as we expand our business activities through more numerous transactions, obligations and interests with and among our clients. The actual or perceived failure to adequately address conflicts of interest could affect the willingness of clients to use our products and services, or result in litigation or enforcement actions, which could adversely affect our business.

Our actual or perceived failure to address these and other issues, such as operational risks, could give rise to reputational risk that could harm us and our business prospects, including the attraction and retention of customers and employees. Failure to appropriately address any of these issues could also give rise to additional regulatory restrictions, legal risks and reputational harm, which could, among other consequences, increase the size and number of litigation claims and damages asserted or subject us to enforcement actions, fines and penalties, and cause us to incur related costs and expenses.

Other

Reforms to benchmarks may adversely affect our reputation, business, financial condition and results of operations.

Risks and challenges associated with reference rate reform, including the potential replacement of benchmark rates with ARRs (e.g., the expected cessation of BSBY), could expose us to various financial, operational, supervisory, conduct and legal risk.

Usage of ARRs for impacted benchmarks may

impacted parties are required to consent to such modification. Litigation or other disputes may occur as a result of the interpretation or application of any transition-related legislation or regulations adopted in the U.S. and/or foreign jurisdictions, including if the laws or regulations in jurisdictions overlap.

Impacted Products may contain language giving the Corporation discretion to determine the successor rate (including the applicable spread adjustment) to the existing benchmark. We may face a risk of litigation, disputes or other actions from customers, counterparties, investors or others based on various claims, for example, that we incorrectly interpreted or enforced contract provisions, failed to appropriately communicate the transition effects of ARRs to existing and future products, treated affected parties unfairly or made inappropriate product recommendations to or investments on behalf of our clients, engaged in anti-competitive behavior or unlawfully manipulated markets or benchmarks.

ARR-based products that we develop, launch and/or support may perform differently from Impacted Products during times of economic stress, adverse or volatile market conditions and across the credit and economic cycle, which may impact the value, return on and profitability of our ARR-based assets. New financial products linked to ARRs may have additional legal, financial, accounting, tax, operational, market, compliance, reputational, competitive or other risks to us, our customers and other market participants. Scrutiny by banking regulators in the U.S. and globally on transition plans, preparations and readiness could result in regulatory action, litigation and/or the need to change the products offered by our businesses.

We face significant and increasing competition in the financial services industry.

We operate in a highly competitive environment and experience intense competition from local and global bank and nonbank financial institutions and new entrants in domestic and foreign markets. There is increasing pressure to provide products and services on more attractive terms, including lower fees and higher interest rates on deposits, and lower cost investment strategies, which may impact our ability to effectively compete. The current and changing regulatory environment may also create competitive disadvantages, including from more stringent regulatory requirements applicable to the Corporation.

Emerging technologies and the growth of e-distribution channels. Our success depends on our and our third-party providers' ability to timely adapt our business strategies, products and services and their respective features, including available payment processing services and technology to rapidly evolving industry standards and consumer preferences. Our strategies could be further impacted by macroeconomic stress, widespread health emergencies or pandemics, cyberattacks, and military conflicts or other significant geopolitical events.

The widespread adoption and rapid evolution of emerging technologies, including analytic capabilities, self-service digital trading platforms and automated trading markets, internet services, and digital assets, such as central bank digital currencies, cryptocurrencies (including stablecoins), tokens and other cryptoassets that utilize distributed ledger technology (DLT), as well as payment, clearing and settlement processes that use DLT, create additional strategic risks, could negatively impact our ability to compete and require substantial expenditures to the extent we were to modify or adapt our existing products and services. As such new technologies evolve and mature, our businesses and results of operations could be adversely impacted, including as a result of the introduction of new competitors to the payment ecosystem and increased volatility in deposits and/or significant long-term reduction in deposits (i.e., financial disintermediation). Also, we may not be as timely or successful in accurately assessing the competitive landscape and developing or introducing new products and services, integrating new products or services into our existing offerings, responding, managing or adapting to changes in consumer behavior, preferences, spending, investing and/or saving habits, achieving market acceptance of our products and services, reducing costs in response to pressures to deliver products and services at lower prices or sufficiently developing and maintaining customers. Our or our third-party providers' inability or resistance to timely innovate or adapt its operations, products and services to evolving regulatory and market environments, industry standards and consumer preferences could result in service disruptions and harm our business and adversely affect our results of operations and reputation.

We could suffer operational, reputational and financial harm if our models fail to properly anticipate and manage risk.

We use models extensively to forecast losses, project revenue and expenses, assess and control our operations and financial condition, assist in

manage risk. Market conditions in recent years have involved unprecedented dislocations and highlight the limitations inherent in using historical data to manage risk. Our models may also be adversely impacted by human error and may not be effective if we fail to properly oversee and review them at regular intervals and detect their flaws during our review and monitoring processes, they contain erroneous data, assumptions, valuations, formulas or algorithms or our applications running the models do not perform as expected. Regardless of the steps we take to help confirm effective controls, governance, monitoring and testing, and implement new technology and automated processes, we could suffer operational, reputational and financial harm, including funding or liquidity shortfalls, if models fail to properly anticipate and manage risks.

Failure to properly manage data may result in our inability to manage risk and business needs, errors in our operations, critical reporting and strategic decision-making, inaccurate reporting and non-compliance with laws, rules and regulations.

We rely on our ability to manage and process data in an accurate, timely and complete manner, including capturing, transporting, aggregating, using, transmitting data externally, and retaining and protecting data appropriately. While we continually update our policies, programs, processes and practices and implement emerging technologies, such as automation, AI, machine learning and robotics, our data management processes may not be effective and are subject to weaknesses and failures, including human error, data limitations, process delays, system failure or failed controls. Failure to properly manage data effectively in an accurate, timely and complete manner may adversely impact its quality and reliability and our ability to manage current and emerging risk, produce accurate financial and/or nonfinancial, regulatory, operational and ESG reporting, detect or surveil potential misconduct or non-compliance with laws, rules and regulations, and to manage changing business needs, strategic decision-making, resolution strategy and operations. The failure to establish and maintain effective, efficient and controlled data management could adversely impact our ability to develop our products and relationships with customers, increase regulatory risk and operational losses, and damage our reputation.

Our operations, businesses and customers could be adversely affected by the impacts related to climate change.

supply chain and insurance availability and cost, increase expenses, impact capital requirements and adversely impact our results of operations. In particular, there is an increasing global regulatory focus, including state, federal and non-U.S. jurisdictions, on climate change resulting in new or heightened regulatory requirements, with potential jurisdictional divergence, which is expected to increase our legal, compliance and public disclosure risks and costs in the U.S. and globally.

Our climate change strategies, policies, and disclosures, our ability to achieve our climate-related goals, targets and commitments and/or the environmental or climate impacts attributable to our products, services or transactions will likely result in heightened legal and compliance risk and could result in reputational harm as a result of negative public sentiment, regulatory scrutiny, litigation and reduced investor and stakeholder confidence. Due to divergent views of stakeholders, we are at increased risk that any action, or lack thereof, by us concerning our response to climate change will be perceived negatively by some stakeholders, which could adversely impact our reputation and businesses. Our ability to meet our climate-related goals, targets and commitments, including our goal to achieve certain greenhouse gas (GHG) emissions targets by 2030 and net zero GHG emissions in our financing activities, operations and supply chain before 2050, is subject to risks and uncertainties, many of which are outside of our control, such as technological advances, clearly defined roadmaps for industry sectors, public policies and better emissions data reporting, and ongoing engagement with customers, suppliers, investors, government officials and other stakeholders. Due to the evolving nature of climate-related risks, which are expected to increase over time, it is difficult to predict, identify, monitor and effectively mitigate climate-related risks and uncertainties.

Furthermore, there are and will continue to be challenges related to the availability and capturing, measuring, verifying, analyzing and disclosing climate-related data, including data obtained from third parties, which may result in legal, compliance and/or reputational harm.

Our ability to attract, develop and retain qualified employees is critical to our success, business prospects and competitive position.

Our performance and competitive position is heavily dependent on the talents, development and efforts of highly skilled individuals.

Item 1B. Unresolved Staff Comments

None

Item 1C. Cybersecurity

See Compliance and Operational Risk Management in the MD&A beginning on page 79, which is incorporated herein by reference.

Item 2. Properties

As of December 31, 2023, certain principal offices and other materially important properties consisted of the following:

Facility Name	Location	General Character of the Physical Property	Primary Business Segment	Property Status	Property Square Feet [1]
Bank of America Corporate Center	Charlotte, NC	60 Story Building	Principal Executive Offices	Owned	1,212,177
Bank of America Tower at One Bryant Park	New York, NY	55 Story Building	GWIM, Global Banking and Global Markets	Leased [2]	1,939,431
Bank of America Financial Centre	London, UK	3 Building Campus	Global Banking and Global Markets	Leased	510,171
Cheung Kong Center	Hong Kong	62 Story Building	Global Banking and Global Markets	Leased	149,790

[1] For leased properties, property square feet represents the square footage occupied by the Corporation.

[2] The Corporation has a 49.9 percent joint venture interest in this property.

We own or lease approximately 65.9 million square feet in over 20,000 facilities and ATM locations globally, including approximately 60.3 million square feet in the U.S. (all 50 states and the District of Columbia, the U.S. Virgin Islands, Puerto Rico and Guam) and approximately 5.6 million square feet in more than 35 countries.

We believe our owned and leased properties are adequate for our business needs and are well maintained. We continue to evaluate our owned and leased real estate and may determine from time to time that certain of our premises and facilities, or ownership structures, are no longer necessary for our operations. In connection therewith, we regularly evaluate the sale or sale/leaseback of certain properties, and we may incur costs in connection with any such transactions.

Item 3. Legal Proceedings

See Litigation and Regulatory Matters in Note 12 – Commitments and Contingencies to the Consolidated Financial Statements, which is incorporated herein by reference.

Item 4. Mine Safety Disclosures

None

Part II

Bank of America Corporation and Subsidiaries

Item 5. Market for Registrant's Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities

The principal market on which our common stock is traded is the New York Stock Exchange under the symbol “BAC.” As of February 16, 2024, there were 137,369 registered shareholders of common stock.

The table below presents common share repurchase activity for the three months ended December 31, 2023. The primary source of funds for cash distributions by the Corporation to its shareholders is dividends received from its bank subsidiaries. Each of the bank 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 Purchased [1,2]	Weighted-Average Per Share Price	Total Shares Purchased as Part of Publicly Announced Programs [2]	Remaining Buyback Authority Amounts
October 1 - 31, 2023	10,251	$ 26.85	10,242	$ 13,278
November 1 - 30, 2023	9,413	28.15	9,275	13,017
December 1 - 31, 2023	8,676	31.79	8,650	12,742
Three months ended December 31, 2023	**28,340**	**28.79**	**28,167**	

(1) Includes 173 thousand 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. In September 2023, the Board modified the October 2021 Authorization, effective October 1, 2023, to include repurchases to offset shares awarded under equity-based compensation plans when determining the remaining repurchase authority. During the three months ended December 31, 2023, pursuant to the Board’s authorizations, the Corporation repurchased approximately 28 million shares, or $811 million, 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 47 and Note 13 – Shareholders’ Equity to the Consolidated Financial Statements.

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

Item 6. [Reserved]

Item 7. Bank of America Corporation and Subsidiaries
Management's Discussion and Analysis of Financial Condition and Results of Operations

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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, net interest income, 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 this 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 reference rates, including increased expenses and litigation and the 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 potential changes to loss allocations between financial institutions and customers, including for losses incurred from the use of our products and services, including electronic payments and payment of checks, that were authorized by the customer but induced by fraud; the impact of failures or disruptions in or breaches of the Corporation’s operations or information systems or those of third parties, including as a result of cybersecurity incidents; the risks related to the development, implementation, use and management of emerging technologies, including artificial intelligence and machine learning; 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

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 December 31, 2023, the Corporation had $3.2 trillion in assets and a headcount of approximately 213,000 employees.

As of December 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 69 million consumer and small business clients with approximately 3,800 retail financial centers, approximately 15,000 ATMs, and leading digital banking platforms (www.bankofamerica.com) with approximately 46 million active users, including approximately 38 million active mobile users. We offer industry-leading support to approximately four million small business households. Our GWIM businesses, with client balances of $3.8 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.

Recent Developments

Capital Management

On January 31, 2024, the Corporation's Board of Directors (the Board) declared a quarterly common stock dividend of $0.24 per share, payable on March 29, 2024 to shareholders of record as of March 1, 2024.

For more information on our capital resources,

FDIC Special Assessment

On November 16, 2023, the Federal Deposit Insurance Corporation (FDIC) issued its final rule to impose a special assessment to recover the loss to the Deposit Insurance Fund resulting from the closure of Silicon Valley Bank and Signature Bank. Accordingly, in the fourth quarter of 2023, the Corporation recorded noninterest expense of $2.1 billion for its estimated assessment amount. For more information, see Note 12 – Commitments and Contingencies to the Consolidated Financial Statements.

Financial Highlights

Table 1 Summary Income Statement and Selected Financial Data

(Dollars in millions, except per share information)	2023	2022
Income statement		
Net interest income	**$ 56,931**	$ 52,462
Noninterest income	**41,650**	42,488
Total revenue, net of interest expense	**98,581**	94,950
Provision for credit losses	**4,394**	2,543
Noninterest expense	**65,845**	61,438
Income before income taxes	**28,342**	30,969
Income tax expense	**1,827**	3,441
Net income	**26,515**	27,528
Preferred stock dividends and other	**1,649**	1,513
Net income applicable to common shareholders	**$ 24,866**	$ 26,015
Per common share information		
Earnings	**$ 3.10**	$ 3.21
Diluted earnings	**3.08**	3.19
Dividends paid	**0.92**	0.86
Performance ratios		
Return on average assets [1]	**0.84 %**	0.88 %
Return on average common shareholders' equity [1]	**9.75**	10.75
Return on average tangible common shareholders' equity [2]	**13.46**	15.15
Efficiency ratio [1]	**66.79**	64.71
Balance sheet at year end		
Total loans and leases	**$ 1,053,732**	$ 1,045,747

Net Interest Income

Net interest income increased $4.5 billion to $56.9 billion in 2023 compared to 2022. Net interest yield on a fully taxable-equivalent (FTE) basis increased 12 basis points (bps) to 2.08 percent for 2023. The increases were primarily driven by benefits from higher interest rates and loan growth, partially offset by higher funding costs, lower deposits and net interest income related to Global Markets activity. For more information on net interest yield and FTE basis, see Supplemental Financial Data on page 29, and for more information on interest rate risk management, see Interest Rate Risk Management for the Banking Book on page 77.

Noninterest Income

Table 2 Noninterest Income

(Dollars in millions)		2023		2022
Fees and commissions:				
Card income	$	**6,054**	$	6,083
Service charges		**5,684**		6,405
Investment and brokerage services		**15,563**		15,901
Investment banking fees		**4,708**		4,823
Total fees and commissions		**32,009**		33,212
Market making and similar activities		**12,732**		12,075
Other income		**(3,091)**		(2,799)
Total noninterest income	$	**41,650**	$	42,488

Noninterest income decreased $838 million to $41.7 billion in 2023 compared to 2022. The following highlights the significant changes.

- Service charges decreased $721 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 $338 million primarily due to lower transactional revenue and asset management fees driven by declines in assets under management (AUM) pricing, as well as lower average market valuations, partially offset by the impact of positive AUM flows.
- Investment banking fees decreased $115 million primarily due to lower advisory and debt issuance fees, partially offset by higher equity issuance fees.
- Market making and similar activities increased $657 million primarily driven by improved

Provision for Credit Losses

The provision for credit losses increased $1.9 billion to $4.4 billion in 2023 compared to 2022. The provision for credit losses for 2023 was driven by our consumer portfolio primarily due to credit card loan growth and asset quality, partially offset by improved macroeconomic conditions that primarily benefited our commercial portfolio. For the same period in the prior year, the provision for credit losses was primarily driven by loan growth and a dampened macroeconomic outlook, partially offset by a reduction in COVID-19 pandemic uncertainties. For more information on the provision for credit losses, see Allowance for Credit Losses on page 71.

Noninterest Expense

Table 3 Noninterest Expense

(Dollars in millions)		2023		2022
Compensation and benefits	$	**38,330**	$	36,447
Occupancy and equipment		**7,164**		7,071
Information processing and communications		**6,707**		6,279
Product delivery and transaction related		**3,608**		3,653
Marketing		**1,927**		1,825
Professional fees		**2,159**		2,142
Other general operating		**5,950**		4,021
Total noninterest expense	$	**65,845**	$	61,438

Noninterest expense increased $4.4 billion to $65.8 billion in 2023 compared to 2022 primarily due to higher investments in people and technology and higher FDIC expense, including $2.1 billion for the estimated special assessment amount arising from the closure of Silicon Valley Bank and Signature Bank, partially offset by lower litigation expense and revenue-related compensation.

Income Tax Expense

Table 4 Income Tax Expense

(Dollars in millions)		2023		2022
Income before income taxes	$	**28,342**	$	30,969
Income tax expense		**1,827**		3,441
Effective tax rate		**6.4 %**		11.1 %

Income tax expense was $1.8 billion for 2023

Balance Sheet Overview

Table 5 Selected Balance Sheet Data

(Dollars in millions)	December 31 **2023**	2022	$ Change	% Change
Assets				
Cash and cash equivalents	**$ 333,073**	$ 230,203	$ 102,870	45 %
Federal funds sold and securities borrowed or purchased under agreements to resell	**280,624**	267,574	13,050	5
Trading account assets	**277,354**	296,108	(18,754)	(6)
Debt securities	**871,407**	862,819	8,588	1
Loans and leases	**1,053,732**	1,045,747	7,985	1
Allowance for loan and lease losses	**(13,342)**	(12,682)	(660)	5
All other assets	**377,303**	361,606	15,697	4
Total assets	**$3,180,151**	$ 3,051,375	$ 128,776	4
Liabilities				
Deposits	**$1,923,827**	$ 1,930,341	$ (6,514)	—
Federal funds purchased and securities loaned or sold under agreements to repurchase	**283,887**	195,635	88,252	45
Trading account liabilities	**95,530**	80,399	15,131	19
Short-term borrowings	**32,098**	26,932	5,166	19
Long-term debt	**302,204**	275,982	26,222	10
All other liabilities	**250,959**	268,889	(17,930)	(7)
Total liabilities	**2,888,505**	2,778,178	110,327	4
Shareholders' equity	**291,646**	273,197	18,449	7
Total liabilities and shareholders' equity	**$3,180,151**	$ 3,051,375	$ 128,776	4

Assets

At December 31, 2023, total assets were approximately $3.2 trillion, up $128.8 billion from December 31, 2022. The increase in assets was primarily due to higher cash and cash equivalents.

Cash and Cash Equivalents

Cash and cash equivalents increased $102.9 billion primarily driven by increased funding to support balance sheet and liquidity positioning.

Federal Funds Sold and Securities Borrowed or Purchased Under Agreements to Resell

Federal funds transactions involve lending reserve balances on a short-term basis. Securities borrowed or purchased under agreements to resell are collateralized lending transactions utilized to accommodate customer transactions, earn interest rate spreads and obtain securities for settlement and for collateral. Federal funds sold and securities borrowed or purchased under agreements to resell increased $13.1 billion primarily due to the investment of excess cash from higher federal funds purchased and securities loaned or sold under agreements to repurchase, short-term borrowings and long-term debt, as well as client activity within Global Markets.

Trading Account Assets

Trading account assets consist primarily of long positions in equity and fixed-income securities including U.S. government and agency securities, corporate securities and non-U.S. sovereign debt. Trading account assets decreased $18.8 billion primarily due to a decline in inventory within Global Markets.

Debt Securities

Debt securities primarily include U.S. Treasury and agency securities, mortgage-backed securities (MBS), principally agency MBS, non-U.S. bonds, corporate bonds and municipal debt. We reinvest cash in the debt securities portfolio primarily to manage interest rate and liquidity risk. Debt securities increased $8.6 billion primarily due to investment of excess cash from higher federal funds purchased and securities loaned or sold under agreements to repurchase, short-term borrowings and long-term debt. For more information on debt securities, see Note 4 – Securities to the Consolidated Financial Statements.

Loans and Leases

Loans and leases increased $8.0 billion primarily driven by higher credit card spending and growth in commercial loans. For more information on the loan portfolio, see Credit Risk Management on page 57.

Allowance for Loan and Lease Losses

The allowance for loan and lease losses increased $660 million driven by the Corporation's consumer portfolio primarily due to credit card loan growth and asset quality, partially offset by a reserve release in the Corporation's commercial portfolio primarily driven by improved macroeconomic conditions applicable to the commercial portfolio. For more information, see Allowance for Credit Losses on page 71.

All Other Assets

All other assets increased $15.7 billion primarily driven by Global Markets activity.

Liabilities

At December 31, 2023, total liabilities were approximately $2.9 trillion, up $110.3 billion from December 31, 2022, primarily due to higher federal funds purchased and securities loaned or sold under agreements to repurchase and long-term debt.

Deposits

Deposits decreased $6.5 billion primarily due to an increase in customer spending and customers' movement of balances to higher yielding investment alternatives.

Federal Funds Purchased and Securities Loaned or Sold Under Agreements to Repurchase

Federal funds transactions involve borrowing reserve balances on a short-term basis. Securities loaned or sold under agreements to repurchase are collateralized borrowing transactions utilized to accommodate customer transactions, earn interest rate spreads and finance assets on the balance sheet. Federal funds purchased and securities loaned or sold

under agreements to repurchase increased $88.3 billion primarily driven by an increase in repurchase agreements to support liquidity.

Trading Account Liabilities

Trading account liabilities consist primarily of short positions in equity and fixed-income securities including U.S. Treasury and agency securities, non-U.S. sovereign debt and corporate securities. Trading account liabilities increased $15.1 billion primarily due to higher levels of short positions within Global Markets.

Short-term Borrowings

Short-term borrowings provide an additional funding source and primarily consist of Federal Home Loan Bank (FHLB) short-term borrowings, notes payable and various other borrowings that generally have maturities of one year or less. Short-term borrowings increased $5.2 billion primarily due to an increase in FHLB advances and commercial paper to manage liquidity needs. For more information on short-term borrowings, see Note 10 – Securities Financing Agreements, Short-term Borrowings, Collateral and Restricted Cash to the Consolidated Financial Statements.

Long-term Debt

Long-term debt increased $26.2 billion primarily due to debt issuances and valuation adjustments, partially offset by debt maturities and redemptions. For more information on long-term debt, see Note 11 – Long-term Debt to the Consolidated Financial Statements.

All Other Liabilities

All other liabilities decreased $17.9 billion primarily driven by Global Markets activity.

Shareholders’ Equity

Shareholders’ equity increased $18.4 billion 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.

Cash Flows Overview

The Corporation’s operating assets and liabilities support our global markets and lending activities. We believe that cash flows from operations, available cash balances and our ability to generate cash through short- and long-term debt are sufficient to fund our operating liquidity needs. Our investing activities primarily include the debt securities portfolio and loans and leases. Our financing activities reflect cash flows primarily related to customer deposits, securities financing agreements, long-term debt and common and by other companies.

When presented on a consolidated basis, net interest income on an FTE basis is 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.

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 170.

Our consolidated key performance indicators, which include various equity and credit metrics, are presented in Table 1 on page 26, Table 6 on page 30 and Table 7 on page 31.

For information on key segment performance metrics, see Business Segment Operations on page 34.

Table 6 Selected Annual Financial Data

(In millions, except per share information)	2023	2022	2021
Income statement			
Net interest income	**$ 56,931**	$ 52,462	$ 42,934
Noninterest income	**41,650**	42,488	46,179
Total revenue, net of interest expense	**98,581**	94,950	89,113
Provision for credit losses	**4,394**	2,543	(4,594)
Noninterest expense	**65,845**	61,438	59,731
Income before income taxes	**28,342**	30,969	33,976
Income tax expense	**1,827**	3,441	1,998
Net income	**26,515**	27,528	31,978
Net income applicable to common shareholders	**24,866**	26,015	30,557
Average common shares issued and outstanding	**8,028.6**	8,113.7	8,493.3
Average diluted common shares issued and outstanding	**8,080.5**	8,167.5	8,558.4
Performance ratios			
Return on average assets [1]	**0.84 %**	0.88 %	1.05 %
Return on average common shareholders' equity [1]	**9.75**	10.75	12.23
Return on average tangible common shareholders' equity [1, 2]	**13.46**	15.15	17.02
Return on average shareholders' equity [1]	**9.36**	10.18	11.68
Return on average tangible shareholders' equity [1, 2]	**12.44**	13.76	15.71
Total ending equity to total ending assets	**9.17**	8.95	8.52
Common equity ratio [1]	**8.28**	8.02	7.74
Total average equity to total average assets	**8.99**	8.62	9.02
Dividend payout [1]	**29.65**	26.77	21.51
Per common share data			
Earnings	**$ 3.10**	$ 3.21	$ 3.60
Diluted earnings	**3.08**	3.19	3.57
Dividends paid	**0.92**	0.86	0.78
Book value [1]	**33.34**	30.61	30.37
Tangible book value [2]	**24.46**	21.83	21.68
Market capitalization	**$ 265,840**	$ 264,853	$ 359,383
Average balance sheet			
Total loans and leases	**$1,046,256**	$ 1,016,782	$ 920,401
Total assets	**3,153,513**	3,135,894	3,034,623
Total deposits	**1,887,541**	1,986,158	1,914,286
Long-term debt	**248,853**	246,479	237,703
Common shareholders' equity	**254,956**	241,981	249,787
Total shareholders' equity	**283,353**	270,299	273,757
Asset quality			
Allowance for credit losses [3]	**$ 14,551**	$ 14,222	$ 13,843
Nonperforming loans, leases and foreclosed properties [4]	**5,630**	3,978	4,697
Allowance for loan and lease losses as a percentage of total loans and leases outstanding [4]	**1.27 %**	1.22 %	1.28 %
Allowance for loan and lease losses as a percentage of total nonperforming loans and leases [4]	**243**	333	271

(1) For definition, see Key Metrics on page 170.

(2) 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 29 and Non-GAAP Reconciliations on page 85.

(3) Includes the allowance for loan and leases losses and the reserve for unfunded lending commitments.

(4) 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 62 and corresponding Table 27 and Commercial Portfolio Credit Risk Management – Nonperforming Commercial Loans, Leases and Foreclosed Properties Activity on page 66 and corresponding Table 33.

(5) For more information, including which approach is used to assess capital adequacy, see Capital Management on page 47.

Table 7 Selected Quarterly Financial Data

(In millions, except per share information)	2023 Quarters				2022 Quarters			
	Fourth	Third	Second	First	Fourth	Third	Second	First
Income statement								
Net interest income	**$ 13,946**	$ 14,379	$ 14,158	$ 14,448	$ 14,681	$ 13,765	$ 12,444	$ 11,572
Noninterest income	**8,013**	10,788	11,039	11,810	9,851	10,737	10,244	11,656
Total revenue, net of interest expense	**21,959**	25,167	25,197	26,258	24,532	24,502	22,688	23,228
Provision for credit losses	**1,104**	1,234	1,125	931	1,092	898	523	30
Noninterest expense	**17,731**	15,838	16,038	16,238	15,543	15,303	15,273	15,319
Income before income taxes	**3,124**	8,095	8,034	9,089	7,897	8,301	6,892	7,879
Income tax expense	**(20)**	293	626	928	765	1,219	645	812
Net income	**3,144**	7,802	7,408	8,161	7,132	7,082	6,247	7,067
Net income applicable to common shareholders	**2,838**	7,270	7,102	7,656	6,904	6,579	5,932	6,600
Average common shares issued and outstanding	**7,990.9**	8,017.1	8,040.9	8,065.9	8,088.3	8,107.7	8,121.6	8,136.8
Average diluted common shares issued and outstanding	**8,062.5**	8,075.9	8,080.7	8,182.3	8,155.7	8,160.8	8,163.1	8,202.1
Performance ratios								
Return on average assets (1)	**0.39 %**	0.99 %	0.94 %	1.07 %	0.92 %	0.90 %	0.79 %	0.89 %
Four-quarter trailing return on average assets (2)	**0.84**	0.98	0.96	0.92	0.88	0.87	0.89	0.99
Return on average common shareholders' equity (1)	**4.33**	11.24	11.21	12.48	11.24	10.79	9.93	11.02
Return on average tangible common shareholders' equity (3)	**5.92**	15.47	15.49	17.38	15.79	15.21	14.05	15.51
Return on average shareholders' equity (1)	**4.32**	10.86	10.52	11.94	10.38	10.37	9.34	10.64
Return on average tangible shareholders' equity (3)	**5.71**	14.41	14.00	15.98	13.98	13.99	12.66	14.40
Total ending equity to total ending assets	**9.17**	9.10	9.07	8.77	8.95	8.77	8.65	8.23
Common equity ratio (1)	**8.28**	8.20	8.16	7.88	8.02	7.82	7.71	7.40
Total average equity to total average assets	**8.98**	9.11	8.89	8.95	8.87	8.73	8.49	8.40
Dividend payout (1)	**67.42**	26.39	24.88	23.17	25.71	27.06	28.68	25.86
Per common share data								
Earnings	**$ 0.36**	$ 0.91	$ 0.88	$ 0.95	$ 0.85	$ 0.81	$ 0.73	$ 0.81
Diluted earnings	**0.35**	0.90	0.88	0.94	0.85	0.81	0.73	0.80

(1) For definitions, see Key Metrics on page 170.

(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 29 and Non-GAAP Reconciliations on page 85.

(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 62 and corresponding Table 27 and Commercial Portfolio Credit Risk Management – Nonperforming Commercial Loans, Leases and Foreclosed Properties Activity on page 66 and corresponding Table 33.

(6) For more information, including which approach is used to assess capital adequacy, see Capital Management on page 47.

Table 8 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	Average Balance	Interest Income/ Expense (1)	Yield/ Rate
		2023			2022			2021	
Earning assets									
Interest-bearing deposits with the Federal Reserve, non-U.S. central banks and other banks	**$ 324,389**	**$ 15,965**	**4.92 %**	$ 195,564	$ 2,591	1.32 %	$ 255,595	$ 172	0.07 %
Time deposits placed and other short-term investments	**9,704**	**465**	**4.79**	9,209	132	1.44	7,603	15	0.19
Federal funds sold and securities borrowed or purchased under agreements to resell [2]	**291,669**	**18,679**	**6.40**	292,799	4,560	1.56	267,257	(90)	(0.03)
Trading account assets	**189,263**	**8,849**	**4.68**	158,102	5,586	3.53	147,891	3,823	2.58
Debt securities	**794,192**	**20,332**	**2.55**	922,730	17,207	1.86	905,169	12,433	1.38
Loans and leases [3]:									
Residential mortgage	**229,001**	**6,923**	**3.02**	227,604	6,375	2.80	216,983	5,995	2.76
Home equity	**25,969**	**1,471**	**5.67**	27,364	959	3.50	31,014	1,066	3.44
Credit card	**96,190**	**10,436**	**10.85**	83,539	8,408	10.06	75,385	7,772	10.31
Direct/Indirect and other consumer	**104,571**	**5,200**	**4.97**	107,050	3,317	3.10	96,472	2,276	2.36
Total consumer	**455,731**	**24,030**	**5.27**	445,557	19,059	4.28	419,854	17,109	4.08
U.S. commercial	**378,212**	**19,494**	**5.15**	366,748	12,251	3.34	324,795	8,606	2.65
Non-U.S. commercial	**125,486**	**8,023**	**6.39**	125,222	3,702	2.96	99,584	1,752	1.76
Commercial real estate [4]	**72,981**	**5,162**	**7.07**	65,421	2,595	3.97	60,303	1,496	2.48
Commercial lease financing	**13,846**	**646**	**4.67**	13,834	473	3.42	15,865	462	2.91
Total commercial	**590,525**	**33,325**	**5.64**	571,225	19,021	3.33	500,547	12,316	2.46
Total loans and leases	**1,046,256**	**57,355**	**5.48**	1,016,782	38,080	3.75	920,401	29,425	3.20
Other earning assets	**98,127**	**9,184**	**9.36**	105,674	4,847	4.59	112,512	2,321	2.06
Total earning assets	**2,753,600**	**130,829**	**4.75**	2,700,860	73,003	2.70	2,616,428	48,099	1.84
Cash and due from banks	**26,076**			28,029			31,214		
Other assets, less allowance for loan and lease losses	**373,837**			407,005			386,981		
Total assets	**$3,153,513**			$3,135,894			$3,034,623		
Interest-bearing liabilities									
U.S. interest-bearing deposits:									
Demand and money market deposits	**952,736**	**15,527**	**1.63 %**	987,247	3,145	0.32 %	925,970	314	0.03 %
Time and savings deposits	**254,476**	**7,366**	**2.89**	166,490	818	0.49	161,512	170	0.11
Total U.S. interest-bearing deposits	**1,207,212**	**22,893**	**1.90**	1,153,737	3,963	0.34	1,087,482	484	0.04
Non-U.S. interest-bearing deposits	**96,845**	**3,270**	**3.38**	80,951	755	0.93	82,769	53	0.06
Total interest-bearing deposits	**1,304,057**	**26,163**	**2.01**	1,234,688	4,718	0.38	1,170,251	537	0.05

[1] Includes the impact of interest rate risk management contracts. For more information, see Interest Rate Risk Management for the Banking Book on page 77.

[2] For more information on negative interest, see Note 1 – Summary of Significant Accounting Principles to the Consolidated Financial Statements.

[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 $67.2 billion, $61.1 billion and $56.5 billion, and non-U.S. commercial real estate loans of $5.8 billion, $4.3 billion and $3.8 billion for 2023, 2022 and 2021, respectively.

[5] Includes $40.2 billion, $30.7 billion and $30.4 billion of structured notes and liabilities for 2023, 2022 and 2021, respectively.

[6] Net interest income includes FTE adjustments of $567 million, $438 million and $427 million in 2023, 2022 and 2021, respectively.

Table 9 Analysis of Changes in Net Interest Income - FTE Basis

(Dollars in millions)	Due to Change in (1)			Due to Change in (1)		
	Volume	**Rate**	**Net Change**	Volume	Rate	Net Change
	From 2022 to 2023			From 2021 to 2022		
Increase (decrease) in interest income						
Interest-bearing deposits with the Federal Reserve, non-U.S. central banks and other banks	**$ 1,691**	**$11,683**	**$ 13,374**	$ (35)	$ 2,454	$ 2,419
Time deposits placed and other short-term investments	**8**	**325**	**333**	2	115	117
Federal funds sold and securities borrowed or purchased under agreements to resell	**(10)**	**14,129**	**14,119**	2	4,648	4,650
Trading account assets	**1,095**	**2,168**	**3,263**	256	1,507	1,763
Debt securities	**(2,435)**	**5,560**	**3,125**	301	4,473	4,774
Loans and leases						
Residential mortgage	**37**	**511**	**548**	287	93	380
Home equity	**(50)**	**562**	**512**	(125)	18	(107)
Credit card	**1,269**	**759**	**2,028**	841	(205)	636
Direct/Indirect and other consumer	**(75)**	**1,958**	**1,883**	250	791	1,041
Total consumer			**4,971**			1,950
U.S. commercial	**381**	**6,862**	**7,243**	1,113	2,532	3,645
Non-U.S. commercial	**12**	**4,309**	**4,321**	452	1,498	1,950
Commercial real estate	**302**	**2,265**	**2,567**	126	973	1,099
Commercial lease financing	**1**	**172**	**173**	(59)	70	11
Total commercial			**14,304**			6,705
Total loans and leases			**19,275**			8,655
Other earning assets	**(343)**	**4,680**	**4,337**	(144)	2,670	2,526
Net increase (decrease) in interest income			**$ 57,826**			$ 24,904
Increase (decrease) in interest expense						
U.S. interest-bearing deposits						
Demand and money market deposit accounts	**$ (96)**	**$12,478**	**$ 12,382**	$ (18)	$ 2,849	$ 2,831
Time and savings deposits	**429**	**6,119**	**6,548**	13	635	648
Total U.S. interest-bearing deposits			**18,930**			3,479
Non-U.S. interest-bearing deposits	**146**	**2,369**	**2,515**	(4)	706	702
Total interest-bearing deposits			**21,445**			4,181
Federal funds purchased and securities loaned or sold under agreements to repurchase	**1,662**	**14,804**	**16,466**	11	3,645	3,656
Short-term borrowings and other interest-bearing liabilities	**312**	**6,797**	**7,109**	(238)	3,918	3,680
Trading account liabilities	**(156)**	**661**	**505**	(63)	473	410
Long-term debt	**74**	**7,629**	**7,703**	118	3,320	3,438
Net increase (decrease) in interest expense			**53,228**			15,365
Net increase (decrease) in net interest income (2)			**$ 4,598**			$ 9,539

(1) The changes for each category of interest income and expense are divided between the portion of change attributable to the variance in volume and the portion of change attributable to the variance in rate for that category. The unallocated change in rate or volume variance is allocated between the rate and volume variances.

(2) Includes an increase in FTE basis adjustments of $129 million from 2022 to 2023 and $11 million from 2021 to 2022.

Business Segment Operations

Segment Description and Basis of Presentation

We report our results of operations through the following 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. The primary activities, products and businesses of the business segments and All Other are shown below.

Capture.jpg

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. Our internal risk-based capital models use a risk-adjusted methodology incorporating each segment's credit, market, interest rate, business and operational risk components. For more information on the nature of these risks, see Managing Risk on page 44. 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 29, and for reconciliations to consolidated total revenue, net income and year-end total assets, see Note 23 – 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

(Dollars in millions)	Deposits 2023	Deposits 2022	Consumer Lending 2023	Consumer Lending 2022	Total Consumer Banking 2023	Total Consumer Banking 2022	% Change
Net interest income	**$ 22,545**	$ 19,254	**$ 11,144**	$ 10,791	**$ 33,689**	$ 30,045	12 %
Noninterest income:							
Card income	**(40)**	(36)	**5,304**	5,205	**5,264**	5,169	2
Service charges	**2,314**	2,703	**3**	3	**2,317**	2,706	(14)
All other income	**607**	478	**154**	237	**761**	715	6
Total noninterest income	**2,881**	3,145	**5,461**	5,445	**8,342**	8,590	(3)
Total revenue, net of interest expense	**25,426**	22,399	**16,605**	16,236	**42,031**	38,635	9
Provision for credit losses	**491**	564	**4,667**	1,416	**5,158**	1,980	n/m
Noninterest expense	**13,358**	12,393	**8,058**	7,684	**21,416**	20,077	7
Income before income taxes	**11,577**	9,442	**3,880**	7,136	**15,457**	16,578	(7)
Income tax expense	**2,894**	2,314	**970**	1,748	**3,864**	4,062	(5)
Net income	**$ 8,683**	$ 7,128	**$ 2,910**	$ 5,388	**$ 11,593**	$ 12,516	(7)
Effective tax rate [1]					**25.0 %**	24.5 %	
Net interest yield	**2.28 %**	1.82 %	**3.66 %**	3.72 %	**3.26 %**	2.73 %	
Return on average allocated capital	**63**	55	**10**	20	**28**	31	
Efficiency ratio	**52.54**	55.33	**48.52**	47.32	**50.95**	51.96	
Balance Sheet							
Average							
Total loans and leases	**$ 4,129**	$ 4,161	**$ 304,561**	$ 288,205	**$ 308,690**	$ 292,366	6 %
Total earning assets [2]	**989,000**	1,057,531	**304,838**	289,719	**1,032,525**	1,099,410	(6)
Total assets [2]	**1,022,361**	1,090,692	**310,805**	296,499	**1,071,853**	1,139,351	(6)
Total deposits	**987,675**	1,056,783	**5,075**	5,778	**992,750**	1,062,561	(7)
Allocated capital	**13,700**	13,000	**28,300**	27,000	**42,000**	40,000	5
Year End							
Total loans and leases	**$ 4,218**	$ 4,148	**$ 310,901**	$ 300,613	**$ 315,119**	$ 304,761	3 %
Total earning assets [2]	**965,088**	1,043,049	**311,008**	300,787	**1,009,360**	1,085,079	(7)
Total assets [2]	**999,372**	1,077,203	**317,194**	308,007	**1,049,830**	1,126,453	(7)
Total deposits	**964,136**	1,043,194	**5,436**	5,605	969,572	1,048,799	(8)

[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. Deposits and Consumer Lending include the net impact of migrating customers and their related deposit, brokerage asset and loan balances between Deposits, Consumer Lending and GWIM, as well as other client-managed businesses. Our customers and clients have access to a coast-to-coast network including financial centers in 39 states and the District of Columbia. As of December 31, 2023, our network includes approximately 3,800 financial centers, approximately 15,000 ATMs, nationwide call centers and leading digital banking platforms with more than 46 million active users, including approximately 38 million active mobile users.

Consumer Banking Results

Net income for Consumer Banking decreased $923 million to $11.6 billion due to an increase in provision for credit losses and higher noninterest expense, partially offset by higher revenue. Net interest income increased $3.6 billion to $33.7 billion primarily driven by higher interest rates and loan balances, partially offset by lower deposit balances. Noninterest income decreased $248 million to $8.3 billion primarily driven by the impact of non-sufficient funds and overdraft policy changes.

The provision for credit losses increased $3.2 billion to $5.2 billion primarily driven by credit card loan growth and asset quality. Noninterest expense increased $1.3 billion to $21.4 billion primarily driven by continued investments in the business, including people and technology, higher litigation expense, including consumer regulatory matters, and higher FDIC expense.

The return on average allocated capital was 28 percent, down from 31 percent, due to an increase in allocated capital and lower net income. For more information on capital allocated to the business segments, see Business Segment Operations on page 34.

Deposits

Deposits includes the results of consumer deposit activities that consist of a comprehensive range of products provided to consumers and small businesses. Our deposit products include noninterest- and interest-bearing checking accounts, money market savings accounts, traditional savings accounts, CDs and IRAs, as well as investment accounts and products. Net interest income is allocated to deposit products using our funds transfer pricing process that matches assets and liabilities with similar interest rate sensitivity and maturity characteristics. Deposits generates fees such as account service fees and ATM fees, as well as investment and brokerage fees from Consumer Investment accounts. Consumer Investments serves investment client relationships through the Merrill Edge integrated investing and banking service platform, providing investment advice and guidance, client brokerage asset services, self-directed online investing and key banking capabilities including access to the Corporation's network of financial centers and ATMs.

Net income for Deposits increased $1.6 billion to $8.7 billion primarily due to higher revenue, partially offset by higher noninterest expense. Net interest income increased $3.3 billion to $22.5 billion primarily due to higher interest rates, partially offset by lower deposit balances. Noninterest income decreased $264 million to $2.9 billion primarily driven by the impact of non-sufficient funds and overdraft policy changes.

Noninterest expense increased $965 million to $13.4 billion primarily due to continued investments in the business, including people and technology, higher litigation expense, including consumer regulatory matters, and higher FDIC expense.

Average deposits decreased $69.1 billion to $987.7 billion primarily due to net outflows of $51.8 billion in money market savings and $28.6 billion in checking, partially offset by growth in time deposits of $19.9 billion.

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

	2023	2022
Total deposit spreads (excludes noninterest costs) [1]	**2.70%**	1.86%
Year end		
Consumer investment assets (in millions) [2]	**$ 424,410**	$ 319,648
Active digital banking users (in thousands) [3]	**46,265**	44,054
Active mobile banking users (in thousands) [4]	**37,927**	35,452
Financial centers	**3,845**	3,913
ATMs	**15,168**	15,528

[1] Includes deposits held in Consumer Lending.

[2] Includes client brokerage assets, deposit sweep balances, Bank of America, N.A. brokered CDs 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 increased $104.8 billion to $424.4 billion driven by market performance and client flows. Active mobile banking users increased approximately two million, reflecting continuing changes in our clients' banking preferences. We had a net

Net income for Consumer Lending decreased $2.5 billion to $2.9 billion primarily due to an increase in provision for credit losses. Net interest income increased $353 million to $11.1 billion primarily due to higher loan balances. Noninterest income increased $16 million to $5.5 billion, relatively unchanged from the same period a year ago.

The provision for credit losses increased $3.3 billion to $4.7 billion primarily driven by credit card loan growth and asset quality. Noninterest expense increased $374 million to $8.1 billion primarily driven by continued investments in the business, including people and technology.

Average loans increased $16.4 billion to $304.6 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

(Dollars in millions)	2023	2022
Total credit card [1]		
Gross interest yield [2]	**11.88 %**	10.42 %
Risk-adjusted margin [3]	**7.83**	10.06
New accounts (in thousands)	**4,275**	4,397
Purchase volumes	**$363,117**	$ 356,588
Debit card purchase volumes	**$527,074**	$ 503,583

[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 2023, the total risk-adjusted margin decreased 223 bps primarily driven by higher net credit losses, lower net fee income and lower interest margin. Total credit card purchase volumes increased $6.5 billion to $363.1 billion and debit card purchase volumes increased $23.5 billion to $527.1 billion, reflecting higher levels of consumer spending.

Key Statistics – Loan Production [1]

(Dollars in millions)	2023	2022
Consumer Banking:		
First mortgage	**$ 9,145**	$ 20,981
Home equity	**8,328**	7,988

Global Wealth & Investment Management

(Dollars in millions)	2023	2022	% Change
Net interest income	**$ 7,147**	$ 7,466	(4)%
Noninterest income:			
Investment and brokerage services	**13,213**	13,561	(3)
All other income	**745**	721	3
Total noninterest income	**13,958**	14,282	(2)
Total revenue, net of interest expense	**21,105**	21,748	(3)
Provision for credit losses	**6**	66	(91)
Noninterest expense	**15,836**	15,490	2
Income before income taxes	**5,263**	6,192	(15)
Income tax expense	**1,316**	1,517	(13)
Net income	**$ 3,947**	$ 4,675	(16)
Effective tax rate	**25.0 %**	24.5 %	
Net interest yield	**2.17**	1.95	
Return on average allocated capital	**21**	27	
Efficiency ratio	**75.04**	71.23	
Balance Sheet			
Average			
Total loans and leases	**$ 219,503**	$ 219,810	— %
Total earning assets	**329,493**	383,352	(14)
Total assets	**342,531**	396,167	(14)
Total deposits	**298,335**	351,329	(15)
Allocated capital	**18,500**	17,500	6
Year end			
Total loans and leases	$ 219,657	$ 223,910	(2)%
Total earning assets	**330,653**	355,461	(7)
Total assets	**344,626**	368,893	(7)
Total deposits	**299,657**	323,899	(7)

GWIM consists of two primary businesses: Merrill Wealth Management and Bank of America Private Bank.

Merrill Wealth Management's advisory business provides a high-touch client experience through a network of financial advisors focused on clients with over $250,000 in total investable assets. Merrill Wealth Management provides tailored solutions to meet clients' needs through a full set of investment management, brokerage, banking and retirement products.

Bank of America Private Bank, together with Merrill Wealth Management's Private Wealth Management business, provides comprehensive wealth management solutions targeted to high net worth and ultra high net worth clients, as well as customized solutions to meet clients' wealth structuring, investment management, trust and banking needs, including specialty asset management services.

Net income for GWIM decreased $728 million to $3.9 billion primarily due to lower revenue and higher noninterest expense. The operating margin was 25 percent compared to 28 percent a year ago.

Net interest income decreased $319 million to $7.1 billion primarily driven by lower average deposit balances and a portfolio mix shift to higher yielding deposit products.

Noninterest income, which primarily includes investment and brokerage services income, decreased $324 million to $14.0 billion. The decrease was primarily driven by lower transactional revenue and asset management fees driven by declines in AUM pricing as well as lower average market valuations, partially offset by the impact of positive AUM flows.

Noninterest expense increased $346 million to $15.8 billion primarily due to continued investments in the business, including strategic hiring and technology, as well as higher FDIC expense, partially offset by lower revenue-related incentives.

The return on average allocated capital was 21 percent, down from 27 percent, due to lower net income and, to a lesser extent, a small increase in allocated capital.

Average loans totaled $219.5 billion, relatively unchanged from the same period a year ago. Average deposits decreased $53.0 billion to $298.3 billion primarily driven by clients moving deposits to higher yielding investment cash alternatives, including offerings on our investment and brokerage platforms.

Merrill Wealth Management revenue of $17.5 billion decreased four percent primarily driven by lower net interest income, lower transactional revenue and asset management fees driven by declines in AUM pricing as well as lower average market valuations, partially offset by the impact of positive AUM flows.

Bank of America Private Bank revenue of $3.6 billion increased one percent primarily driven by higher net interest income as well as higher asset management fees driven by the impact of positive AUM flows.

Key Indicators and Metrics

(Dollars in millions)	2023	2022
Revenue by Business		
Merrill Wealth Management	**$ 17,461**	$ 18,135
Bank of America Private Bank	**3,644**	3,613
Total revenue, net of interest expense	**$ 21,105**	$ 21,748
Client Balances by Business, at year end		
Merrill Wealth Management	**$ 3,182,735**	$ 2,822,910
Bank of America Private Bank	**606,639**	563,931
Total client balances	**$ 3,789,374**	$ 3,386,841
Client Balances by Type, at year end		
Assets under management	**$ 1,617,740**	$ 1,401,474
Brokerage and other assets	**1,688,923**	1,482,025
Deposits	**299,657**	323,899
Loans and leases [1]	**222,287**	226,973
Less: Managed deposits in assets under management	**(39,233)**	(47,530)
Total client balances	**$ 3,789,374**	$ 3,386,841
Assets Under Management Rollforward		
Assets under management, beginning of year	**$ 1,401,474**	$ 1,638,782
Net client flows	**52,227**	20,785
Market valuation/other	**164,039**	(258,093)
Total assets under management, end of year	**$ 1,617,740**	$ 1,401,474
Total wealth advisors, at year end [2]	**18,916**	19,273

(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 managed under advisory and/or discretion of GWIM are AUM and are typically held in diversified portfolios. Fees earned on AUM are calculated as a percentage of clients' AUM balances. The asset management fees charged to clients per year depend on various factors but are commonly driven by the breadth of the client's relationship. The net client AUM flows represent the net change in clients' AUM balances over a specified period of time, excluding market appreciation/depreciation and other adjustments.

Client balances increased $402.5 billion, or 12 percent, to $3.8 trillion at December 31, 2023 compared to December 31, 2022. The increase in client balances was primarily due to the impact of higher end-of-period market valuations and positive net client flows.

Global Banking

(Dollars in millions)	**2023**	2022	% Change
Net interest income	**$ 14,645**	$ 12,184	20 %
Noninterest income:			
Service charges	**2,952**	3,293	(10)
Investment banking fees	**2,819**	3,004	(6)
All other income	**4,380**	3,748	17
Total noninterest income	**10,151**	10,045	1
Total revenue, net of interest expense	**24,796**	22,229	12
Provision for credit losses	**(586)**	641	n/m
Noninterest expense	**11,344**	10,966	3
Income before income taxes	**14,038**	10,622	32
Income tax expense	**3,790**	2,815	35
Net income	**$ 10,248**	$ 7,807	31
Effective tax rate	**27.0 %**	26.5 %	
Net interest yield	**2.73**	2.26	
Return on average allocated capital	**21**	18	
Efficiency ratio	**45.75**	49.34	
Balance Sheet			
Average			
Total loans and leases	**$ 378,762**	$ 375,271	1 %
Total earning assets	**535,500**	539,032	(1)
Total assets	**602,579**	603,273	—
Total deposits	**505,627**	511,804	(1)
Allocated capital	**49,250**	44,500	11
Year end			
Total loans and leases	**$ 373,891**	$ 379,107	(1)%
Total earning assets	**552,453**	522,539	6
Total assets	**621,751**	588,466	6
Total deposits	**527,060**	498,661	6

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. Our lending products and services include commercial loans, leases, commitment facilities, trade finance, commercial real estate lending and asset-based lending. Our treasury solutions business includes treasury management, foreign exchange, short-term investing options and merchant services. We also provide investment banking services to our clients such as debt and equity underwriting and distribution, and merger-related and other advisory services. Underwriting debt and equity issuances, fixed-income and equity research, and certain market-based activities are executed through our global broker-dealer affiliates, which are our primary dealers in several countries. Within Global Banking, Global Corporate Banking clients generally include large global corporations, financial institutions and leasing clients. Global Commercial Banking clients generally include middle-market companies, commercial real estate firms and not-for-profit companies. Business Banking clients include mid-sized U.S.-based businesses requiring customized and integrated financial advice and solutions.

Net income for Global Banking increased $2.4 billion to $10.2 billion driven by higher revenue and lower provision for credit losses, partially offset by higher noninterest expense.

Net interest income increased $2.5 billion to $14.6 billion primarily due to the benefit of higher interest rates.

Noninterest income increased $106 million to $10.2 billion driven by negative valuation adjustments on leveraged loans in the prior year and higher revenue from tax-advantaged investment activities in the current year, partially offset by lower treasury service charges and lower investment banking fees.

The provision for credit losses improved $1.2 billion to a benefit of $586 million primarily due to an improved macroeconomic outlook.

Noninterest expense increased $378 million to $11.3 billion primarily due to continued investments in the business, including technology and strategic hiring in 2022, and higher FDIC expense, partially offset by expenses recognized for certain regulatory matters in the prior-year period.

The return on average allocated capital was 21 percent, up from 18 percent, due to higher net income, partially offset by higher allocated capital.

Global Corporate, Global Commercial and Business Banking

Global Corporate, Global Commercial and Business Banking each include Business Lending and Global Transaction Services activities. Business Lending includes various lending-related products and services, and related hedging activities, including commercial loans, leases, commitment facilities, trade finance, real estate lending and asset-based lending. Global Transaction Services includes deposits, treasury management, credit card, foreign exchange and short-term investment products.

The following table and discussion present a summary of the results, which exclude certain investment banking and other activities in Global Banking.

Global Corporate, Global Commercial and Business Banking

(Dollars in millions)	Global Corporate Banking		Global Commercial Banking		Business Banking		Total	
	2023	2022	**2023**	2022	**2023**	2022	**2023**	2022
Revenue								
Business Lending	**$ 4,928**	$ 4,325	**$ 5,016**	$ 4,316	**$ 253**	$ 251	**$ 10,197**	$ 8,892
Global Transaction Services	**5,746**	5,002	**4,139**	4,166	**1,531**	1,213	**11,416**	10,381
Total revenue, net of interest expense	**$ 10,674**	$ 9,327	**$ 9,155**	$ 8,482	**$ 1,784**	$ 1,464	**$ 21,613**	$ 19,273
Balance Sheet								
Average								
Total loans and leases	**$171,554**	$ 174,052	**$194,725**	$ 187,597	**$ 12,285**	$ 12,743	**$378,564**	$ 374,392
Total deposits	**272,964**	250,648	**181,905**	204,893	**50,759**	56,263	**505,628**	511,804
Year end								
Total loans and leases	**$167,055**	$ 174,905	**$194,565**	$ 191,051	**$ 12,129**	$ 12,683	**$373,749**	$ 378,639
Total deposits	**289,961**	262,033	**188,141**	186,112	**48,951**	50,516	**527,053**	498,661

Business Lending revenue increased $1.3 billion in 2023 compared to 2022 primarily driven by higher interest rates, higher revenue from tax-advantaged investment activities and the impact of higher average loan balances.

Global Transaction Services revenue increased $1.0 billion in 2023 compared to 2022 primarily driven by higher interest rates, partially offset by lower treasury service charges and the impact of lower average deposit balances.

Average loans and leases increased one percent in 2023 compared to 2022 due to client demand. Average deposits decreased one percent in 2023 compared to 2022 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

	Global Banking		Total Corporation	
(Dollars in millions)	**2023**	2022	**2023**	2022
Products				
Advisory	**$ 1,392**	$ 1,643	**$ 1,575**	$ 1,783
Debt issuance	**1,073**	1,099	**2,403**	2,523
Equity issuance	**354**	262	**886**	709
Gross investment banking fees	**2,819**	3,004	**4,864**	5,015
Self-led deals	**(43)**	(78)	**(156)**	(192)
Total investment banking fees	**$ 2,776**	$ 2,926	**$ 4,708**	$ 4,823

Total Corporation investment banking fees, which exclude self-led deals and are primarily included within Global Banking and Global Markets, decreased two percent to $4.7 billion primarily due to lower advisory and debt issuance fees, partially offset by higher equity issuance fees.

Global Markets

(Dollars in millions)	2023	2022	% Change
Net interest income	**$ 1,678**	$ 3,088	(46)%
Noninterest income:			
Investment and brokerage services	**1,993**	2,002	—
Investment banking fees	**1,874**	1,820	3
Market making and similar activities	**13,430**	11,406	18
All other income	**552**	(178)	n/m
Total noninterest income	**17,849**	15,050	19
Total revenue, net of interest expense	**19,527**	18,138	8
Provision for credit losses	**(131)**	28	n/m
Noninterest expense	**13,206**	12,420	6
Income before income taxes	**6,452**	5,690	13
Income tax expense	**1,774**	1,508	18
Net income	**$ 4,678**	$ 4,182	12
Effective tax rate	**27.5 %**	26.5 %	
Return on average allocated capital	**10**	10	
Efficiency ratio	**67.63**	68.48	
Balance Sheet			
Average			
Trading-related assets:			
Trading account securities	**$ 318,443**	$ 303,587	5 %
Reverse repurchases	**133,735**	126,324	6
Securities borrowed	**121,547**	116,764	4
Derivative assets	**44,303**	54,128	(18)
Total trading-related assets	**618,028**	600,803	3
Total loans and leases	**129,657**	116,652	11
Total earning assets	**652,352**	602,889	8
Total assets	**869,756**	857,637	1
Total deposits	**33,278**	40,382	(18)
Allocated capital	**45,500**	42,500	7
Year end			
Total trading-related assets	**$ 542,544**	$ 564,769	(4)%
Total loans and leases	**136,223**	127,735	7
Total earning assets	**637,955**	587,772	9
Total assets	**817,588**	812,489	1
Total deposits	**34,833**	39,077	(11)

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. Global Markets provides market-making, financing, securities clearing, settlement and custody services globally to our institutional investor clients in support of their investing and trading activities. We also work with our commercial and corporate clients to provide risk management products using interest rate, equity, credit, currency and commodity derivatives, foreign exchange, fixed-income and mortgage-related products. As a result of our market-making activities in these products, we may be required to manage risk in a broad range of financial products including government securities, equity and equity-linked securities, high-grade and high-yield corporate debt securities, syndicated loans, MBS, commodities and asset-backed securities. The economics of certain investment banking and underwriting activities are shared primarily between Global Markets and Global Banking 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. For information on investment banking fees on a consolidated basis, see page 40.

The following explanations for year-over-year changes in results 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 29.

Net income for Global Markets increased $496 million to $4.7 billion in 2023 compared to 2022. Net DVA losses were $236 million compared to gains of $20 million in 2022. Excluding net DVA, net income increased $690 million to $4.9 billion. These increases were primarily driven by an increase in revenue, partially offset by higher noninterest expense.

Revenue increased $1.4 billion to $19.5 billion primarily due to higher sales and trading revenue in the current-year period and negative valuation adjustments on leveraged loans in the prior-year period. Sales and trading revenue increased $887 million, and excluding net DVA, increased $1.1 billion. These increases were primarily driven by higher revenue in FICC. Noninterest expense increased $786 million to $13.2 billion, primarily driven by continued investments in the business, including people and technology, partially offset by expenses recognized for certain regulatory matters in the prior-year period.

Average total assets increased $12.1 billion to $869.8 billion, driven by higher levels of inventory, increased secured financing activity and loan growth in FICC, partially offset by lower levels of inventory in Equities. Year-end total assets increased $5.1 billion to $817.6 billion driven by the same factors as average assets.

The return on average allocated capital was 10 percent, unchanged from the same period a year ago. For information on capital allocated to the business segments, see Business Segment Operations on page 34.

Sales and Trading Revenue

Sales and trading revenue includes unrealized and realized gains and losses on trading and other assets which are included in market making and similar activities, net interest income, and fees primarily from commissions on equity securities. Sales and trading revenue is segregated into fixed-income (government debt obligations, investment and non-investment grade corporate debt obligations, commercial MBS, residential mortgage-backed securities, collateralized loan obligations, interest rate and credit derivative contracts), currencies (interest rate and foreign exchange contracts), commodities (primarily futures, forwards, swaps and options) and equities (equity-linked derivatives and cash equity activity). 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 29.

Sales and Trading Revenue [1, 2, 3]

(Dollars in millions)	2023	2022
Sales and trading revenue [2]		
Fixed-income, currencies and commodities	**$ 10,896**	$ 9,917
Equities	**6,480**	6,572
Total sales and trading revenue	**$ 17,376**	$ 16,489
Sales and trading revenue, excluding net DVA [4]		
Fixed-income, currencies and commodities	**$ 11,122**	$ 9,898
Equities	**6,490**	6,571
Total sales and trading revenue, excluding net DVA	**$ 17,612**	$ 16,469

(1) For more information on sales and trading revenue, see Note 3 – Derivatives to the Consolidated Financial Statements.

(2) Includes FTE adjustments of $546 million and $354 million for 2023 and 2022.

(3) Includes Global Banking sales and trading revenue of $654 million and $1.0 billion for 2023 and 2022.

(4) FICC and Equities sales and trading revenue, excluding net DVA, is a non-GAAP financial measure. FICC net DVA gains (losses) were $(226) million and $19 million for 2023 and 2022. Equities net DVA gains (losses) were $(10) million and $1 million for 2023 and 2022.

Including and excluding net DVA, FICC revenue increased $979 million and $1.2 billion driven by an improved trading environment for credit and mortgage products and an increase in secured financing activity. Including and excluding net DVA, Equities revenue decreased $92 million and $81 million driven by weaker trading performance in derivatives, partially offset by an increase in client financing activities.

All Other

(Dollars in millions)	2023	2022	% Change
Net interest income	**$ 339**	$ 117	n/m
Noninterest income (loss)	**(8,650)**	(5,479)	58 %
Total revenue, net of interest expense	**(8,311)**	(5,362)	55
Provision for credit losses	**(53)**	(172)	(69)
Noninterest expense	**4,043**	2,485	63
Loss before income taxes	**(12,301)**	(7,675)	60
Income tax benefit	**(8,350)**	(6,023)	39
Net loss	**$ (3,951)**	$ (1,652)	139
Balance Sheet			
Average			
Total loans and leases	**$ 9,644**	$ 12,683	(24)%
Total assets [(1)]	**266,794**	139,466	91
Total deposits	**57,551**	20,082	n/m
Year end			
Total loans and leases	**$ 8,842**	$ 10,234	(14)%
Total assets [(1)]	**346,356**	155,074	123
Total deposits	**92,705**	19,905	n/m

[(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 $975.9 billion and $1.1 trillion for 2023 and 2022 and year-end allocated assets were $972.9 billion and $1.0 trillion at December 31, 2023 and 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 23 – Business Segment Information to the Consolidated Financial Statements.

The net loss in All Other increased $2.3 billion to $4.0 billion primarily due to lower noninterest income and higher noninterest expense, partially offset by a higher income tax benefit.

Noninterest income decreased $3.2 billion primarily due to a net charge incurred as a result of the impact of BSBY's future cessation, higher partnership losses for tax-advantaged investments and losses on sales of AFS debt securities. The announcement of BSBY's future cessation resulted in a $1.6 billion net charge due to the Corporation's determination that certain forecasted BSBY-indexed interest payments, which had been designated in cash flow hedges, were no longer expected to occur beyond November 15, 2024 as they will transition to a new reference rate. Accordingly, during the fourth quarter of 2023, the Corporation reclassified the fair value of the interest rate swaps used in the cash flow hedges related to these forecasted transactions from accumulated other comprehensive income (OCI) into noninterest income. The Corporation also recognized subsequent fair value changes of the interest rate swaps into noninterest income until they were re-designated into new cash flow hedges.

Noninterest expense increased $1.6 billion primarily due to an accrual of $2.1 billion for the estimated amount of the FDIC special assessment resulting from the closure of Silicon Valley Bank and Signature Bank, as well as higher costs related to a liquidating business activity in the current year, partially offset by higher litigation expense in the prior year.

The income tax benefit was $8.4 billion in 2023 compared to a benefit of $6.0 billion in 2022. The income tax benefit in All Other resulted from both periods having income tax benefit adjustments to allocate the FTE treatment of certain tax credits to Global Banking and Global Markets. The increase in the income tax benefit in 2023 was primarily due to the benefit recorded against pretax charges for the FDIC special assessment and impact of BSBY's future cessation, as well as higher income tax credits related to tax-advantaged investment activity.

Managing Risk

Risk is inherent in all our business activities. 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 (ERC) and the Board.

The seven key types of risk faced by the Corporation are strategic, credit, market, liquidity, compliance, operational and reputational.

- Strategic risk is the risk to current or projected financial condition arising from incorrect assumptions about external or internal factors, inappropriate business plans, ineffective business strategy execution or failure to respond in a timely manner to changes in the regulatory, macroeconomic or competitive environments in the geographic locations in which we operate.
- Credit risk is the risk of loss arising from the inability or failure of a borrower or counterparty to meet its obligations.
- Market risk is the risk that changes in market conditions adversely impact the value of assets or liabilities or otherwise negatively impact earnings. Market risk is composed of price risk and interest rate risk.
- Liquidity risk is the inability to meet expected or unexpected cash flow and collateral needs while continuing to support our businesses and customers under a range of economic conditions.
- Compliance risk is the risk of legal or regulatory sanctions, material financial loss or damage to the reputation of the Corporation arising from the failure of the Corporation to comply with the requirements of applicable laws, rules and regulations and our internal policies and procedures.
- Operational risk is the risk of loss resulting from inadequate or failed internal processes or systems, people or external events.
- Reputational risk is the risk that negative perception of the Corporation may adversely impact profitability or operations.

The following sections address in more detail the specific procedures, measures and analyses of the major categories of risk.

As set forth in our Risk Framework, a culture of

Executive management assesses, with Board oversight, the risk-adjusted returns of each business. Management reviews and approves the strategic and financial operating plans, as well as the capital plan and Risk Appetite Statement, and recommends them annually to the Board for approval. Our strategic plan takes into consideration return objectives and financial resources, which must align with risk capacity and risk appetite. Management sets financial objectives for each business by allocating capital and setting a target for return on capital for each business. Capital allocations are regularly evaluated as part of our overall governance processes as the businesses and the economic environment in which we operate continue to evolve. For more information regarding capital allocations, see Business Segment Operations on page 34.

The Corporation's risk appetite indicates the amount of capital, earnings or liquidity we are willing to put at risk to achieve our strategic objectives and business plans, consistent with applicable regulatory requirements. 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 across all risk types 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.

Our overall capacity to take risk is limited; therefore, we prioritize the risks we take in order to maintain a strong and flexible financial position so we can weather challenging economic times and take advantage of organic growth opportunities. Therefore, we set objectives and targets for capital and liquidity that are intended to permit us to continue to operate in a safe and sound manner at all times, including during periods of stress. We also maintain operational risk management and operational resiliency capabilities designed to permit us to meet the expectations of our customers and clients through a range of operating conditions.

Our lines of business operate with risk limits that align with the Corporation's risk appetite. Senior management is responsible for tracking and reporting performance measurements as well as any exceptions to risk appetite limits. The Board, and its committees when appropriate, oversee financial performance, execution of the strategic and financial operating plans, adherence to risk appetite limits and the adequacy of internal controls.

2023 - 10-K - BOD Chart.jpg

Board of Directors and Board Committees

The Board is composed of 15 directors, all but one of whom are independent. The Board authorizes management to maintain an effective Risk Framework and oversees compliance with safe and sound banking practices. In addition, the Board or its committees conduct inquiries of, and receive reports from senior management on, risk-related matters to assess scope or resource limitations that could impede the ability of Global Risk Management (GRM) and/or Corporate Audit to execute its responsibilities. The Board committees discussed below have the principal responsibility for enterprise-wide oversight of our risk management activities. Through these activities, the Board and applicable committees are provided with information on our risk profile and oversee senior management addressing key risks we face. Other Board committees, as described below, provide additional oversight of specific risks.

Each of the committees shown on the above chart regularly reports to the Board on risk-related matters within the committee's responsibilities, which is intended to collectively provide the Board with integrated insight about our management of enterprise-wide risks.

Audit Committee

The Audit Committee oversees the qualifications, performance and independence of the Independent Registered Public Accounting Firm, the performance of our corporate audit function, the integrity of our consolidated financial statements, our compliance with legal and regulatory requirements, and makes inquiries of senior management or the Chief Audit Executive (CAE) to determine whether there are scope or resource limitations that impede the ability of Corporate Audit to execute its responsibilities. The Audit Committee is also responsible for overseeing compliance risks pursuant to the New York Stock Exchange listing standards.

Enterprise Risk Committee

The ERC oversees the Corporation's Risk Framework, risk appetite and senior management's responsibilities for the identification, measurement, monitoring and control of key risks facing the Corporation. The ERC may consult with other Board committees on risk-related matters.

Other Board Committees

Our Corporate Governance, ESG, and Sustainability Committee oversees our Board's governance processes, identifies and reviews the qualifications of potential Board members, leads Board and committee succession planning and their formal self-evaluation, and reviews our ESG activities, shareholder input and shareholder engagement process.

Our Compensation and Human Capital Committee oversees establishing, maintaining and administering our compensation programs and employee benefit plans, including approving and recommending our Chief Executive Officer's (CEO) compensation to our Board for further approval by all independent directors; reviewing and approving our executive officers' compensation, as well as compensation for non-management directors; and reviewing certain other human capital management topics, including pay equity.

Management Committees

Management committees receive their authority from the Board, a Board committee, or another management committee. Our primary management risk committee is the MRC. Subject to Board oversight, the MRC is responsible for management oversight of key risks facing the Corporation, including an integrated evaluation of risk, earnings, capital and liquidity.

Lines of Defense

We have clear ownership and accountability for managing risk across three lines of defense: Front Line Units (FLUs), GRM and Corporate Audit. We also have control functions outside of FLUs and GRM (e.g., Legal and Global Human Resources). The three lines of defense are integrated into our management-level governance structure. Each of these functional roles is further described in this section.

Executive Officers

Executive officers lead various functions representing the functional roles. Authority for functional roles may be delegated to executive officers from the Board, Board committees or management-level committees. Executive officers, in turn, may further delegate responsibilities, as appropriate, to management-level committees, management routines or

individuals. Executive officers review our activities for consistency with our Risk Framework, risk appetite, and applicable strategic, capital and financial operating plans, as well as applicable policies and standards. Executive officers and other employees make decisions individually on a day-to-day basis, consistent with the authority they have been delegated. Executive officers and other employees may also serve on committees and participate in committee decisions.

Front Line Units

FLUs, which include the lines of business as well as Global Technology and Global Operations, are responsible for appropriately assessing and effectively managing all of the risks associated with their activities.

Three organizational units that include FLU activities and control function activities, but are not part of GRM are (1) the Chief Financial Officer Group; (2) the Chief Administrative Officer Group; and (3) Global Strategy and Enterprise Platforms.

Global Risk Management

GRM is part of our control functions and operates as our independent risk management function. GRM, led by the Chief Risk Officer (CRO), is responsible for independently assessing and overseeing risks within FLUs and other control functions. GRM establishes written enterprise policies and procedures outlining how aggregate risks are identified, measured, monitored and controlled.

The CRO has the stature, authority and independence needed to develop and implement a meaningful risk management framework and practices to guide the Corporation in managing risk. The CRO has unrestricted access to the Board and reports directly to both the ERC and the CEO. GRM is organized into horizontal risk teams that cover a specific risk area and vertical CRO teams that cover a particular FLU or control function. These teams work collaboratively in executing their respective duties.

Corporate Audit

Corporate Audit and the CAE maintain their independence from the FLUs, GRM and other control functions by reporting directly to the Audit Committee. The CAE administratively reports to the CEO. Corporate Audit provides independent assessment and validation through testing of key processes and controls across the Corporation. Corporate Audit includes Credit Review, which provides an independent assessment of credit lending decisions and the effectiveness of credit processes across the Corporation's credit platform through examinations and monitoring.

functions. It is designed to be forward-looking and to capture relevant risk factors across all of our lines of business.

Measure – Once a risk is identified, it must be prioritized and accurately measured through a systematic process including qualitative statements and quantitative limits. Risk is measured at various levels, including, but not limited to, risk type, FLU and legal entity, and also on an aggregate basis. This risk measurement process helps to capture changes in our risk profile due to changes in strategic direction, concentrations, portfolio quality and the overall economic environment. Senior management considers how risk exposures might evolve under a variety of stress scenarios.

Monitor – We monitor risk levels regularly to track adherence to risk appetite, policies and standards. We also regularly update risk assessments and review risk exposures. Through our monitoring, we know our level of risk relative to limits and can take action in a timely manner. We also know when risk limits are breached and have processes to appropriately report and escalate exceptions. This includes timely requests for approval to managers and alerts to executive management, management-level committees or the Board (directly or through an appropriate committee).

Control – We establish and communicate risk limits and controls through policies, standards, procedures and processes. The limits and controls can be adjusted by senior management or the Board when conditions or risk tolerances warrant. These limits may be absolute (e.g., loan amount, trading volume, operational loss) or relative (e.g., percentage of loan book in higher-risk categories). Our FLUs are held accountable for performing within the established limits.

The formal processes used to manage risk represent a part of our overall risk management process. We instill a strong and comprehensive culture of managing risk well through communications, training, policies, procedures and organizational roles and responsibilities. Establishing a culture reflective of our purpose to help make our customers' financial lives better and delivering on Responsible Growth is also critical to effective risk management. We are committed to the highest principles of ethical and professional conduct. Conduct risk is the risk of improper actions, behaviors or practices by the Corporation, its employees or representatives that are illegal, unethical and/or contrary to our core values that could result in harm to the

develop a comprehensive understanding of potential impacts of on- and off-balance sheet risks at the Corporation and certain subsidiaries and how they impact financial resiliency, which provides confidence to management, regulators and our investors.

Contingency Planning

We have developed and maintain comprehensive contingency plans that are designed to prepare us in advance to respond in the event of potential adverse economic, operational, financial or market stress conditions. These contingency plans include our Financial Contingency and Recovery Plan, which provides monitoring, escalation, actions and routines designed to enable us to increase capital and/or liquidity, access funding sources and reduce risk through consideration of potential options that include asset sales, business sales, capital or debt issuances, and other risk reducing strategies at various levels of capital or liquidity depletion during a period of stress. We also maintain a Resolution Plan to limit adverse systemic impacts that could be associated with a potential resolution of Bank of America.

Strategic Risk Management

Strategic risk is embedded in every business and is one of the major risk categories along with credit, market, liquidity, compliance, operational and reputational risks. This risk results from incorrect assumptions about external or internal factors, inappropriate business plans, ineffective business strategy execution, or failure to respond in a timely manner to changes in the regulatory, macroeconomic or competitive environments in the geographic locations in which we operate, such as competitor actions, changing customer preferences, product obsolescence and technology developments.

An aspect of strategic risk is the risk that the Corporation's capital levels are not adequate to meet minimum regulatory requirements and support execution of business activities or absorb losses from risks during normal or adverse economic and market conditions. As such, capital risk is managed in parallel to strategic risk.

We manage strategic risk through the Strategic Risk Enterprise Policy and integration into the strategic planning process, among other activities. Our strategic plan is consistent with our risk appetite, capital plan and liquidity requirements, and specifically addresses strategic risks impacting each business.

On an annual basis, the Board reviews and approves the strategic plan, capital plan, financial regulatory change and other strategic initiatives, and to provide formal review and approval where required. With oversight by the Board and the ERC, executive management performs similar analyses throughout the year, and evaluates changes to the financial forecast or the risk, capital or liquidity positions as deemed appropriate to balance and optimize achieving the targeted risk appetite, shareholder returns and maintaining the targeted financial strength. Proprietary models are used to measure the capital requirements for credit, country, market, operational and strategic risks. The allocated capital assigned to each business is based on its unique risk profile. With oversight by the Board, executive management assesses the risk-adjusted returns of each business in approving strategic and financial operating plans. The businesses use allocated capital to define business strategies, and price products and transactions.

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. Additionally, we seek to maintain safety and soundness at all times, even under adverse scenarios, take advantage of organic growth opportunities, meet obligations to creditors and counterparties, maintain ready access to financial markets, continue to serve as a credit intermediary, remain a source of strength for our subsidiaries, and satisfy current and future regulatory capital requirements. Capital management is integrated into our risk and governance processes, as capital is a key consideration in the development of our strategic plan, risk appetite and risk limits.

We conduct an Internal Capital Adequacy Assessment Process (ICAAP) on a periodic basis. The ICAAP is a forward-looking assessment of our projected capital needs and resources, incorporating earnings, balance sheet and risk forecasts under baseline and adverse economic and market conditions. We utilize periodic stress tests to assess the potential impacts to our balance sheet, earnings, regulatory capital and liquidity under a variety of stress scenarios. We perform qualitative risk assessments to identify and assess material risks not fully captured in our forecasts or stress tests. We assess the potential capital impacts of proposed changes to regulatory capital requirements. Management assesses ICAAP results and provides documented quarterly assessments of the adequacy of our capital guidelines and capital position to the Board or its committees.

October 1, 2023, to include repurchases to offset shares awarded under equity-based compensation plans when determining the remaining repurchase authority. Pursuant to the Board’s authorizations, during 2023, we repurchased $4.6 billion of common stock, including repurchases to offset shares awarded under equity-based compensation plans. As of December 31, 2023, the remaining repurchase authority was approximately $12.7 billion (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 BHC, we are subject to regulatory capital rules, including Basel 3, issued by U.S. banking regulators. Basel 3 established minimum capital ratios and buffer requirements and outlined two methods of calculating risk-weighted assets (RWA), the Standardized approach and the Advanced approaches. The Standardized approach relies primarily on supervisory risk weights based on exposure type, and the Advanced approaches determine risk weights based on internal models.

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 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 December 31, 2023, the common equity tier 1 (CET1) capital, 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 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 were 10.4 percent under the Standardized approach and 9.5 percent under the Advanced approaches. Effective October 1, 2023 through December 31, 2023, our CET1 minimum requirement was 9.5 percent under both the Standardized and 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. Effective January 1, 2024, the Corporation’s G-SIB surcharge, which is higher under Method 2, increased 50 bps, resulting in an increase in our minimum CET1 capital ratio requirement to 10.0 percent from 9.5 percent. At December 31, 2023, the Corporation’s CET1 capital ratio of 11.8 percent under the Standardized approach exceeded its CET1 capital ratio requirement as well as the new minimum requirement in place as of January 1, 2024.

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 to executive officers. At December 31, 2023, our insured depository institution subsidiaries exceeded their requirement to maintain a minimum 6.0 percent SLR to be considered well capitalized under the PCA framework. The numerator of the SLR is quarter-end Basel 3 Tier 1 capital. The denominator is total leverage exposure based on the daily average of the sum of on-balance sheet exposures less permitted deductions and the simple average of certain off-balance sheet exposures, as of the end of each month in a quarter.

Capital Composition and Ratios

Table 10 presents Bank of America Corporation’s capital ratios and related information in accordance with Basel 3 Standardized and Advanced approaches as measured at December 31, 2023 and 2022. For the periods presented herein, the Corporation met the definition of well capitalized under current regulatory requirements.

Table 10 Bank of America Corporation Regulatory Capital under Basel 3

(Dollars in millions, except as noted)	Standardized Approach [1]	Advanced Approaches [1]	Regulatory Minimum [2]
	December 31, 2023		
Risk-based capital metrics:			
Common equity tier 1 capital	**$ 194,928**	**$ 194,928**	
Tier 1 capital	**223,323**	**223,323**	
Total capital [3]	**251,399**	**241,449**	
Risk-weighted assets (in billions)	**1,651**	**1,459**	
Common equity tier 1 capital ratio	**11.8 %**	**13.4 %**	**9.5 %**
Tier 1 capital ratio	**13.5**	**15.3**	**11.0**
Total capital ratio	**15.2**	**16.6**	**13.0**
Leverage-based metrics:			
Adjusted quarterly average assets (in billions) [4]	**$ 3,135**	**$ 3,135**	
Tier 1 leverage ratio	**7.1 %**	**7.1 %**	**4.0**
Supplementary leverage exposure (in billions)		**$ 3,676**	
Supplementary leverage ratio		**6.1 %**	**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 December 31, 2023 and 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 2.5 percent at December 31, 2023 and 3.4 percent at December 31,

2022 (under the Standardized approach), as applicable. 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 December 31, 2023, CET1 capital was $194.9 billion, an increase of $14.9 billion from December 31, 2022, primarily due to earnings, partially offset by capital distributions. Tier 1 capital increased $14.9 billion primarily driven by the same factors as CET1 capital. Total capital under the Standardized approach increased $12.6 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 December 31, 2023, increased $46.4 billion during 2023 to $1,651 billion primarily due to higher counterparty and market risk exposures in Global Markets and consumer loan growth. Supplementary leverage exposure at December 31, 2023 increased $152.9 billion primarily due to higher cash held at central banks, partially offset by lower debt securities balances.

Table 11 shows the capital composition at December 31, 2023 and 2022.

Table 11 Capital Composition under Basel 3

(Dollars in millions)	December 31 2023	2022
Total common shareholders' equity	**$ 263,249**	$ 244,800
CECL transitional amount [1]	**1,254**	1,881
Goodwill, net of related deferred tax liabilities	**(68,648)**	(68,644)
Deferred tax assets arising from net operating loss and tax credit carryforwards	**(7,912)**	(7,776)
Intangibles, other than mortgage servicing rights, net of related deferred tax liabilities	**(1,496)**	(1,554)
Defined benefit pension plan net assets	**(764)**	(867)
Cumulative unrealized net (gain) loss related to changes in fair value of financial liabilities attributable to own creditworthiness, net-of-tax	**1,342**	496
Accumulated net (gain) loss on certain cash flow hedges [2]	**8,025**	11,925
Other	**(122)**	(201)
Common equity tier 1 capital	**194,928**	180,060
Qualifying preferred stock, net of issuance cost	**28,396**	28,396
Other	**(1)**	(10)
Tier 1 capital	**223,323**	208,446
Tier 2 capital instruments	**15,340**	18,751
Qualifying allowance for credit losses [3]	**12,920**	11,739
Other	**(184)**	(163)
Total capital under the Standardized approach	**251,399**	238,773
Adjustment in qualifying allowance for credit losses under the Advanced approaches [3]	**(9,950)**	(7,857)
Total capital under the Advanced approaches	**$ 241,449**	$ 230,916

(1) December 31, 2023 and 2022 include 50 percent and 75 percent of the CECL transition provision's impact as of December 31, 2021.

(2) Includes amounts in accumulated 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 12 shows the components of RWA as measured under Basel 3 at December 31, 2023 and 2022.

Table 12 Risk-weighted Assets under Basel 3

	Standardized Approach	**Advanced Approaches**	Standardized Approach	Advanced Approaches
	December 31			
(Dollars in billions)	**2023**		2022	
Credit risk	**$ 1,580**	**$ 983**	$ 1,538	$ 939
Market risk	**71**	**71**	67	67
Operational risk	**n/a**	**361**	n/a	364
Risks related to credit valuation adjustments	**n/a**	**44**	n/a	41
Total risk-weighted assets	**$ 1,651**	**$ 1,459**	$ 1,605	$ 1,411

n/a = not applicable

Bank of America, N.A. Regulatory Capital

Table 13 presents regulatory capital information for BANA in accordance with Basel 3 Standardized and Advanced approaches as measured at December 31, 2023 and 2022. BANA met the definition of well capitalized under the PCA framework for both periods.

Table 13 **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]
	December 31, 2023		
Risk-based capital metrics:			
Common equity tier 1 capital	**$ 187,621**	**$ 187,621**	
Tier 1 capital	**187,621**	**187,621**	
Total capital [3]	**201,932**	**192,175**	
Risk-weighted assets (in billions)	**1,395**	**1,114**	
Common equity tier 1 capital ratio	**13.5 %**	**16.8 %**	**7.0 %**
Tier 1 capital ratio	**13.5**	**16.8**	**8.5**
Total capital ratio	**14.5**	**17.2**	**10.5**
Leverage-based metrics:			
Adjusted quarterly average assets (in billions) [4]	**$ 2,471**	**$ 2,471**	
Tier 1 leverage ratio	**7.6 %**	**7.6 %**	**5.0**
Supplementary leverage exposure (in billions)		**$ 2,910**	
Supplementary leverage ratio		**6.4 %**	**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 December 31, 2023 and 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 December 31, 2023 and 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 to executive officers. Table 14 presents the Corporation's TLAC and long-term debt ratios and related information as of December 31, 2023 and 2022.

Table 14 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]
	December 31, 2023			
Total eligible balance	**$ 479,156**		**$ 239,892**	
Percentage of risk-weighted assets [4]	**29.0 %**	**22.0 %**	**14.5 %**	**8.5 %**
Percentage of supplementary leverage exposure	**13.0**	**9.5**	**6.5**	**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 December 31, 2023 and 2022, TLAC ratios 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) 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. Effective January 1, 2024, the Corporation’s G-SIB surcharge, which is higher under Method 2, increased 50 bps, resulting in an increase in our long-term debt RWA regulatory minimum requirement to 9.0 percent from 8.5 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 December 31, 2023 and 2022.

Regulatory Developments

On July 27, 2023, U.S. banking regulators issued proposed rules that would update future U.S. regulatory capital requirements. Under the capital proposal, the Advanced approaches would be replaced with a new standardized approach, referred to as the expanded risk-based approach, which would be phased in over a three-year period beginning July 1, 2025. U.S. banking regulators also issued proposed rules to revise the risk-based capital surcharge for G-SIBs, which would be effective two calendar quarters after finalization. On August 29, 2023, U.S. banking regulators issued proposed rules that would change the criteria for debt instruments included in the Corporation’s eligible long-term debt and TLAC. Any final rules issued are subject to change from the current proposals. The Corporation is evaluating the potential impact of the proposed rules on its regulatory capital, eligible long-term debt and TLAC requirements.

Regulatory Capital and Securities Regulation

The Corporation’s principal U.S. broker-dealer subsidiaries are BofA Securities, Inc. (BofAS) and Merrill Lynch, Pierce, Fenner & Smith Incorporated (MLPF&S). On August 13, 2023, Merrill Lynch Professional Clearing Corp. (MLPCC) merged into its immediate parent, BofAS. Prior to that date, MLPCC was a fully-guaranteed subsidiary of BofAS and provided clearing and settlement services as well as prime brokerage and arranged financing services for institutional clients. Following the merger, client services previously provided by MLPCC are now being provided by or through BofAS.

The Corporation's principal European subsidiaries undertaking broker-dealer activities 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 capital requirements as an alternative net capital broker-dealer under Rule 15c3-1e, and MLPF&S computes its capital requirements in accordance with the alternative standard under Rule 15c3-1. BofAS is registered as a futures commission merchant and is 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 December 31, 2023, BofAS had tentative net capital of $21.4 billion. BofAS also had regulatory net capital of $19.4 billion, which exceeded the minimum requirement of $4.6 billion.

MLPF&S provides retail services. At December 31, 2023, MLPF&S' regulatory net capital was $5.8 billion, which exceeded the minimum requirement of $134 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 Financial Conduct Authority and is subject to certain regulatory capital requirements. At December 31, 2023, MLI’s capital resources were $33.9 billion, which exceeded the minimum Pillar 1 requirement of $11.4 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 December 31, 2023, BofASE's capital resources were $9.6 billion, which exceeded the minimum Pillar 1 requirement of $3.6 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 December 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 the first half of 2023. 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.

The Board approves our liquidity risk policy and the Financial Contingency and Recovery Plan. The ERC establishes our liquidity risk tolerance levels. The MRC is responsible for overseeing liquidity risks and directing management to maintain exposures within the established tolerance levels. The MRC reviews and monitors our liquidity position and stress testing results, approves certain liquidity risk limits and reviews the impact of strategic decisions on our liquidity. For more information, see Managing Risk on page 44. Under this governance framework, we developed certain funding and liquidity risk management practices which include: maintaining liquidity at Bank of America Corporation (Parent) and selected subsidiaries, including our bank subsidiaries and other regulated entities; determining what amounts of liquidity are appropriate for these entities based on analysis of debt maturities and other potential cash outflows, including those that we may experience during stressed market conditions; diversifying funding sources, considering our asset profile and legal entity structure; and performing contingency planning.

NB Holdings Corporation

The Parent, which is a separate and distinct legal

funds necessary to service near-term cash needs. 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. These arrangements include provisions to terminate the line of credit, forgive the subordinated note and require the Parent to transfer its remaining financial assets to NB Holdings if our projected liquidity resources deteriorate so severely that resolution of the Parent becomes imminent.

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 MBS 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 15 presents average GLS for the three months ended December 31, 2023 and 2022.

Table 15 Average Global Liquidity Sources

	Three Months Ended December 31	
(Dollars in billions)	**2023**	2022
Bank entities	**$ 735**	$ 694
Nonbank and other entities [1]	**162**	174
Total Average Global Liquidity Sources	**$ 897**	$ 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

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

Table 16 Average Global Liquidity Sources Composition

	Three Months Ended December 31	
(Dollars in billions)	**2023**	2022
Cash on deposit	**$ 380**	$ 174
U.S. Treasury securities	**197**	252
U.S. agency securities, mortgage-backed securities, and other investment-grade securities	**299**	427
Non-U.S. government securities	**21**	15
Total Average Global Liquidity Sources	**$ 897**	$ 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 $590 billion and $605 billion for the three months ended December 31, 2023 and 2022. For the same periods, the average consolidated LCR was 115 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. The scenarios we consider all sources of funds that we could access during each stress scenario and focus particularly on matching available sources with corresponding liquidity requirements by legal entity. We also use the stress modeling results to manage our asset and liability profile and establish limits and guidelines on certain funding sources and businesses.

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. For the three months ended September 30, 2023 and December 31, 2023, the average consolidated NSFR was 119 percent and 120 percent.

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.

The primary benefits of our centralized funding approach include greater control, reduced funding costs, wider name recognition by investors and greater flexibility to meet the variable funding requirements of subsidiaries. Where regulations, time zone differences or other business considerations make Parent funding impractical, certain other subsidiaries may issue their own debt.

We fund a substantial portion of our lending activities through our deposits, which were $1.92 trillion and $1.93 trillion at December 31, 2023 and 2022. Deposits are primarily generated by our Consumer Banking, GWIM and Global Banking segments. These deposits are diversified by clients, product type and geography, and the majority of our U.S. deposits are insured by the FDIC.

At December 31, 2023, 50 percent of our deposits were in Consumer Banking, 16 percent in GWIM and 27 percent in Global Banking. As of the same period, approximately 68 percent of consumer and small business deposits and 79 percent of U.S. deposits in Global Banking were held by clients who have had accounts with us for

markets for financial institutions have occurred in prior market cycles which resulted in adverse changes in terms or significant reductions in the availability of such financing. We manage the liquidity risks arising from secured funding by sourcing funding globally from a diverse group of counterparties, providing a range of securities collateral and pursuing longer durations, when appropriate. For more information on secured financing agreements, see Note 10 – Securities Financing Agreements, Short-term Borrowings, Collateral and Restricted Cash to the Consolidated Financial Statements.

Total long-term debt increased $26.2 billion to $302.2 billion during 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 2023, we issued $62.0 billion of long-term debt consisting of $24.0 billion of notes issued by Bank of America Corporation, substantially all of which were TLAC compliant, $25.1 billion of notes issued by Bank of America, N.A. and $12.9 billion of other debt. During 2022, we issued $66.0 billion of long-term debt consisting of $44.2 billion of notes issued by Bank of America Corporation, substantially all of which were TLAC compliant, $10.0 billion of notes issued by Bank of America, N.A. and $11.8 billion of other debt.

During 2023, we had total long-term debt maturities and redemptions in the aggregate of $42.7 billion consisting of $25.3 billion for Bank of America Corporation, $10.5 billion for Bank of America, N.A. and $6.9 billion of other debt. During 2022, we had total long-term debt maturities and redemptions in the aggregate of $33.3 billion consisting of $19.8 billion for Bank of America Corporation, $9.9 billion for Bank of America, N.A. and $3.6 billion of other debt.

At December 31, 2023, Bank of America Corporation's senior notes of $208.4 billion included $187.7 billion of outstanding notes that are both TLAC eligible and callable at least one year before their stated maturities. Of these senior notes, $22.1 billion will be callable and become TLAC ineligible during 2024, and $22.0 billion, $21.4 billion, $25.0 billion and $19.9 billion will do so during each of 2025 through 2028, respectively, and $77.3 billion thereafter.

We issue long-term unsecured debt in a variety 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.

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 77.

Uninsured Deposits

The FDIC insures the Corporation’s U.S. deposits up to $250,000 per depositor, per insured bank for each account ownership category, and various country-specific funds insure non-U.S. deposits up to specified limits. Deposits that exceed insurance limits are uninsured. At December 31, 2023, the Corporation’s deposits totaled $1.92 trillion, of which total estimated uninsured U.S. and non-U.S. deposits were $606.8 billion and $116.6 billion. At December 31, 2022, the Corporation’s deposits totaled $1.93 trillion, of which total estimated uninsured U.S. and non-U.S. deposits were $617.6 billion and $102.8 billion. Deposit balances exclude $14.8 billion and $15.2 billion of collateral received on certain derivative contracts that are netted against the derivative asset in the Consolidated Balance Sheet at December 31, 2023 and 2022. Estimated uninsured deposits presented in this section reflect amounts disclosed in our regulatory reports, adjusted to exclude related accrued interest and intercompany deposit balances.

Table 17 presents information about the Corporation’s total estimated uninsured time deposits. For more information on our liquidity sources, see Global Liquidity Sources and Other Unencumbered Assets, and for more information on deposits, see Diversified Funding Sources in this section. For more information on contractual time deposit maturities, see Note 9 – Deposits to the Consolidated Financial Statements.

Table 17 **Uninsured Time Deposits** [(1)]

assess readiness.

Our U.S. bank subsidiaries can access contingency funding through the Federal Reserve Discount Window. Certain non-U.S. subsidiaries have access to central bank facilities in the jurisdictions in which they operate. While we do not rely on these sources in our liquidity modeling, we maintain the policies, procedures and governance processes that would enable us to access these sources if necessary.

Credit Ratings

Our borrowing costs and ability to raise funds are impacted by our credit ratings. In addition, credit ratings may be important to customers or counterparties when we compete in certain markets and when we seek to engage in certain transactions, including over-the-counter (OTC) derivatives. Thus, it is our objective to maintain high-quality credit ratings, and management maintains an active dialogue with the major rating agencies.

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. Our credit ratings are subject to ongoing review by the rating agencies, and they consider a number of factors, including our own financial strength, performance, prospects and operations as well as factors not under our control. The rating agencies could make adjustments to our ratings at any time, and they provide no assurances that they will maintain our ratings at current levels.

Other factors that influence our credit ratings include changes to the rating agencies' methodologies for our industry or certain security types; the rating agencies' assessment of the general operating environment for financial services companies; our relative positions in the markets in which we compete; our various risk exposures and risk management policies and activities; pending litigation and other contingencies or potential tail risks; our reputation; our liquidity position, diversity of funding sources and funding costs; the current and expected level and volatility of our earnings; our capital position and capital management practices; our corporate governance; the sovereign credit ratings of the U.S. government; current or future regulatory and legislative initiatives; and the agencies' views on whether the U.S. government would provide meaningful support to the Corporation or its subsidiaries in a crisis.

On May 3, 2023, Moody's Investors Service (Moody's) upgraded its long-term senior debt ratings of the Corporation by one notch to A1 from A2, and also upgraded the long-term senior debt ratings of BANA to Aa1 from Aa2. Moody's concurrently affirmed its Prime-1 short-term ratings of the Corporation and BANA. Moody's cited the Corporation's strengthened capital, improved earnings profile and ongoing commitment to maintaining a restrained risk appetite as rationale for the upgrade. These actions concluded the review for upgrade that Moody's initiated on January 23, 2023. Separately, on November 13, 2023, Moody's placed its ratings for BANA on negative outlook, reflecting the agency's recent move to a negative outlook on its ratings for the government of the United States of America and the potentially weaker capacity for the government to support systemically important U.S. banks. The Corporation's ratings and stable outlook were not affected by this action.

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.

The ratings and outlooks from Fitch Ratings for the Corporation and its subsidiaries have not changed during 2023.

Table 18 presents the Corporation's current long-term/short-term senior debt ratings and outlooks expressed by the rating agencies.

Table 18 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	A1	P-1	Stable	A-	A-2	Stable	AA-	F1+	Stable
Bank of America, N.A.	Aa1	P-1	Negative	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

A reduction in certain of our credit ratings or the ratings of certain asset-backed securitizations may have a material adverse effect on our liquidity, potential loss of access to credit markets, the related cost of funds, our businesses and on certain revenues, particularly in those businesses where counterparty creditworthiness is critical. In addition, under the terms of certain OTC derivative contracts and other trading agreements, in the event of downgrades of our or our rated subsidiaries' credit ratings, the counterparties to those agreements may require us to provide additional collateral, or to terminate these contracts or agreements, which could cause us to sustain losses and/or adversely impact our liquidity. If the short-term credit ratings of our Parent, bank or broker-dealer subsidiaries were downgraded by one or more levels, the potential loss of access to short-term funding sources such as repo financing and the effect on our incremental cost of funds could be material.

While certain potential impacts are contractual and quantifiable, the full scope of the consequences of a credit rating downgrade to a financial institution is inherently uncertain, as it depends upon numerous dynamic, complex and inter-related factors and assumptions, including whether any downgrade of a company's long-term credit ratings precipitates downgrades to its short-term credit ratings, and assumptions about the potential behaviors of various customers, investors and counterparties. For more information on potential impacts

of credit rating downgrades, see Liquidity Risk – Liquidity Stress Analysis on page 54.

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 and Item 1A. Risk Factors.

Common Stock Dividends

For a summary of our declared quarterly cash dividends on common stock during 2023 and through February 20, 2024, see Note 13 – Shareholders' Equity to the Consolidated Financial Statements.

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 December 31, 2023. The Corporation guarantees the payment of amounts and distributions with respect to the Trust Preferred Securities and Capital Securities if not paid by the Trusts, to the extent of funds held by the Trusts. This guarantee, together with the Corporation's other obligations with respect to the Trust Preferred Securities and Capital Securities, effectively constitutes a full and unconditional guarantee of the Trusts' payment obligations on the Trust Preferred Securities or Capital Securities, as applicable. No other subsidiary of the Corporation guarantees the Guaranteed Securities.

BofA Finance and each of the Trusts are finance subsidiaries, have no independent assets, revenues or operations and are dependent upon the Corporation and/or the Corporation's other subsidiaries to meet their respective obligations under the Guaranteed Securities. The Corporation is a holding company, and its ability to make payments on its guarantees of the Guaranteed Securities depends upon the receipt of funds from its subsidiaries. In the event of a transfer of substantially all of the Corporation's assets to one or more of its wholly owned subsidiaries, under the indenture governing the Guaranteed Notes, the subsidiary or subsidiaries will not be required to assume the Corporation's obligations under its guarantee of the Guaranteed Notes.

For more information on factors that may affect payments to holders of the Guaranteed Securities, see Liquidity Risk – NB Holdings Corporation in this section, Item 1. Business – Insolvency and the Orderly Liquidation Authority on page 6 and Part I. Item 1A. Risk Factors – Liquidity on page 9.

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.

Credit Risk Management

Credit risk is the risk of loss arising from the inability or failure of a borrower or counterparty to meet its obligations. Credit risk can also arise from operational failures that result in an erroneous advance, commitment or investment of funds. We define the credit exposure to a borrower or counterparty as the loss potential arising from all product classifications including loans and leases, deposit overdrafts, derivatives, assets held-for-sale and unfunded lending commitments, which include loan commitments, letters of credit and financial guarantees. Derivative positions are recorded at fair value, and assets held-for-sale are recorded at either fair value or the lower of cost or fair value. Certain loans and unfunded commitments are accounted for under the fair value option. Credit risk for categories of assets carried at fair value is not accounted for as part of the allowance for credit losses but as part of the fair value adjustments recorded in earnings. For derivative positions, our credit risk is measured as the net cost in the event the counterparties with contracts in which we are in a gain position fail to perform under the terms of those contracts. We use the current fair value to represent credit exposure without giving consideration to future mark-to-market changes. The credit risk amounts take into consideration the effects of legally enforceable master netting agreements and cash collateral. Our consumer and commercial credit extension and review procedures encompass funded and unfunded credit exposures. For more information on derivatives and credit extension commitments, see Note 3 – Derivatives and Note 12 – Commitments and Contingencies to the

page 58, Commercial Portfolio Credit Risk Management on page 62, Non-U.S. Portfolio on page 68, Allowance for Credit Losses on page 71, 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. For more information on the Corporation’s credit risks, see the Credit section within Item 1A. Risk Factors of this Annual Report on Form 10-K.

During 2023, our asset quality remained relatively stable. Our net charge-off ratio increased primarily driven by credit card loans, as delinquency trends continued to slowly increase off of historic lows. Nonperforming loans increased compared to 2022 driven by the commercial real estate office property type, 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, elevated 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 2023, the U.S. unemployment rate remained relatively stable and home prices increased compared to 2022. Net charge-offs increased $1.2 billion to $3.1 billion in 2023 primarily due to late-stage delinquent credit card loans that were charged off.

The consumer allowance for loan and lease losses increased $1.3 billion during 2023 to $8.5 billion. For more information, see Allowance for Credit Losses on page 71.

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 and Note 5 – Outstanding Loans and Leases and Allowance for Credit Losses to the Consolidated Financial Statements.

Table 19 presents our outstanding consumer loans and leases, consumer nonperforming loans and accruing consumer loans past due 90 days or more.

Table 19 Consumer Credit Quality

(Dollars in millions)	Outstandings		Nonperforming		Accruing Past Due 90 Days or More	
	December 31					
	2023	2022	**2023**	2022	**2023**	2022
Residential mortgage [1]	**$ 228,403**	$ 229,670	**$ 2,114**	$ 2,167	**$ 252**	$ 368
Home equity	**25,527**	26,563	**450**	510	**—**	—
Credit card	**102,200**	93,421	**n/a**	n/a	**1,224**	717
Direct/Indirect consumer [2]	**103,468**	106,236	**148**	77	**2**	2
Other consumer	**124**	156	**—**	—	**—**	—
Consumer loans excluding loans accounted for under the fair value option	**$ 459,722**	$ 456,046	**$ 2,712**	$ 2,754	**$ 1,478**	$ 1,087
Loans accounted for under the fair value option [3]	**243**	339				
Total consumer loans and leases	**$ 459,965**	$ 456,385				
Percentage of outstanding consumer loans and leases [4]	**n/a**	n/a	**0.59 %**	0.60 %	**0.32 %**	0.24 %
Percentage of outstanding consumer loans and leases, excluding fully-insured loan portfolios [4]	**n/a**	n/a	**0.60**	0.62	**0.27**	0.16

(1) Residential mortgage loans accruing past due 90 days or more are fully-insured loans. At December 31, 2023 and 2022, residential mortgage included $156 million and $260 million of loans on which interest had been curtailed by the FHA, and therefore were no longer accruing interest, although principal was still insured, and $96 million and $108 million of loans on which interest was still accruing.

(2) Outstandings primarily includes auto and specialty lending loans and leases of $53.9 billion and $51.8 billion, U.S. securities-based lending loans of $46.0 billion and $50.4 billion at December 31, 2023 and 2022, and non-U.S. consumer loans of $2.8 billion and $3.0 billion at December 31, 2023 and 2022.

(3) For more information on the fair value option, see Note 21 – Fair Value Option to the Consolidated Financial Statements.

(4) Excludes consumer loans accounted for under the fair value option. At December 31, 2023 and 2022, $4 million and $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 20 presents net charge-offs and related ratios for consumer loans and leases.

Table 20 Consumer Net Charge-offs and Related Ratios

	Net Charge-offs		Net Charge-off Ratios [1]	
(Dollars in millions)	**2023**	2022	**2023**	2022
Residential mortgage	**$ 16**	$ 72	**0.01 %**	0.03 %
Home equity	**(59)**	(90)	**(0.23)**	(0.33)
Credit card	**2,561**	1,334	**2.66**	1.60
Direct/Indirect consumer	**92**	18	**0.09**	0.02
Other consumer	**480**	521	n/m	n/m
Total	**$ 3,090**	$ 1,855	**0.68**	0.42

[1] Net charge-off ratios are calculated as 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 50 percent of consumer loans and leases in 2023. Approximately 51 percent of the residential mortgage portfolio was in Consumer Banking, 46 percent was in GWIM and the remaining portion was in All Other.

Outstanding balances in the residential mortgage portfolio decreased $1.3 billion in 2023, as paydowns and payoffs outpaced new originations.

At December 31, 2023 and 2022, the residential mortgage portfolio included $11.0 billion and $11.7 billion of outstanding fully-insured loans, of which $2.2 billion for both periods had FHA insurance, with the remainder protected by Fannie Mae long-term standby agreements.

Table 21 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 21 Residential Mortgage – Key Credit Statistics

	Reported Basis [1]		Excluding Fully-insured Loans [1]	
	December 31			
(Dollars in millions)	**2023**	2022	**2023**	2022
Outstandings	**$ 228,403**	$ 229,670	**$ 217,439**	$ 217,976
Accruing past due 30 days or more	**1,513**	1,471	**986**	844
Accruing past due 90 days or more	**252**	368	**—**	—
Nonperforming loans [2]	**2,114**	2,167	**2,114**	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 $53 million in 2023 primarily due to payoffs and paydowns, returns to performing and loan sales outpacing new additions. Of the nonperforming residential mortgage loans at December 31, 2023, $1.3 billion, or 62 percent, were current on contractual payments. Excluding fully-insured loans, loans accruing past due 30 days or more increased $142 million.

Of the $217.4 billion in total residential mortgage loans outstanding at December 31, 2023, $63.1 billion, or 29 percent, of loans were originated as interest-only. The outstanding balance of interest-only residential mortgage loans that had entered the amortization period was $3.6 billion, or six percent, at December 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 December 31, 2023, $80 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 $986 million, or less than one percent, for the entire residential mortgage portfolio. In addition, at December 31, 2023, $180 million, or five percent, of outstanding interest-only residential mortgage loans that had entered the amortization period were nonperforming, of which $61 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 three years to 10 years. Substantially all 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 22 presents outstandings, nonperforming loans and net charge-offs by certain state concentrations for the residential mortgage portfolio. In the New York area, the New York-Northern New Jersey-Long Island Metropolitan Statistical Area (MSA) made up 15 percent of outstandings at both December 31, 2023 and 2022. The Los Angeles-Long Beach-Santa Ana MSA within California represented 14 percent of outstandings at both December 31, 2023 and 2022.

Table 22 Residential Mortgage State Concentrations

	Outstandings [1]		Nonperforming [1]		Net Charge-offs	
	December 31					
(Dollars in millions)	**December 31 2023**	December 31 2022	**December 31 2023**	December 31 2022	**2023**	2022
California	**$ 81,085**	$ 80,878	**$ 641**	$ 656	**$ 3**	$ 37
New York	**25,975**	26,228	**320**	328	**4**	7
Florida	**15,450**	15,225	**131**	145	**(2)**	(2)
Texas	**9,361**	9,399	**88**	88	**1**	—
New Jersey	**8,671**	8,810	**97**	96	**—**	3
Other	**76,897**	77,436	**837**	854	**10**	27
Residential mortgage loans	**$ 217,439**	$ 217,976	**$ 2,114**	$ 2,167	**$ 16**	$ 72
Fully-insured loan portfolio	**10,964**	11,694				
Total residential mortgage loan portfolio	**$ 228,403**	$ 229,670				

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

Home Equity

At December 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 December 31, 2023, 84 percent of the home equity portfolio was in Consumer Banking, seven percent was in All Other and the remainder of the portfolio was primarily in GWIM. Outstanding balances in the home equity portfolio decreased $1.0 billion in 2023 primarily due to paydowns outpacing draws on existing lines and new originations. Of the total home equity portfolio at December 31, 2023 and 2022, $10.1 billion and $11.1 billion, or 39 percent and 42 percent, were in first-lien positions. At December 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 $45.1 billion and $42.4 billion at December 31, 2023 and 2022. The HELOC utilization rate was 35 percent and 38 percent at December 31, 2023 and 2022.

Table 23 presents certain home equity portfolio key credit statistics.

Table 23 **Home Equity – Key Credit Statistics** [1]

	December 31	
(Dollars in millions)	**2023**	2022
Outstandings	**$ 25,527**	$ 26,563
Accruing past due 30 days or more	**95**	96
Nonperforming loans [2]	**450**	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	**3**	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 $60 million to $450 million at December 31, 2023, primarily driven by loan sales, payoffs and returns to performing status outpacing new additions. Of the nonperforming home equity loans at December 31, 2023, $256 million, or 57 percent, were current on contractual payments. In addition, $113 million, or 25 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 in 2023 compared to 2022.

Of the $25.5 billion in total home equity portfolio outstandings at December 31, 2023, as shown in Table 23, 11 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 $4.0 billion at December 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 December 31, 2023, $41 million, or one percent, of outstanding HELOCs that had entered the amortization period were accruing past due 30 days or more. In addition, at December 31, 2023, $283 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 2023, 13 percent of these customers with an outstanding balance did not pay any principal on their HELOCs.

Table 24 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 11 percent and 12 percent of the outstanding home equity portfolio at December 31, 2023 and 2022. The Los Angeles-Long Beach-Santa Ana MSA within California made up 10 percent and 11 percent of the outstanding home equity portfolio at December 31, 2023 and 2022.

Table 24 **Home Equity State Concentrations**

	Outstandings [1]		Nonperforming [1]		Net Charge-offs	
	December 31					
(Dollars in millions)	**2023**	2022	**2023**	2022	**2023**	2022
California	**$ 6,966**	$ 7,406	**$ 109**	$ 119	**$ (6)**	$ (20)
Florida	**2,576**	2,743	**53**	63	**(12)**	(21)
New Jersey	**1,870**	2,047	**46**	53	**(5)**	(3)
New York	**1,590**	1,806	**71**	80	**(10)**	(4)
Texas	**1,410**	1,284	**16**	14	**—**	—
Other	**11,115**	11,277	**155**	181	**(26)**	(42)
Total home equity loan portfolio	**$ 25,527**	$ 26,563	**$ 450**	$ 510	**$ (59)**	$ (90)

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

Credit Card

At December 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 increased $8.8 billion during 2023 to $102.2 billion as purchase volume and card transfers more than offset payments. Net charge-offs increased $1.2 billion to $2.6 billion in 2023 compared to 2022, primarily due to late-stage delinquent credit card loans that were charged off. Credit card loans 30 days or more past due and still accruing interest increased $914 million, and 90 days or more past due and still accruing interest increased $507 million at December 31, 2023.

Unused lines of credit for credit card increased to $390.2 billion at December 31, 2023 from $370.1 billion at December 31, 2022.

Table 25 presents certain state concentrations for the credit card portfolio.

Table 25 Credit Card State Concentrations

(Dollars in millions)	Outstandings		Accruing Past Due 90 Days or More		Net Charge-offs	
	December 31					
	2023	2022	**2023**	2022	**2023**	2022
California	**$ 16,952**	$ 15,363	**$ 216**	$ 126	**$ 457**	$ 232
Florida	**10,521**	9,512	**168**	100	**343**	183
Texas	**8,978**	8,125	**125**	72	**245**	123
New York	**5,788**	5,381	**84**	56	**197**	99
Washington	**5,352**	4,844	**41**	21	**77**	36
Other	**54,609**	50,196	**590**	342	**1,242**	661
Total credit card portfolio	**$ 102,200**	$ 93,421	**$ 1,224**	$ 717	**$ 2,561**	$ 1,334

Direct/Indirect Consumer

At December 31, 2023, 52 percent of the direct/indirect portfolio was included in Consumer Banking (consumer auto and recreational vehicle lending) and 48 percent was included in GWIM (principally securities-based lending loans). Outstandings in the direct/indirect portfolio decreased $2.8 billion in 2023 to $103.5 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 26 presents certain state concentrations for the direct/indirect consumer loan portfolio.

Table 26 Direct/Indirect State Concentrations

(Dollars in millions)	Outstandings		Nonperforming		Net Charge-offs	
	December 31					
	2023	2022	**2023**	2022	**2023**	2022
California	**$ 15,416**	$ 15,516	**$ 27**	$ 12	**$ 21**	$ 6
Florida	**13,550**	13,783	**18**	10	**14**	4
Texas	**9,668**	9,837	**14**	9	**12**	3
New York	**7,335**	7,891	**11**	5	**6**	2
New Jersey	**4,376**	4,456	**5**	3	**2**	1
Other	**53,123**	54,753	**73**	38	**37**	2
Total direct/indirect loan portfolio	**$ 103,468**	$ 106,236	**$ 148**	$ 77	**$ 92**	$ 18

Other Consumer

Other consumer primarily consists of deposit overdraft balances. Net charge-offs decreased $41 million in 2023 to $480 million, primarily driven by lower overdraft losses.

Nonperforming Consumer Loans, Leases and Foreclosed Properties Activity

Table 27 presents nonperforming consumer loans, leases and foreclosed properties activity during 2023 and 2022. During 2023, nonperforming consumer loans decreased $42 million to $2.7 billion.

At December 31, 2023, $531 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 to sell. In addition, at December 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 $18 million in 2023 to $103 million.

Table 27 Nonperforming Consumer Loans, Leases and Foreclosed Properties Activity

(Dollars in millions)	2023	2022
Nonperforming loans and leases, January 1	**$ 2,754**	$ 2,989
Additions	**1,055**	1,453
Reductions:		
Paydowns and payoffs	**(480)**	(535)
Sales	**(63)**	(402)
Returns to performing status [1]	**(475)**	(661)
Charge-offs	**(53)**	(56)
Transfers to foreclosed properties	**(26)**	(34)
Total net reductions to nonperforming loans and leases	**(42)**	(235)
Total nonperforming loans and leases, December 31	**2,712**	2,754
Foreclosed properties, December 31	**103**	121
Nonperforming consumer loans, leases and foreclosed properties, December 31 [2]	**$ 2,815**	$ 2,875
Nonperforming consumer loans and leases as a percentage of outstanding consumer loans and leases [3]	**0.59 %**	0.60 %
Nonperforming consumer loans, leases and foreclosed properties as a percentage of outstanding consumer loans, leases and foreclosed properties [3]	**0.61**	0.63

(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) Includes repossessed non-real estate assets of $20 million and $0 at December 31, 2023 and 2022.

(3) Outstanding consumer loans and leases exclude loans accounted for under the fair value option.

Commercial Portfolio Credit Risk Management

Credit risk management for the commercial portfolio begins with an assessment of the credit risk profile of the borrower or counterparty based on an analysis of its financial position. As part of the overall credit risk assessment, our commercial credit exposures are assigned a risk rating and are subject to approval based on defined credit approval standards. Subsequent to loan origination, risk ratings are monitored on an ongoing basis, and if necessary, adjusted to reflect changes in the financial condition, cash flow, risk profile or outlook of a borrower or counterparty. In making credit decisions, we consider risk rating, collateral, country, industry and single-name concentration limits while also balancing these considerations with the total borrower or counterparty relationship. We use a variety of tools to continuously monitor the ability of a borrower or counterparty to perform under its obligations. We use risk rating aggregations to measure and evaluate concentrations within portfolios. In addition, risk ratings are a factor in determining the level of allocated capital and the allowance for credit losses.

As part of our ongoing risk mitigation initiatives, we attempt to work with clients experiencing financial difficulty to modify their loans to terms that better align with their current ability to pay. For more information on our accounting policies regarding delinquencies, nonperforming status and net charge-offs for the commercial portfolio, see Note 1 – Summary of Significant Accounting Principles to the Consolidated Financial Statements.

Management of Commercial Credit Risk Concentrations

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 32, 34 and 37 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 34 and Commercial Portfolio Credit Risk Management – Industry Concentrations on page 66.

We account for certain large corporate loans and loan commitments, including issued but unfunded letters of credit which are considered utilized for credit risk management purposes, that exceed our single-name credit risk concentration guidelines under the fair value option. Lending commitments, both funded and unfunded, are actively managed and monitored, and as appropriate, credit risk for these lending relationships may be mitigated through the use of credit derivatives, with our credit view and market perspectives determining the size and timing of the hedging activity. In addition, we purchase credit protection to cover the funded portion as well as the unfunded portion of certain other credit exposures. To lessen the cost of obtaining our desired credit protection levels, credit exposure may be added within an industry, borrower or counterparty group by selling protection. These credit derivatives do not meet the requirements for treatment as accounting hedges. They are carried at fair value with changes in fair value recorded in other income.

In addition, we are a member of various securities and derivative exchanges and clearinghouses, both in the U.S. and other countries. As a member, we may be required to pay a pro-rata share of the losses incurred by some of these organizations as a result of another member default and under other loss scenarios. For more information, see Note 12 – Commitments and Contingencies to the Consolidated Financial Statements.

Commercial Credit Portfolio

Outstanding commercial loans and leases increased $4.4 billion during 2023 due to growth in commercial real estate, primarily in Global Banking, and U.S. small business commercial. During 2023, commercial credit quality deteriorated as nonperforming commercial loans and reservable criticized utilized exposure increased primarily driven by the commercial real estate office property type; however, the commercial net charge-off ratio of 0.12 percent during 2023 remained low.

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 emerging trends and borrower performance in the increased rate environment 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 $623 million during 2023 to $4.8 billion, primarily driven by improved macroeconomic conditions. For more information, see Allowance for Credit Losses on page 71.

Total commercial utilized credit exposure decreased $8.6 billion during 2023 to $696.3 billion primarily driven by lower derivative assets. The utilization rate for loans and leases, standby letters of credit (SBLCs) and financial guarantees, and commercial letters of credit, in the aggregate, was 55 percent and 56 percent at December 31, 2023 and 2022.

Table 28 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 28 Commercial Credit Exposure by Type

	Commercial Utilized [1]		Commercial Unfunded [2, 3, 4]		Total Commercial Committed	
	December 31					
(Dollars in millions)	**2023**	2022	**2023**	2022	**2023**	2022
Loans and leases	**$ 593,767**	$ 589,362	**$ 507,641**	$ 487,772	**$1,101,408**	$ 1,077,134
Derivative assets [5]	**39,323**	48,642	**—**	—	**39,323**	48,642
Standby letters of credit and financial guarantees	**31,348**	33,376	**1,953**	1,266	**33,301**	34,642
Debt securities and other investments	**20,422**	20,195	**3,083**	2,551	**23,505**	22,746
Loans held-for-sale	**4,338**	6,112	**4,904**	3,729	**9,242**	9,841
Operating leases	**5,312**	5,509	**—**	—	**5,312**	5,509
Commercial letters of credit	**943**	973	**232**	28	**1,175**	1,001
Other	**846**	698	**—**	—	**846**	698
Total	**$ 696,299**	$ 704,867	**$ 517,813**	$ 495,346	**$1,214,112**	$ 1,200,213

(1) Commercial utilized exposure includes loans of $3.3 billion and $5.4 billion accounted for under the fair value option at December 31, 2023 and 2022.

(2) Commercial unfunded exposure includes commitments accounted for under the fair value option with a notional amount of $2.6 billion and $3.0 billion at December 31, 2023 and 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 $10.3 billion and $10.4 billion at December 31, 2023 and 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 $29.4 billion and $33.8 billion at December 31, 2023 and 2022. Not reflected in utilized and committed exposure is additional non-cash derivative collateral held of $56.1 billion and $51.6 billion at December 31, 2023 and 2022, which consists primarily of other marketable securities.

Nonperforming commercial loans increased $1.7 billion during 2023, primarily in commercial real estate. Table 29 presents our commercial loans and leases portfolio and related credit quality information at December 31, 2023 and 2022.

Table 29 Commercial Credit Quality

(Dollars in millions)	Outstandings		Nonperforming		Accruing Past Due 90 Days or More	
	December 31					
	2023	2022	**2023**	2022	**2023**	2022
Commercial and industrial:						
U.S. commercial	**$ 358,931**	$ 358,481	**$ 636**	$ 553	**$ 51**	$ 190
Non-U.S. commercial	**124,581**	124,479	**175**	212	**4**	25
Total commercial and industrial	**483,512**	482,960	**811**	765	**55**	215
Commercial real estate	**72,878**	69,766	**1,927**	271	**32**	46
Commercial lease financing	**14,854**	13,644	**19**	4	**7**	8
	571,244	566,370	**2,757**	1,040	**94**	269
U.S. small business commercial [(1)]	**19,197**	17,560	**16**	14	**184**	355
Commercial loans excluding loans accounted for under the fair value option	**$ 590,441**	$ 583,930	**$ 2,773**	$ 1,054	**$ 278**	$ 624
Loans accounted for under the fair value option [(2)]	**3,326**	5,432				
Total commercial loans and leases	**$ 593,767**	$ 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 $1.2 billion and $2.5 billion at December 31, 2023 and 2022. For more information on the fair value option, see Note 21 – Fair Value Option to the Consolidated Financial Statements.

Table 30 presents net charge-offs and related ratios for our commercial loans and leases for 2023 and 2022.

Table 30 Commercial Net Charge-offs and Related Ratios

(Dollars in millions)	Net Charge-offs		Net Charge-off Ratios [(1)]	
	2023	2022	**2023**	2022
Commercial and industrial:				
U.S. commercial	**$ 124**	$ 71	**0.03 %**	0.02 %
Non-U.S. commercial	**19**	21	**0.02**	0.02
Total commercial and industrial	**143**	92	**0.03**	0.02
Commercial real estate	**245**	66	**0.34**	0.10
Commercial lease financing	**2**	5	**0.02**	0.03
	390	163	**0.07**	0.03
U.S. small business commercial	**319**	154	**1.71**	0.86
Total commercial	**$ 709**	$ 317	**0.12**	0.06

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

Table 31 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 $4.0 billion during 2023 driven by the commercial real estate office property type and U.S. commercial, partially offset by non-U.S. commercial. At December 31, 2023 and 2022, 89 percent and 88 percent of commercial reservable criticized utilized exposure was secured.

Table 31 Commercial Reservable Criticized Utilized Exposure [1, 2]

	December 31			
(Dollars in millions)	**2023**		2022	
Commercial and industrial:				
U.S. commercial	**$ 12,006**	**3.12 %**	$ 10,724	2.78 %
Non-U.S. commercial	**1,787**	**1.37**	2,665	2.04
Total commercial and industrial	**13,793**	**2.68**	13,389	2.59
Commercial real estate	**8,749**	**11.80**	5,201	7.30
Commercial lease financing	**166**	**1.12**	240	1.76
	22,708	**3.76**	18,830	3.13
U.S. small business commercial	**592**	**3.08**	444	2.53
Total commercial reservable criticized utilized exposure	**$ 23,300**	**3.74**	$ 19,274	3.12

(1) Total commercial reservable criticized utilized exposure includes loans and leases of $22.5 billion and $18.5 billion and commercial letters of credit of $795 million and $817 million at December 31, 2023 and 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 December 31, 2023, 62 percent of the U.S. commercial loan portfolio, excluding small business, was managed in Global Banking, 22 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 remained largely unchanged during 2023. Reservable criticized utilized exposure increased $1.3 billion, or 12 percent, driven by a broad range of industries.

Non-U.S. Commercial

At December 31, 2023, 62 percent of the non-U.S. commercial loan portfolio was managed in Global Banking and 38 percent in Global Markets. Non-U.S. commercial loans remained largely unchanged during 2023. Reservable criticized utilized exposure decreased $878 million, or 33 percent, due to upgrades and sales of Russian exposure. For information on the non-U.S. commercial portfolio, see Non-U.S. Portfolio on page 68.

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 $3.1 billion, or four percent, during 2023 to $72.9 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 20 percent and 19 percent of commercial real estate at December 31, 2023 and 2022.

Reservable criticized utilized exposure increased $3.5 billion, or 68 percent, during 2023, primarily driven by office loans.

Office loans represented the largest property type concentration at 25 percent of the commercial real estate portfolio at December 31, 2023, but only represented approximately two percent of total loans for the Corporation. This property type is roughly 75 percent Class A and had an origination loan-to-value of approximately 55 percent. Although we have seen collateral value declines in this property type, the majority of these loans remained adequately secured as of December 31, 2023.

Reservable criticized exposure for the office property type was $5.5 billion at December 31, 2023, and approximately $7.6 billion of office loans are scheduled to mature by the end of 2024.

During 2023 and 2022, we continued to see relatively 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 32 presents outstanding commercial real estate loans by geographic region, based on the geographic location of the collateral, and by property type.

Table 32 Outstanding Commercial Real Estate Loans

(Dollars in millions)	December 31 2023	December 31 2022
By Geographic Region		
Northeast	**$ 15,920**	$ 15,601
California	**14,551**	13,360
Southwest	**9,318**	8,723
Southeast	**8,368**	7,713
Florida	**4,986**	5,374
Illinois	**3,361**	3,327
Midwest	**3,149**	3,419
Midsouth	**2,785**	2,716
Northwest	**2,095**	1,959
Non-U.S.	**6,052**	5,518
Other	**2,293**	2,056
Total outstanding commercial real estate loans	**$ 72,878**	$ 69,766
By Property Type		
Non-residential		
Office	**$ 17,976**	$ 18,230
Industrial / Warehouse	**14,746**	13,775
Multi-family rental	**10,606**	10,412
Shopping centers / Retail	**5,756**	5,830
Hotel / Motels	**5,665**	5,696
Multi-use	**2,681**	2,403
Other	**14,201**	12,241
Total non-residential	**71,631**	68,587
Residential	**1,247**	1,179
Total outstanding commercial real estate loans	**$ 72,878**	$ 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 $329 million and $1.0 billion of Paycheck Protection Program (PPP) loans outstanding at December 31, 2023 and 2022. PPP loans decreased $679 million 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 54 percent and 53 percent of the U.S. small business commercial portfolio at December 31, 2023 and 2022 and represented 99 percent of the net charge-offs compared to 100 percent for 2022. Accruing past due 90 days or more decreased $171 million in 2023 driven by the repayment of PPP loans, which are fully guaranteed by the SBA.

Nonperforming Commercial Loans, Leases and Foreclosed Properties Activity

Table 33 presents the nonperforming commercial loans, leases and foreclosed properties activity during 2023 and 2022. Nonperforming loans do not include loans accounted for under the fair value option. During 2023, nonperforming commercial loans and leases increased $1.7 billion to $2.8 billion. At December 31, 2023, 96 percent of commercial nonperforming loans, leases and foreclosed properties were secured, and 62 percent were contractually current. Commercial nonperforming loans were carried at 89 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 33 Nonperforming Commercial Loans, Leases and Foreclosed Properties Activity [1, 2]

(Dollars in millions)	2023	2022
Nonperforming loans and leases, January 1	**$ 1,054**	$ 1,578
Additions	**2,863**	952
Reductions:		
Paydowns	**(517)**	(825)
Sales	**(4)**	(57)
Returns to performing status [3]	**(106)**	(334)
Charge-offs	**(428)**	(221)
Transfers to foreclosed properties	**(23)**	—
Transfers to loans held-for-sale	**(66)**	(39)
Total net additions / (reductions) to nonperforming loans and leases	**1,719**	(524)
Total nonperforming loans and leases, December 31	**2,773**	1,054
Foreclosed properties, December 31	**42**	49
Nonperforming commercial loans, leases and foreclosed properties, December 31	**$ 2,815**	$ 1,103
Nonperforming commercial loans and leases as a percentage of outstanding commercial loans and leases [4]	**0.47 %**	0.18 %
Nonperforming commercial loans, leases and foreclosed properties as a percentage of outstanding commercial loans, leases and foreclosed properties [4]	**0.48**	0.19

(1) Balances do not include nonperforming loans held-for-sale of $161 million and $219 million at December 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 34 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 increased $13.9 billion during 2023 to $1.2 trillion. The increase in commercial committed exposure was concentrated in Capital goods, Finance companies and Asset managers and funds.

Industry limits are used internally to manage industry concentrations and are based on committed exposure that is determined on an industry-by-industry basis. A risk management framework is in place to set and approve industry limits as well as to provide ongoing monitoring.

Asset managers and funds, our largest industry concentration with committed exposure of $169.3 billion, increased $4.2 billion, primarily driven by exposure to the Capital markets industry group during 2023.

Real estate, our second largest industry concentration with committed exposure of $100.3 billion remained relatively unchanged during 2023. For more information on the commercial real estate and related portfolios, see Commercial Portfolio Credit Risk Management – Commercial Real Estate on page 65.

Capital goods, our third largest industry concentration with committed exposure of $97.0 billion, increased $9.7 billion, or 11 percent, during 2023. The increase in committed exposure occurred primarily as a result of increases in Trading companies and distributors as well as Machinery, partially offset by a decrease in Industrial conglomerates.

The impact of various macroeconomic challenges, including geopolitical tensions, inflationary pressures and elevated interest rates, may lead to uncertainty in the U.S. and global economies, and may adversely impact a number of industries. 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 34

Commercial Credit Exposure by Industry [1]

	Commercial Utilized		Total Commercial Committed [2]	
	December 31			
(Dollars in millions)	**2023**	2022	**2023**	2022
Asset managers and funds	**$ 103,138**	$ 106,842	**$ 169,318**	$ 165,087
Real estate [3]	**73,150**	72,180	**100,269**	99,722
Capital goods	**49,698**	45,580	**97,044**	87,314
Finance companies	**62,906**	55,248	**89,119**	79,546
Healthcare equipment and services	**35,037**	33,554	**61,766**	58,761
Materials	**25,223**	26,304	**55,296**	55,589
Retailing	**24,561**	24,785	**54,523**	53,714
Food, beverage and tobacco	**23,865**	23,232	**49,426**	47,486
Consumer services	**27,355**	26,980	**49,105**	47,372
Government and public education	**31,051**	34,861	**45,873**	48,134
Individuals and trusts	**32,481**	34,897	**43,938**	45,572
Commercial services and supplies	**22,642**	23,628	**41,473**	41,596
Utilities	**18,610**	20,292	**39,481**	40,164
Energy	**12,450**	15,132	**36,996**	36,043
Transportation	**24,200**	22,273	**36,267**	33,858
Technology hardware and equipment	**11,951**	11,441	**29,160**	29,825
Global commercial banks	**22,749**	27,217	**25,684**	29,293
Media	**13,033**	14,781	**24,908**	28,216
Vehicle dealers	**16,283**	12,909	**22,570**	20,638
Software and services	**9,830**	12,961	**22,381**	25,633
Pharmaceuticals and biotechnology	**6,852**	7,547	**22,169**	26,208
Consumer durables and apparel	**9,184**	10,009	**20,732**	21,389
Insurance	**9,371**	10,224	**19,322**	19,444
Telecommunication services	**9,224**	9,679	**17,269**	17,349
Automobiles and components	**7,049**	8,774	**16,459**	16,911
Food and staples retailing	**7,423**	7,157	**12,496**	11,908
Financial markets infrastructure (clearinghouses)	**4,229**	3,913	**6,503**	8,752
Religious and social organizations	**2,754**	2,467	**4,565**	4,689
Total commercial credit exposure by industry	**$ 696,299**	$ 704,867	**$ 1,214,112**	$ 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 $10.3 billion and $10.4 billion at December 31, 2023 and 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 December 31, 2023 and 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 $10.9 billion and $9.0 billion. We recorded net losses of $185 million in 2023 compared to net losses of $37 million in 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 41. For more information, see Trading Risk Management on page 74.

Tables 35 and 36 present the maturity profiles and the credit exposure debt ratings of the net credit default protection portfolio at December 31, 2023 and 2022.

Table 35 Net Credit Default Protection by Maturity

	December 31	
	2023	2022
Less than or equal to one year	**36 %**	14 %
Greater than one year and less than or equal to five years	**64**	85
Greater than five years	**—**	1
Total net credit default protection	**100 %**	100 %

Table 36 Net Credit Default Protection by Credit Exposure Debt Rating

(Dollars in millions)	**Net Notional (1)**	**Percent of Total**	Net Notional (1)	Percent of Total
	December 31			
	2023		2022	
Ratings (2, 3)				
AAA	**$ (479)**	**4.4 %**	$ (379)	4.0 %
AA	**(1,080)**	**9.9**	(867)	10.0
A	**(5,237)**	**48.2**	(3,257)	36.0
BBB	**(2,912)**	**26.8**	(2,476)	28.0
BB	**(698)**	**6.4**	(1,049)	12.0
B	**(419)**	**3.9**	(676)	7.0
CCC and below	**(52)**	**0.5**	(93)	1.0
NR (4)	**2**	**(0.1)**	(182)	2.0
Total net credit default protection	**$ (10,875)**	**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.

In addition to our net notional credit default protection purchased to cover the funded and unfunded portion of certain credit exposures, credit derivatives are used for market-making activities for clients and establishing positions intended to profit from directional or relative value changes. We execute the majority of our credit derivative trades in the OTC market with large, multinational financial institutions, including broker-dealers and, to a lesser degree, with a variety of other investors. Because these transactions are executed in the OTC market, we are subject to settlement risk. We are also subject to credit risk in the event that these counterparties fail to perform under the terms of these contracts. In order to properly reflect counterparty credit risk, we record counterparty credit risk valuation adjustments on certain derivative assets, including our purchased credit default protection. In most cases, credit derivative transactions are executed on a daily margin basis. Therefore, events such as a credit downgrade, depending on the ultimate rating level, or a breach of credit covenants would typically require an increase in the amount of collateral required by trades. For more information on credit derivatives and counterparty credit risk valuation adjustments, see Note 3 – Derivatives to the Consolidated Financial Statements.

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.

Table 37 presents our 20 largest non-U.S. country exposures at December 31, 2023. These exposures accounted for 89 percent of our total non-U.S. exposure at December 31, 2023 and 2022. Net country exposure for these 20 countries decreased $13.1 billion in 2023 primarily driven by decreases in Germany and Japan.

Non-U.S. exposure is presented on an internal risk management basis and includes sovereign and non-sovereign credit exposure, securities and other investments issued by or domiciled in countries other than the U.S.

Funded loans and loan equivalents include loans, leases, and other extensions of credit and funds, including letters of credit and due from placements. Unfunded commitments are the undrawn portion of legally binding commitments related to loans and loan equivalents. Net counterparty exposure includes the fair value of derivatives, including the counterparty risk associated with credit default swaps (CDS), and secured financing transactions. Securities and other investments are carried at fair value and long securities exposures are netted against short exposures with the same underlying issuer to, but not below, zero. Net country exposure represents country exposure less hedges and credit default protection purchased, net of credit default protection sold.

Table 37 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 December 31 2023	Hedges and Credit Default Protection	**Net Country Exposure at December 31 2023**	Increase (Decrease) from December 31 2022
United Kingdom	$ 28,805	$ 18,276	$ 5,416	$ 5,080	$ 57,577	$ (1,642)	**$ 55,935**	$ 590
Germany	24,051	10,098	2,105	2,013	38,267	(2,612)	**35,655**	(10,071)
Canada	11,653	10,079	1,280	5,490	28,502	(487)	**28,015**	2,442
France	13,997	8,429	1,111	2,585	26,122	(1,264)	**24,858**	(1,735)
Australia	14,179	4,654	383	2,358	21,574	(252)	**21,322**	1,105
Japan	9,553	1,895	1,194	5,124	17,766	(792)	**16,974**	(6,113)
Brazil	9,252	1,329	807	3,946	15,334	(51)	**15,283**	2,783
India	6,891	231	580	4,270	11,972	(47)	**11,925**	1,156
Singapore	4,955	505	125	5,303	10,888	(71)	**10,817**	1,210
Ireland	8,464	1,322	133	459	10,378	(45)	**10,333**	1,243
Switzerland	4,867	3,786	294	497	9,444	(215)	**9,229**	(1,459)
Mexico	5,499	1,652	489	1,332	8,972	(53)	**8,919**	1,527
China	5,299	334	331	2,781	8,745	(233)	**8,512**	(2,296)
South Korea	5,404	880	357	1,854	8,495	(35)	**8,460**	(666)
Netherlands	3,188	3,312	735	959	8,194	(1,045)	**7,149**	(2,134)
Italy	4,121	2,184	200	653	7,158	(543)	**6,615**	947
Hong Kong	3,722	556	464	1,137	5,879	(27)	**5,852**	(1,419)
Spain	2,893	2,035	163	902	5,993	(397)	**5,596**	(245)
Belgium	1,648	1,328	205	415	3,596	(149)	**3,447**	(416)
Sweden	1,223	1,857	155	152	3,387	(373)	**3,014**	410
Total top 20 non-U.S. countries exposure	$ 169,664	$ 74,742	$ 16,527	$ 47,310	$ 308,243	$ (10,333)	**$ 297,910**	$ (13,141)

Our largest non-U.S. country exposure at December 31, 2023 was the United Kingdom with net exposure of $55.9 billion, which represents an increase of $590 million from December 31, 2022. The increase was primarily driven by higher corporate exposure. Our second largest non-U.S. country exposure was Germany with net exposure of $35.7 billion at December 31, 2023, a decrease of $10.1 billion from December 31, 2022. The decrease was primarily driven by lower deposits with the central bank.

Loan and Lease Contractual Maturities

Table 38 disaggregates total outstanding loans and leases by remaining scheduled principal due dates and interest rates. The amounts provided do not reflect prepayment assumptions or hedging activities related to the loan portfolio. For information on the asset sensitivity of our total banking book balance sheet, see Interest Rate Risk Management for the Banking Book on page 77.

Table 38 Loan and Lease Contractual Maturities [(1)]

	December 31, 2023				
(Dollars in millions)	Due in One Year or Less	Due After One Year Through Five Years	Due After Five Years Through 15 Years	Due After 15 Years	Total
Residential mortgage	$ 5,675	$ 32,850	$ 95,399	$ 94,545	**$ 228,469**
Home equity	186	1,092	4,038	20,388	**25,704**
Credit card	102,200	—	—	—	**102,200**
Direct/Indirect consumer	61,888	35,663	4,941	976	**103,468**
Other consumer	124	—	—	—	**124**
Total consumer loans	**170,073**	**69,605**	**104,378**	**115,909**	**459,965**
U.S. commercial	105,690	233,802	19,659	1,935	**361,086**
Non-U.S. commercial	44,473	55,782	24,255	1,242	**125,752**
Commercial real estate	29,335	41,819	864	860	**72,878**
Commercial lease financing	3,234	9,112	1,052	1,456	**14,854**
U.S. small business commercial	11,764	4,459	2,878	96	**19,197**
Total commercial loans	**194,496**	**344,974**	**48,708**	**5,589**	**593,767**
Total loans and leases	**$ 364,569**	**$ 414,579**	**$ 153,086**	**$ 121,498**	**$ 1,053,732**

	Amount due in one year or less at:		Amount due after one year at:		
(Dollars in millions)	Variable Interest Rates	Fixed Interest Rates	Variable Interest Rates	Fixed Interest Rates	Total
Residential mortgage	$ 999	$ 4,676	$ 84,230	$ 138,564	**$ 228,469**
Home equity	161	25	21,871	3,647	**25,704**
Credit card	97,627	4,573	—	—	**102,200**
Direct/Indirect consumer	42,832	19,056	2,321	39,259	**103,468**
Other consumer	2	122	—	—	**124**
Total consumer loans	**141,621**	**28,452**	**108,422**	**181,470**	**459,965**
U.S. commercial	81,546	24,144	209,912	45,484	**361,086**
Non-U.S. commercial	34,632	9,841	79,019	2,260	**125,752**
Commercial real estate	26,836	2,499	42,226	1,317	**72,878**
Commercial lease financing	410	2,824	1,800	9,820	**14,854**
U.S. small business commercial	7,089	4,675	110	7,323	**19,197**
Total commercial loans	**150,513**	**43,983**	**333,067**	**66,204**	**593,767**
Total loans and leases	**$ 292,134**	**$ 72,435**	**$ 441,489**	**$ 247,674**	**$ 1,053,732**

(1) Includes loans accounted for under the fair value option.

Allowance for Credit Losses

The allowance for credit losses increased $329 million from December 31, 2022 to $14.6 billion at December 31, 2023, which included a $1.3 billion reserve increase related to the consumer portfolio and a $942 million reserve decrease related to the commercial portfolio. The increase in the allowance reflected a reserve build in our consumer portfolio primarily due to credit card loan growth and asset quality, partially offset by a reserve release in our commercial portfolio primarily driven by improved macroeconomic conditions applicable to the commercial portfolio. The allowance also includes the impact of the accounting change to remove the recognition and measurement guidance on troubled debt restructurings, which reduced the allowance for credit losses by $243 million on January 1, 2023. For more information on this change in accounting guidance, see Note 1 – Summary of Significant Accounting Principles to the Consolidated Financial Statements.

Table 39 presents an allocation of the allowance for credit losses by product type at December 31, 2023 and 2022.

Table 39 Allocation of the Allowance for Credit Losses by Product Type

(Dollars in millions)	**Amount**	**Percent of Total**	**Percent of Loans and Leases Outstanding [(1)]**	Amount	Percent of Total	Percent of Loans and Leases Outstanding [(1)]
	December 31, 2023			December 31, 2022		
Allowance for loan and lease losses						
Residential mortgage	**$ 339**	**2.54 %**	**0.15 %**	$ 328	2.59 %	0.14 %
Home equity	**47**	**0.35**	**0.19**	92	0.73	0.35
Credit card	**7,346**	**55.06**	**7.19**	6,136	48.38	6.57
Direct/Indirect consumer	**715**	**5.36**	**0.69**	585	4.61	0.55
Other consumer	**73**	**0.55**	**n/m**	96	0.76	n/m
Total consumer	**8,520**	**63.86**	**1.85**	7,237	57.07	1.59
U.S. commercial [(2)]	**2,600**	**19.49**	**0.69**	3,007	23.71	0.80
Non-U.S. commercial	**842**	**6.31**	**0.68**	1,194	9.41	0.96
Commercial real estate	**1,342**	**10.06**	**1.84**	1,192	9.40	1.71
Commercial lease financing	**38**	**0.28**	**0.26**	52	0.41	0.38
Total commercial	**4,822**	**36.14**	**0.82**	5,445	42.93	0.93
Allowance for loan and lease losses	**13,342**	**100.00 %**	**1.27**	12,682	100.00 %	1.22
Reserve for unfunded lending commitments	**1,209**			1,540		
Allowance for credit losses	**$ 14,551**			$ 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 $1.0 billion and $844 million at December 31, 2023 and 2022.

n/m = not meaningful

Net charge-offs for 2023 were $3.8 billion compared to $2.2 billion in 2022 primarily due to late-stage delinquent credit card loans that were charged off. The provision for credit losses increased $1.9 billion to $4.4 billion during 2023 compared to 2022. The provision for credit losses in 2023 was driven by our consumer portfolio primarily due to credit card loan growth and asset quality, partially offset by improved macroeconomic conditions that primarily benefited our commercial portfolio. The provision for credit losses for the consumer portfolio, including unfunded lending commitments, increased $2.5 billion to $4.5 billion during 2023 compared to 2022. The provision for credit losses for the commercial portfolio, including unfunded lending commitments, decreased $628 million to a $133 million benefit for 2023 compared to 2022. The decline was due primarily to an improved macroeconomic outlook.

Table 40 presents a rollforward of the allowance for credit losses, including certain loan and allowance ratios for 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 and Note 5 – Outstanding Loans and Leases and Allowance for Credit Losses to the Consolidated Financial Statements.

Table 40 Allowance for Credit Losses

(Dollars in millions)	2023	2022
Allowance for loan and lease losses, December 31	**$ 12,682**	$ 12,387
January 1, 2023 adoption of credit loss standard	**(243)**	n/a
Allowance for loan and lease losses, January 1	**$ 12,439**	$ 12,387
Loans and leases charged off		
Residential mortgage	**(67)**	(161)
Home equity	**(36)**	(45)
Credit card	**(3,133)**	(1,985)
Direct/Indirect consumer	**(233)**	(232)
Other consumer	**(504)**	(538)
Total consumer charge-offs	**(3,973)**	(2,961)
U.S. commercial [1]	**(551)**	(354)
Non-U.S. commercial	**(37)**	(41)
Commercial real estate	**(254)**	(75)
Commercial lease financing	**(2)**	(8)
Total commercial charge-offs	**(844)**	(478)
Total loans and leases charged off	**(4,817)**	(3,439)
Recoveries of loans and leases previously charged off		
Residential mortgage	**51**	89
Home equity	**95**	135
Credit card	**572**	651
Direct/Indirect consumer	**141**	214
Other consumer	**24**	17
Total consumer recoveries	**883**	1,106
U.S. commercial [2]	**108**	129
Non-U.S. commercial	**18**	20
Commercial real estate	**9**	9
Commercial lease financing	**—**	3
Total commercial recoveries	**135**	161
Total recoveries of loans and leases previously charged off	**1,018**	1,267
Net charge-offs	**(3,799)**	(2,172)
Provision for loan and lease losses	**4,725**	2,460
Other	**(23)**	7
Allowance for loan and lease losses, December 31	**13,342**	12,682
Reserve for unfunded lending commitments, January 1	**1,540**	1,456
Provision for unfunded lending commitments	**(331)**	83
Other	**—**	1
Reserve for unfunded lending commitments, December 31	**1,209**	1,540
Allowance for credit losses, December 31	**$ 14,551**	$ 14,222
Loan and allowance ratios [3] :		
Loans and leases outstanding at December 31	**$1,050,163**	$ 1,039,976
Allowance for loan and lease losses as a percentage of total loans and leases outstanding at December 31	**1.27 %**	1.22 %

(1) Includes U.S. small business commercial charge-offs of $360 million in 2023 compared to $203 million in 2022.

(2) Includes U.S. small business commercial recoveries of $41 million in 2023 compared to $49 million in 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

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. For more information, see Interest Rate Risk Management for the Banking Book on page 77.

Our traditional banking loan and deposit products are non-trading positions and are generally reported at amortized cost for assets or the amount owed for liabilities (historical cost). However, these positions are still subject to changes in economic value based on varying market conditions, with one of the primary risks being changes in the levels of interest rates. The risk of adverse changes in the economic value of our non-trading positions arising from changes in interest rates is managed through our ALM activities. We have elected to account for certain assets and liabilities under the fair value option.

Our trading positions are reported at fair value with changes reflected in income. Trading positions are subject to various changes in market-based risk factors. The majority of this risk is generated by our activities in the interest rate, foreign exchange, credit, equity and commodities markets. In addition, the values of assets and liabilities could change due to market liquidity, correlations across markets and expectations of market volatility. We seek to manage these risk exposures by using a variety of techniques that encompass a broad range of financial instruments. The key risk management techniques are discussed in more detail in the Trading Risk Management section.

GRM is responsible for providing senior management with a clear and comprehensive understanding of the trading risks to which we are exposed. These responsibilities include ownership of market risk policy, developing and maintaining quantitative risk models, calculating aggregated risk measures, establishing and monitoring position limits consistent with risk appetite, conducting daily reviews and analysis of trading inventory, approving material risk exposures and fulfilling regulatory requirements. Market risks that impact businesses outside of Global Markets are monitored and governed by their respective governance functions.

Model risk is the potential for adverse

securities, certain trading-related assets and liabilities, deposits, borrowings and derivatives. Hedging instruments used to mitigate these risks include derivatives such as options, futures, forwards and swaps.

Foreign Exchange Risk

Foreign exchange risk represents exposures to changes in the values of current holdings and future cash flows denominated in currencies other than the U.S. dollar. The types of instruments exposed to this risk include investments in non-U.S. subsidiaries, foreign currency-denominated loans and securities, future cash flows in foreign currencies arising from foreign exchange transactions, foreign currency-denominated debt and various foreign exchange derivatives whose values fluctuate with changes in the level or volatility of currency exchange rates or non-U.S. interest rates. Hedging instruments used to mitigate this risk include foreign exchange options, currency swaps, futures, forwards, and foreign currency-denominated debt and deposits.

Mortgage Risk

Mortgage risk represents exposures to changes in the values of mortgage-related instruments. The values of these instruments are sensitive to prepayment rates, mortgage rates, agency debt ratings, default, market liquidity, government participation and interest rate volatility. Our exposure to these instruments takes several forms. For example, we trade and engage in market-making activities in a variety of mortgage securities including whole loans, pass-through certificates, commercial mortgages and collateralized mortgage obligations including collateralized debt obligations using mortgages as underlying collateral. In addition, we originate a variety of MBS, which involves the accumulation of mortgage-related loans in anticipation of eventual securitization, and we may hold positions in mortgage securities and residential mortgage loans as part of the ALM portfolio. We also record MSRs as part of our mortgage origination activities. Hedging instruments used to mitigate this risk include derivatives such as options, swaps, futures and forwards as well as securities including MBS and U.S. Treasury securities. For more information, see Mortgage Banking Risk Management on page 79.

Equity Market Risk

Equity market risk represents exposures to securities that represent an ownership interest in a corporation in the form of domestic and foreign common stock or other equity-linked instruments. Instruments that would lead to this exposure

Issuer Credit Risk

Issuer credit risk represents exposures to changes in the creditworthiness of individual issuers or groups of issuers. Our portfolio is exposed to issuer credit risk where the value of an asset may be adversely impacted by changes in the levels of credit spreads, by credit migration or by defaults. Hedging instruments used to mitigate this risk include bonds, CDS and other credit fixed-income instruments.

Market Liquidity Risk

Market liquidity risk represents the risk that the level of expected market activity changes dramatically and, in certain cases, may even cease. This exposes us to the risk that we will not be able to transact business and execute trades in an orderly manner which may impact our results. This impact could be further exacerbated if expected hedging or pricing correlations are compromised by disproportionate demand or lack of demand for certain instruments. We utilize various risk mitigating techniques as discussed in more detail in Trading Risk Management.

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. Various techniques and procedures are utilized to enable the most complete understanding of these risks. Quantitative measures of market risk are evaluated on a daily basis from a single position to the portfolio of the Corporation. These measures include sensitivities of positions to various market risk factors, such as the potential impact on revenue from a one basis point change in interest rates, and statistical measures utilizing both actual and hypothetical market moves, such as VaR and stress testing. Periods of extreme market stress influence the reliability of these techniques to varying degrees. Qualitative evaluations of market risk utilize the suite of quantitative risk measures while understanding each of their respective limitations. Additionally, risk managers independently evaluate the risk of the portfolios under the current market environment and potential future environments.

VaR is a common statistic used to measure market risk as it allows the aggregation of market risk factors, including the effects of portfolio diversification. A VaR model simulates the value of a portfolio under a range of scenarios in order to generate a distribution of potential gains and losses. VaR represents the loss a portfolio is not expected to exceed more than a certain number statistical analysis of the new product or less liquid position. This analysis identifies reasonable alternatives that replicate both the expected volatility and correlation to other market risk factors that the missing data would be expected to experience.

VaR may not be indicative of realized revenue volatility as changes in market conditions or in the composition of the portfolio can have a material impact on the results. In particular, the historical data used for the VaR calculation might indicate higher or lower levels of portfolio diversification than will be experienced. In order for the VaR model to reflect current market conditions, we update the historical data underlying our VaR model on a weekly basis, or more frequently during periods of market stress, and regularly review the assumptions underlying the model. A minor portion of risks related to our trading positions is not included in VaR. These risks are reviewed as part of our ICAAP. For more information regarding ICAAP, see Capital Management on page 47.

GRM continually reviews, evaluates and enhances our VaR model so that it reflects the material risks in our trading portfolio. Changes to the VaR model are reviewed and approved prior to implementation and any material changes are reported to management through the appropriate management committees.

Trading limits on quantitative risk measures, including VaR, are independently set by Global Markets Risk Management and reviewed on a regular basis so that trading limits remain relevant and within our overall risk appetite for market risks. Trading limits are reviewed in the context of market liquidity, volatility and strategic business priorities. Trading limits are set at both a granular level to allow for extensive coverage of risks as well as at aggregated portfolios to account for correlations among risk factors. All trading limits are approved at least annually. Approved trading limits are stored and tracked in a centralized limits management system. Trading limit excesses are communicated to management for review. Certain quantitative market risk measures and corresponding limits have been identified as critical in the Corporation's Risk Appetite Statement. These risk appetite limits are reported on a daily basis and are approved at least annually by the ERC and the Board.

In periods of market stress, Global Markets senior leadership communicates daily to discuss losses, key risk positions and any limit excesses. As a result of this process, the businesses may selectively reduce risk.

The holding period for VaR used for regulatory capital calculations is 10 days, while for the market risk VaR presented below, it is one day. Both measures utilize the same process and methodology.

The total market-based portfolio VaR results in Table 41 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 41 presents year-end, average, high and low daily trading VaR for 2023 and 2022 using a 99 percent confidence level. The amounts disclosed in Table 41 and Table 42 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 annual average of total covered positions and less liquid trading positions portfolio VaR for 2023 decreased compared to 2022, primarily due to the roll off of March 2020 market volatility from the window of historical data used in the calibration of the VaR model.

Table 41 Market Risk VaR for Trading Activities

(Dollars in millions)	2023 Year End	2023 Average	2023 High [1]	2023 Low [1]	2022 Year End	2022 Average	2022 High [1]	2022 Low [1]
Foreign exchange	**$ 29**	**$ 29**	**$ 43**	**$ 12**	$ 38	$ 21	$ 39	$ 12
Interest rate	**51**	**48**	**86**	**32**	36	36	56	24
Credit	**53**	**60**	**108**	**43**	76	71	106	52
Equity	**9**	**18**	**56**	**9**	18	20	33	12
Commodities	**9**	**9**	**14**	**6**	8	13	27	7
Portfolio diversification	**(90)**	**(100)**	n/a	n/a	(81)	(91)	n/a	n/a
Total covered positions portfolio	**61**	**64**	**92**	**41**	95	70	140	42
Impact from less liquid exposures [2]	**12**	**20**	n/a	n/a	35	38	n/a	n/a
Total covered positions and less liquid trading positions portfolio	**73**	**84**	**149**	**52**	130	108	236	61
Fair value option loans	**16**	**25**	**49**	**14**	48	51	65	37
Fair value option hedges	**11**	**14**	**20**	**9**	16	17	24	13
Fair value option portfolio diversification	**(12)**	**(23)**	n/a	n/a	(38)	(36)	n/a	n/a
Total fair value option portfolio	**15**	**16**	**30**	**10**	26	32	44	23
Portfolio diversification	**(9)**	**(8)**	n/a	n/a	9	(11)	n/a	n/a
Total market-based portfolio	**$ 79**	**$ 92**	**173**	**58**	$ 165	$ 129	287	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 2023, corresponding to the data in Table 41.

Updated Chart for 10K - Final (002).jpg

Additional VaR statistics produced within our single VaR model are provided in Table 42 at the same level of detail as in Table 41. 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 42 presents average trading VaR statistics at 99 percent and 95 percent confidence levels for 2023 and 2022.

Table 42 Average Market Risk VaR for Trading Activities – 99 percent and 95 percent VaR Statistics

	December 31, 2023		December 31, 2022	
(Dollars in millions)	**99 percent**	**95 percent**	99 percent	95 percent
Foreign exchange	**$ 29**	**$ 19**	$ 21	$ 12
Interest rate	**48**	**26**	36	17
Credit	**60**	**30**	71	28
Equity	**18**	**8**	20	11
Commodities	**9**	**5**	13	7
Portfolio diversification	**(100)**	**(54)**	(91)	(46)
Total covered positions portfolio	**64**	**34**	70	29
Impact from less liquid exposures	**20**	**7**	38	7
Total covered positions and less liquid trading positions portfolio	**84**	**41**	108	36
Fair value option loans	**25**	**12**	51	14
Fair value option hedges	**14**	**9**	17	10
Fair value option portfolio diversification	**(23)**	**(13)**	(36)	(13)
Total fair value option portfolio	**16**	**8**	32	11
Portfolio diversification	**(8)**	**(5)**	(11)	(7)
Total market-based portfolio	**$ 92**	**$ 44**	$ 129	$ 40

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. A backtesting excess occurs when a trading loss exceeds the VaR for the corresponding day. These excesses are evaluated to understand the positions and market moves that produced the trading loss with a goal to help confirm that the VaR methodology accurately represents those losses. We expect the frequency of trading losses in excess of VaR to be in line with the confidence level of the VaR statistic being tested. For example, with a 99 percent confidence level, we expect one trading loss in excess of VaR every 100 days or between two to three trading losses in excess of VaR over the course of a year. The number of backtesting excesses observed can differ from the statistically expected number of excesses if the current level of market volatility is materially different than the level of market volatility that existed during the three years of historical data used in the VaR calculation.

The trading revenue used for backtesting is defined by regulatory agencies in order to most closely align with the VaR component of the regulatory capital calculation. This revenue differs from total trading-related revenue in that it excludes revenue from trading activities that either do not generate market risk or the market risk cannot be included in VaR. Some examples of the types of revenue excluded for backtesting are fees, commissions, reserves, net interest income and intra-day trading revenues.

We conduct daily backtesting on the VaR results used for regulatory capital calculations as well as the VaR results for key legal entities, regions and risk factors. These results are reported to senior market risk management. Senior management regularly reviews and evaluates the results of these tests.

During 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 on fair value, see Note 20 – Fair Value Measurements to the Consolidated Financial Statements. Trading-related revenue can be volatile and is largely driven by general market conditions and customer demand. Also, trading-related revenue is dependent on the volume and type of transactions, the level of risk assumed, and the volatility of price and rate movements at any given time within the ever-changing market environment. Significant daily revenue by business is monitored and the primary drivers of these are reviewed.

The following histogram is a graphic depiction of trading volatility and illustrates the daily level of trading-related revenue for 2023 and 2022. During 2023, positive trading-related revenue was recorded for 100 percent of the trading days, of which 93 percent were daily trading gains of over $25 million. This compares to 2022 where positive trading-related revenue was recorded for 99 percent of the trading days, of which 90 percent were daily trading gains of over $25 million, and the largest loss was $9 million.

Histogram 2023 10K.jpg

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.

A set of scenarios, categorized as either historical or hypothetical, are computed daily for the overall trading portfolio and individual businesses. These scenarios include shocks to underlying market risk factors that may be well beyond the shocks found in the historical data used to calculate VaR. Historical scenarios simulate the impact of the market moves that occurred during a period of extended historical market stress. Generally, a multi-week period representing the most severe point during a crisis is selected for each historical scenario. Hypothetical scenarios provide estimated portfolio impacts from potential future market stress events. Scenarios are reviewed and updated in response to changing positions and new economic or political information. In addition, new or ad hoc scenarios are developed to address specific potential market events or particular vulnerabilities in the portfolio. The stress tests are reviewed on a regular basis and the results are presented to senior management.

Stress testing for the trading portfolio is integrated with enterprise-wide stress testing and incorporated into the limits framework. The macroeconomic scenarios used for enterprise-wide stress testing purposes differ from the typical trading portfolio scenarios in that they have a longer time horizon and the results are forecasted over multiple periods for use in consolidated capital and liquidity planning. For more information, see Managing Risk on page 44.

Interest Rate Risk Management for the Banking Book

The following discussion presents net interest income for banking book activities.

Interest rate risk represents the most significant market risk exposure to our banking book balance sheet. Interest rate risk is measured as the potential change in net interest income caused by movements in market interest rates. Client-facing activities, primarily lending and deposit-taking, create interest rate sensitive positions on our balance sheet.

We prepare forward-looking forecasts of net interest income. The baseline forecast takes into consideration expected future business growth, ALM positioning and the future direction of interest rate movements as implied by market-based forward curves.

We then measure and evaluate the impact that alternative interest rate scenarios have on the baseline forecast in order to assess interest rate sensitivity under varied conditions. The net interest income forecast is frequently updated for changing assumptions and differing outlooks based on economic trends, market conditions and business strategies. Thus, we continually monitor our banking book balance sheet position in order to maintain an acceptable level of exposure to interest rate changes.

The interest rate scenarios that we analyze incorporate balance sheet assumptions such as loan and deposit growth and pricing, changes in funding mix, product repricing, maturity characteristics and investment securities premium amortization. Our overall goal is to manage interest rate risk so that movements in interest rates do not significantly adversely affect earnings and capital.

Table 43 presents the spot and 12-month forward rates used in our baseline forecasts at December 31, 2023 and 2022.

Table 43 Forward Rates

	December 31, 2023		
	Federal Funds	**SOFR [(1)]**	**10-Year SOFR [(1)]**
Spot rates	**5.50 %**	**5.38 %**	**3.47 %**
12-month forward rates	**3.89**	**3.93**	**3.32**
	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 alternative reference rates used as a result of the cessation of LIBOR in 2023.

Table 44 shows the pretax impact to forecasted net interest income over the next 12 months from

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 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 ALM portfolio activity. 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 48.

Table 44 Estimated Banking Book Net Interest Income Sensitivity to Curve Changes

(Dollars in millions)	Short Rate (bps)	Long Rate (bps)	December 31 2023	2022
Parallel Shifts				
+100 bps instantaneous shift	+100	+100	**$ 3,476**	$ 3,829
-100 bps instantaneous shift	-100	-100	**(3,077)**	(4,591)
Flatteners				
Short-end instantaneous change	+100	—	**3,242**	3,698
Long-end instantaneous change	—	-100	**(257)**	(157)
Steepeners				
Short-end instantaneous change	-100	—	**(2,773)**	(4,420)
Long-end				

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

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.

Interest rate risk and market risk can be substantial in the mortgage business. Changes in interest rates and other market factors impact the volume of mortgage originations. Changes in interest rates also impact the value of interest rate lock commitments (IRLCs) and the related residential first mortgage loans held-for-sale between the date of the IRLC and the date the loans are sold to the secondary market. An increase in mortgage interest rates typically leads to a decrease in the value of these instruments. Conversely, when there is an increase in interest rates, the value of the MSRs will increase driven by lower prepayment expectations. 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.

During 2023, 2022, and 2021 we recorded gains of $127 million, $78 million and $39 million. For more information on MSRs, see Note 20 – Fair Value Measurements to the Consolidated Financial Statements.

Compliance and Operational Risk Management

Compliance risk is the risk of legal or regulatory sanctions, material financial loss or damage to the reputation of the Corporation arising from the failure of the Corporation to comply with the requirements of applicable laws, rules, regulations and our internal policies and procedures (collectively, applicable laws, rules and regulations). We are subject to comprehensive regulation under federal and state laws, rules and regulations in the U.S. and the laws of the various jurisdictions in which we operate, including those related to financial crimes and anti-money laundering, market conduct, trading activities, fair lending, privacy, data protection and unfair, deceptive or abusive acts or practices.

Operational risk is the risk of loss resulting from inadequate or failed processes or systems, people or external events, and includes legal risk. Operational risk may occur anywhere in the Corporation, including third-party business processes, and is not limited to operations financial planning objectives. Finally, FLUs and control functions are responsible for the proactive identification, management and escalation of compliance and operational risks across the Corporation. Collectively, these efforts are important to strengthen their compliance and operational resiliency, which is the ability to deliver critical operations through disruption.

Global Compliance and Operational Risk teams independently assess compliance and operational risk, monitor business activities and processes and evaluate FLUs and control functions for adherence to applicable laws, rules and regulations, including identifying issues and risks, and reporting on the state of the control environment. Corporate Audit provides an independent assessment and validation through testing of key compliance and operational risk processes and controls across the Corporation.

The Corporation's Global Compliance – Enterprise Policy and Operational Risk Management – Enterprise Policy set the requirements for reporting compliance and operational risk information to executive management as well as the Board or appropriate Board-level committees and reflect Global Compliance and Operational Risk’s responsibilities for conducting independent oversight of the Corporation’s compliance and operational risk management activities. The Board provides oversight of compliance risk through its Audit Committee and the ERC, and operational risk through its ERC.

Cybersecurity

Risk Management and Strategy

Cybersecurity is a key operational risk facing the Corporation. We, our employees, customers, regulators and third parties are ongoing targets of an increasing number of cybersecurity threats and cyberattacks and, accordingly, the Corporation devotes considerable resources to the establishment and maintenance of processes for assessing, identifying and managing cybersecurity risk through its global workforce and 24/7 cyber operations centers around the world. The Corporation takes a cross-functional approach to addressing cybersecurity risk, with our Global Technology, Global Risk Management, Legal and Corporate Audit functions playing key roles. In addition, the Corporation’s processes related to cybersecurity risk are an element of and integrated with the Corporation’s comprehensive risk program, including our risk framework. For more information on the Corporation’s Cybersecurity risk, see Item 1A. Risk Factors – Business Operations beginning on page 14. For

through various policies, procedures and playbooks, that are focused on governing, preparing for, identifying, preventing, detecting, mitigating, responding to and recovering from cybersecurity threats and cybersecurity incidents suffered by the Corporation and its third-party service providers, as well as effectively operating the Corporation's processes. Our business continuity policy, standards and procedures are designed to maintain the availability of business functions and enable impacted units within the Corporation and its third-party service providers to achieve strategic objectives in the event of a cybersecurity incident. In accordance with the Corporation's cyber incident response framework, GIS, including its incident response team, tracks, documents, responds to and analyzes cybersecurity threats and cybersecurity incidents, including those experienced by the Corporation's third-party service providers that may impact the Corporation. Additionally, the Corporation has a process for assembling multi-stakeholder executive response teams to monitor and coordinate cross-functional responses to certain cybersecurity incidents.

As part of the GIS Program, the Corporation leverages both internal and external assessments and partnerships with industry leaders. The Corporation engages third-party assessors, consultants, auditors and other third-party professionals to evaluate and test its cybersecurity program and provide guidance on operating and improving the GIS Program, including the design and operational effectiveness of the security and resiliency of our information systems.

The Corporation focuses on and has processes to oversee cybersecurity risk associated with its third-party service providers. As part of its cybersecurity risk management processes, the Corporation maintains an enterprise-wide program that defines standards for the planning, sourcing, management, and oversight of third-party relationships and third-party access to its information system, facilities, and/or confidential or proprietary data. The Corporation has established security requirements applicable to third-party service providers, and where permitted by contract, cybersecurity diligence is conducted to assess the alignment of third-party service providers' cybersecurity programs with the Corporation's cybersecurity requirements.

While we and our third parties have experienced cybersecurity incidents, as well as adverse impacts from such incidents, we have not experienced material losses or other material and potential disclosure, which includes the consideration of relevant quantitative and qualitative factors.

The Board is actively engaged in the oversight of the GIS Program and devotes considerable time and attention to the oversight and mitigation of cybersecurity risk. The Board, which includes members with technology and cybersecurity experience, oversees management's approach to staffing, policies, processes and practices to address cybersecurity risk. The Board and its ERC, which is responsible for reviewing cybersecurity risk, each receive regular presentations, memoranda and reports throughout the year from our Chief Technology and Information Officer (CTIO) and our Chief Information Security Officer (CISO) on internal and external cybersecurity developments, threats and risks. On a quarterly basis, GIS sends the Board a memorandum highlighting relevant cybersecurity developments and a document detailing the performance metrics for the GIS Program.

The Board receives prompt and timely information from management on cybersecurity incidents, including cybersecurity incidents experienced by the Corporation's third-party service providers, that may pose significant risk to the Corporation, and continues to receive regular reports on any such incidents until their conclusion. Additionally, the Board receives quarterly reports on the performance of the Corporation's cybersecurity risk appetite metrics, including metrics on vulnerabilities and third-party cybersecurity risks and incidents and is notified promptly if a Board-level cybersecurity risk limit is breached.

Our ERC also annually reviews and approves our GIS Program and our Information Security Policy, which establish administrative, technical, and physical safeguards designed to protect the security, confidentiality and integrity of customer records and information in accordance with the Gramm-Leach-Bliley Act and the interagency guidelines issued thereunder, and applicable laws globally.

Under the Board's oversight, management works closely with key stakeholders, including regulators, government agencies, law enforcement, peer institutions and industry groups, and develops and invests in talent and innovative technology in order to better manage cybersecurity risk.

Our most senior cybersecurity employees are the CTIO and CISO, who are primarily responsible for managing and assessing cybersecurity risk. The CISO oversees a team of more than 3,000

business and risk management processes. We proactively monitor and identify potential reputational risk events and have processes established to mitigate reputational risks in a timely manner. If reputational risk events occur, we focus on remediating the underlying issue and taking action to minimize damage to the Corporation's reputation. The Corporation has processes and procedures in place to respond to events that give rise to reputational risk, including educating individuals and organizations that influence public opinion, and implementing communication strategies to mitigate the risk. The Corporation's organization and governance structure provides oversight of reputational risks. Reputational risk reporting is provided regularly and directly to senior management and the ERC, which provides primary oversight of reputational risk. In addition, each FLU has a committee, which includes representatives from Legal and Risk, that is responsible for the oversight of reputational risk, including approval for business activities that present elevated levels of reputational risks.

Climate Risk

Climate Risk Management

Climate risk is the risk that climate change or actions taken to mitigate climate change expose the Corporation to economic, operational or reputational harm. Climate-related risks are divided into two major categories, both of which span across the seven key risk types discussed in Managing Risk on page 44: (1) Physical Risk: 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) Transition Risk: risks related to the transition to a low-carbon economy, which may entail extensive policy, legal, technology and market changes.

Physical risks of climate change, such as more frequent and severe extreme weather events, can increase the Corporation's risks, including credit risk by diminishing borrowers' repayment capacity or collateral values, and operational risk by negatively impacting the Corporation's facilities, employees, or vendors. Transition risks of climate change may amplify credit risks through the financial impacts of changes in policy, technology or the market on the Corporation or our counterparties. Unanticipated market changes can lead to sudden price adjustments and give rise to heightened market risk. Reputational risk can arise if we do not meet our climate-related commitments and/or goals, or are perceived to be responsible for establishing the Climate Risk Framework and governance structure, and providing independent assessment and challenge of enterprise-wide climate risks.

Based on the Corporation's Risk Framework, in 2023 we created our internal Climate Risk Framework, which addresses how the Corporation identifies, measures, monitors and controls climate risk by enhancing existing risk management processes and also includes examples of how it manifests across the seven risk types. It details the roles and responsibilities for climate risk management across our three lines of defense as noted above.

For more information on our governance framework, see Managing Risk on page 44. For more information on climate risk, see Item 1A. Risk Factors on page 8.

Climate-related Goals and Targets

In 2021, the Corporation committed to achieving net zero greenhouse gas emissions before 2050 in our financing activities, operations and supply chain (Net Zero goal), and in 2022, we released our Approach to Zero™, a framework for how we plan to achieve our Net Zero goal. In line with this approach, we have set interim 2030 targets across our financing activities (2030 Financing Activity Emissions Targets), operations and supply chain, all of which are further supported and complemented by our $1.5 trillion sustainable finance goal (which is aligned with the 17 UN Sustainable Development Goals) of which $1 trillion is dedicated to supporting the transition toward a low-carbon economy, including capital mobilized across clean energy sectors and tailored financial solutions for emerging areas of the low-carbon economy. In particular, we announced 2030 Financing Activity Emissions Targets for auto manufacturing, aviation, cement, energy, and power generation sectors and expect to continue to set targets for other sectors that are significant contributors to global greenhouse gas emissions and therefore prioritized by us.

Achieving our climate--related goals and targets, including our Net Zero goal and 2030 Financing Activity Emissions Targets, may require technological advances, clearly defined roadmaps for industry sectors, better emissions data reporting, new standards and public policies, including those that improve the cost of capital for the transition to a low-carbon economy, as well as 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

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, as described in Note 1 – Summary of Significant Accounting Principles to the Consolidated Financial Statements, 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.

The more judgmental estimates are summarized in the following discussion. We have identified and described the development of the variables most important in the estimation processes that involve mathematical models to derive the estimates. In many cases, there are numerous alternative judgments that could be used in the process of determining the inputs to the models. Where alternatives exist, we have used the factors that we believe represent the most reasonable value in developing the inputs. Actual performance that differs from our estimates of the key variables could materially impact our results of operations. Separate from the possible future impact to our results of operations from input and model variables, the value of our lending portfolio and market-sensitive assets and liabilities may change subsequent to the balance sheet date, often significantly, due to the nature and magnitude of future credit and market conditions. Such credit and market conditions may change quickly and in unforeseen ways and the resulting volatility could have a significant, negative effect on future operating results. These fluctuations would not be indicative of deficiencies in our models or inputs.

Allowance for Credit Losses

The allowance for credit losses includes the allowance for loan and lease losses and the reserve for unfunded lending commitments. Our process for determining the allowance for credit losses is discussed in Note 1 – Summary of Significant Accounting Principles and Note 5 – Outstanding Loans and Leases and Allowance for Credit Losses to the Consolidated Financial Statements.

The determination of the allowance for credit losses is based on numerous estimates and assumptions, which require a high degree of judgment and are often interrelated. A critical judgment in the process is the weighting of our forward-looking macroeconomic scenarios that

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 towards a recessionary environment in the first half of 2024, with lower gross domestic product (GDP) growth and higher unemployment rate expectations as compared to what we experienced in the prior year. Generally, as the consensus estimates improve or deteriorate, the allowance for credit losses will change in a similar direction. There are multiple variables that drive the macroeconomic scenarios with the key variables including, but not limited to, U.S. GDP and unemployment rates. As of December 31, 2022, the weighted macroeconomic outlook for the U.S. average unemployment rate was forecasted at 5.6 percent, 5.0 percent and 4.5 percent in the fourth quarters of 2023, 2024 and 2025, respectively, and the weighted macroeconomic outlook for U.S. GDP was forecasted to contract 0.4 percent and grow 1.2 percent and 1.9 percent year-over-year in the fourth quarters of 2023, 2024 and 2025, respectively. As of December 31, 2023, the latest consensus estimates for the U.S. average unemployment rate for the fourth quarter of 2023 was 3.9 percent and U.S. GDP was forecasted to grow 2.6 percent year-over-year in the fourth quarter of 2023, reflecting a tighter labor market and healthy growth compared to our macroeconomic outlook as of December 31, 2022, and were factored into our allowance for credit losses estimate as of December 31, 2023. In addition, as of December 31, 2023, the weighted macroeconomic outlook for the U.S. average unemployment rate was forecasted at 4.9 percent in the fourth quarters of both 2024 and 2025, and the weighted macroeconomic outlook for U.S. GDP was forecasted to grow 0.3 percent and 1.4 percent year-over-year in the fourth quarters of 2024 and 2025.

In addition to the above judgments and estimates, the allowance for credit losses can also be impacted by unanticipated changes in asset quality of the portfolio, such as increases or decreases in credit and/or internal risk ratings in our commercial portfolio, improvement or deterioration in borrower delinquencies or credit scores in our credit card portfolio and increases or decreases in home prices, which is a primary

consumer portfolio driven by credit card loan growth and asset quality, partially offset by a reserve release in our commercial portfolio primarily driven by improved macroeconomic conditions applicable to the commercial portfolio.

To provide an illustration of the sensitivity of the macroeconomic scenarios and other assumptions on the estimate of our allowance for credit losses, the Corporation compared the December 31, 2023 modeled ECL from the baseline scenario and our adverse scenario. Relative to the baseline scenario, the adverse scenario assumed a peak U.S. unemployment rate of over two percentage points higher than the baseline scenario, a decline in U.S. GDP followed by a prolonged recovery and a lower home price outlook with a difference of approximately 16 percent at the trough. This sensitivity analysis resulted in a hypothetical increase in the allowance for credit losses of approximately $3.8 billion.

While the sensitivity analysis may be useful to understand how changes in macroeconomic assumptions could impact our modeled ECLs, it is not meant to forecast how our allowance for credit losses is expected to change in a different macroeconomic outlook. Importantly, the analysis does not incorporate a variety of factors, including qualitative reserves and the weighting of alternate scenarios, which could have offsetting effects on the estimate. Considering the variety of factors contemplated when developing and weighting macroeconomic outlooks such as recent economic events, leading economic indicators, views of internal and third-party economists and industry trends, in addition to other qualitative factors, the Corporation believes the allowance for credit losses at December 31, 2023 is appropriate.

Fair Value of Financial Instruments

Under applicable accounting standards, we are required to maximize the use of observable inputs and minimize the use of unobservable inputs in measuring fair value. We classify fair value measurements of financial instruments and MSRs based on the three-level fair value hierarchy in the accounting standards.

The fair values of assets and liabilities may include adjustments, such as market liquidity and credit quality, where appropriate. Valuations of products using models or other techniques are sensitive to assumptions used for the significant inputs. Where market data is available, the inputs used for valuation reflect that information as of our valuation date. Inputs to valuation models are considered unobservable if they are supported by little or no market activity. In periods of extreme volatility, lessened liquidity or in illiquid markets, there may be more variability in market pricing or a lack of market data to use in the valuation process. In keeping with the prudent application of estimates and management judgment in determining the fair value of assets and liabilities, we have in place various processes and controls that include: a model validation policy that requires review and approval of quantitative models used for deal pricing, financial statement fair value determination and risk quantification; a trading product valuation policy that requires verification of all traded product valuations; and a periodic review and substantiation of daily profit and loss reporting for all traded products. Primarily through validation controls, we utilize both broker and pricing service inputs which can and do include both market-observable and internally-modeled values and/or valuation inputs. Our reliance on this information is affected by our understanding of how the broker and/or pricing service develops its data with a higher degree of reliance applied to those that are more directly observable and lesser reliance applied to those developed through their own internal modeling. For example, broker quotes in less active markets may only be indicative and therefore less reliable. These processes and controls are performed independently of the business. For more information, see Note 20 – Fair Value Measurements and Note 21 – Fair Value Option to the Consolidated Financial Statements.

Level 3 Assets and Liabilities

Financial assets and liabilities, and MSRs, where values are based on valuation techniques that require inputs that are both unobservable and are significant to the overall fair value measurement are classified as Level 3 under the fair value hierarchy established in applicable accounting standards. The fair value of these Level 3 financial assets and liabilities and MSRs is determined using pricing models, discounted cash flow methodologies or similar techniques for which the determination of fair value requires significant management judgment or estimation.

Level 3 financial instruments may be hedged with derivatives classified as Level 1 or 2; therefore, gains or losses associated with Level 3 financial instruments may be offset by gains or losses associated with financial instruments classified in other levels of the fair value hierarchy. The Level 3 gains and losses recorded in earnings did not have a significant impact on our liquidity or capital. We conduct a review of our fair value hierarchy classifications on a quarterly basis. Transfers into or out of Level 3 are made if

financial models measuring the fair values of the assets and liabilities became unobservable or observable, respectively, in the current marketplace. For more information on transfers into and out of Level 3 during 2023, 2022 and 2021, see Note 20 – Fair Value Measurements to the Consolidated Financial Statements.

Accrued Income Taxes and Deferred Tax Assets

Accrued income taxes, reported as a component of either other assets or accrued expenses and other liabilities on the Consolidated Balance Sheet, represent the net amount of current income taxes we expect to pay to or receive from various taxing jurisdictions attributable to our operations to date. We currently file income tax returns in more than 100 jurisdictions and consider many factors, including statutory, judicial and regulatory guidance, in estimating the appropriate accrued income taxes for each jurisdiction.

Net deferred tax assets, reported as a component of other assets on the Consolidated Balance Sheet, represent the net decrease in taxes expected to be paid in the future because of net operating loss (NOL) and tax credit carryforwards and because of future reversals of temporary differences in the bases of assets and liabilities as measured by tax laws and their bases as reported in the financial statements. NOL and tax credit carryforwards result in reductions to future tax liabilities, and many of these attributes can expire if not utilized within certain periods. We consider the need for valuation allowances to reduce net deferred tax assets to the amounts that we estimate are more likely than not to be realized.

Consistent with the applicable accounting guidance, we monitor relevant tax authorities and change our estimates of accrued income taxes and/or net deferred tax assets due to changes in income tax laws and their interpretation by the courts and regulatory authorities. These revisions of our estimates, which also may result from our income tax planning and from the resolution of income tax audit matters, may be material to our operating results for any given period.

See Note 19 – Income Taxes to the Consolidated Financial Statements for a table of significant tax attributes and additional information. For more information, see page 17 under Item 1A. Risk Factors – Regulatory, Compliance and Legal.

Goodwill and Intangible Assets

The nature of and accounting for goodwill and intangible assets are discussed in Note 1 – Summary of Significant Accounting Principles and Note 7 – Goodwill and Intangible Assets to the Consolidated Financial Statements.

The Corporation tests its goodwill for impairment on June 30 of each year or more frequently if events or circumstances indicate a potential impairment. We completed our annual goodwill impairment test as of June 30, 2023, by performing a quantitative assessment to compare the fair value of each reporting unit to its carrying value as measured by allocated equity. Based on our assessment, we have concluded that goodwill was not impaired.

The Corporation chose to perform the quantitative assessment as compared to a qualitative assessment that was performed in the prior year due to the level of interest rates and other market conditions existing at June 30, 2023. The quantitative assessment used a combination of an income approach (which utilizes the present value of cash flows to estimate fair value) and a market multiplier approach (which utilizes observable market prices and metrics of peer companies to estimate fair value). The main assumptions used in the income approach are the Corporation’s three-year internal forecasts along with long-term terminal growth values. The main assumptions used in the market multiplier approach are primarily enterprise value and equity multiples from comparable publicly traded companies in industries similar to the reporting unit.

Certain Contingent Liabilities

For more information on the complex judgments associated with certain contingent liabilities, see Note 12 – Commitments and Contingencies to the Consolidated Financial Statements.

Non-GAAP Reconciliations

Tables 45 and 46 provide reconciliations of certain non-GAAP financial measures to GAAP financial measures.

Table 45 Annual Reconciliations to GAAP Financial Measures [1]

(Dollars in millions, shares in thousands)	**2023**	2022	2021
Reconciliation of average shareholders' equity to average tangible shareholders' equity and average tangible common shareholders' equity			
Shareholders' equity	**$ 283,353**	$ 270,299	$ 273,757
Goodwill	**(69,022)**	(69,022)	(69,005)
Intangible assets (excluding MSRs)	**(2,039)**	(2,117)	(2,177)
Related deferred tax liabilities	**893**	922	916
Tangible shareholders' equity	**$ 213,185**	$ 200,082	$ 203,491
Preferred stock	**(28,397)**	(28,318)	(23,970)
Tangible common shareholders' equity	**$ 184,788**	$ 171,764	$ 179,521
Reconciliation of year-end shareholders' equity to year-end tangible shareholders' equity and year-end tangible common shareholders' equity			
Shareholders' equity	**$ 291,646**	$ 273,197	$ 270,066
Goodwill	**(69,021)**	(69,022)	(69,022)
Intangible assets (excluding MSRs)	**(1,997)**	(2,075)	(2,153)
Related deferred tax liabilities	**874**	899	929
Tangible shareholders' equity	**$ 221,502**	$ 202,999	$ 199,820
Preferred stock	**(28,397)**	(28,397)	(24,708)
Tangible common shareholders' equity	**$ 193,105**	$ 174,602	$ 175,112
Reconciliation of year-end assets to year-end tangible assets			
Assets	**$3,180,151**	$3,051,375	$3,169,495
Goodwill	**(69,021)**	(69,022)	(69,022)
Intangible assets (excluding MSRs)	**(1,997)**	(2,075)	(2,153)
Related deferred tax liabilities	**874**	899	929
Tangible assets	**$3,110,007**	$2,981,177	$3,099,249

[1] Presents reconciliations of non-GAAP financial measures to GAAP financial measures. 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 29.

Table 46 Quarterly Reconciliations to GAAP Financial Measures [1]

	2023 Quarters				2022 Quarters			
(Dollars in millions)	**Fourth**	Third	Second	First	Fourth	Third	Second	First
Reconciliation of average shareholders' equity to average tangible shareholders' equity and average tangible common shareholders' equity								
Shareholders' equity	**$ 288,618**	$ 284,975	$ 282,425	$ 277,252	$ 272,629	$ 271,017	$ 268,197	$ 269,309
Goodwill	**(69,021)**	(69,021)	(69,022)	(69,022)	(69,022)	(69,022)	(69,022)	(69,022)
Intangible assets (excluding MSRs)	**(2,010)**	(2,029)	(2,049)	(2,068)	(2,088)	(2,107)	(2,127)	(2,146)
Related deferred tax liabilities	**886**	890	895	899	914	920	926	929
Tangible shareholders' equity	**$ 218,473**	$ 214,815	$ 212,249	$ 207,061	$ 202,433	$ 200,808	$ 197,974	$ 199,070
Preferred stock	**(28,397)**	(28,397)	(28,397)	(28,397)	(28,982)	(29,134)	(28,674)	(26,444)
Tangible common shareholders' equity	**$ 190,076**	$ 186,418	$ 183,852	$ 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	**$ 291,646**	$ 287,064	$ 283,319	$ 280,196	$ 273,197	$ 269,524	$ 269,118	$ 266,617
Goodwill	**(69,021)**	(69,021)	(69,021)	(69,022)	(69,022)	(69,022)	(69,022)	(69,022)
Intangible assets (excluding MSRs)	**(1,997)**	(2,016)	(2,036)	(2,055)	(2,075)	(2,094)	(2,114)	(2,133)
Related deferred tax liabilities	**874**	886	890	895	899	915	920	926
Tangible shareholders' equity	**$ 221,502**	$ 216,913	$ 213,152	$ 210,014	$ 202,999	$ 199,323	$ 198,902	$ 196,388

(1) Presents reconciliations of non-GAAP financial measures to GAAP financial measures. 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 29.

Item 7A. Quantitative and Qualitative Disclosures about Market Risk

See Market Risk Management on page 73 in the MD&A and the sections referenced therein for Quantitative and Qualitative Disclosures about Market Risk.

Item 8. Financial Statements and Supplementary Data

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Report of Management on Internal Control Over Financial Reporting

The management of Bank of America Corporation is responsible for establishing and maintaining adequate internal control over financial reporting.

The Corporation's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with accounting principles generally accepted in the United States of America. The Corporation's internal control over financial reporting includes those policies and procedures that (i) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the Corporation; (ii) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with accounting principles generally accepted in the United States of America, and that receipts and expenditures of the Corporation are being made only in accordance with authorizations of management and directors of the Corporation; and (iii) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the Corporation's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

Management assessed the effectiveness of the Corporation's internal control over financial reporting as of December 31, 2023 based on the framework set forth by the Committee of Sponsoring Organizations of the Treadway Commission in Internal Control – Integrated Framework (2013). Based on that assessment, management concluded that, as of December 31, 2023, the Corporation's internal control over financial reporting is effective.

The Corporation's internal control over financial reporting as of December 31, 2023 has been audited by PricewaterhouseCoopers, LLP, an independent registered public accounting firm, as stated in their accompanying report which expresses an unqualified opinion on the effectiveness of the Corporation's internal control over financial reporting as of December 31, 2023.

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Brian T. Moynihan
Chair, Chief Executive Officer and President

CFO Signature.jpg

Alastair M. Borthwick
Chief Financial Officer

Report of Independent Registered Public Accounting Firm

To the Board of Directors and Shareholders of Bank of America Corporation

Opinions on the Financial Statements and Internal Control over Financial Reporting

We have audited the accompanying consolidated balance sheets of Bank of America Corporation and its subsidiaries (the "Corporation") as of December 31, 2023 and 2022, and the related consolidated statements of income, comprehensive income, changes in shareholders' equity and cash flows for each of the three years in the period ended December 31, 2023, including the related notes (collectively referred to as the "consolidated financial statements"). We also have audited the Corporation's internal control over financial reporting as of December 31, 2023, based on criteria established in Internal Control - Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO).

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of the Corporation as of December 31, 2023 and 2022, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2023 in conformity with accounting principles generally accepted in the United States of America. Also in our opinion, the Corporation maintained, in all material respects, effective internal control over financial reporting as of December 31, 2023, based on criteria established in Internal Control - Integrated Framework (2013) issued by the COSO.

Basis for Opinions

The Corporation's management is responsible for these consolidated financial statements, for maintaining effective internal control over financial reporting, and for its assessment of the effectiveness of internal control over financial reporting, included in the accompanying Report of Management on Internal Control Over Financial Reporting. Our responsibility is to express opinions on the Corporation's consolidated financial statements and on the Corporation's internal control over financial reporting based on our audits. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) (PCAOB) and are required to be independent with respect to the Corporation in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the understanding of internal control over financial reporting, assessing the risk that a material weakness exists, and testing and evaluating the design and operating effectiveness of internal control based on the assessed risk. Our audits also included performing such other procedures as we considered necessary in the circumstances. We believe that our audits provide a reasonable basis for our opinions.

Definition and Limitations of Internal Control over Financial Reporting

A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (i) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (ii) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (iii) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

Critical Audit Matters

The critical audit matters communicated below are matters arising from the current period audit of the consolidated financial statements that were communicated or required to be communicated to the audit committee and that (i) relate to accounts or disclosures that are material to the consolidated financial statements and (ii) involved our especially challenging, subjective, or complex judgments. The communication of critical audit matters does not alter in any way our opinion on the consolidated financial statements, taken as a

loss experience, the current credit quality of the portfolio as well as an economic outlook over the life of the loan. In its loss forecasting framework, the Corporation incorporates forward looking information through the use of macroeconomic scenarios applied over the forecasted life of the assets. These macroeconomic scenarios include variables that have historically been key drivers of increases and decreases in credit losses. These variables include, but are not limited to, unemployment rates, real estate prices, gross domestic product levels and corporate bond spreads. The scenarios that are chosen and the weighting given to each scenario depend on a variety of factors including recent economic events, leading economic indicators, views of internal as well as third-party economists and industry trends. Also included in the allowance for loan and lease losses are qualitative reserves to cover losses that are expected but, in the Corporation's assessment, may not be adequately reflected in the quantitative methods or the economic assumptions. Factors that the Corporation considers include changes in lending policies and procedures, business conditions, the nature and size of the portfolio, portfolio concentrations, the volume and severity of past due loans and nonaccrual loans, the effect of external factors such as competition, and legal and regulatory requirements, among others. Further, the Corporation considers the inherent uncertainty in quantitative models that are built on historical data.

The principal considerations for our determination that performing procedures relating to the allowance for loan and lease losses for the commercial and consumer card portfolios is a critical audit matter are (i) the significant judgment and estimation by management in developing lifetime economic forecast scenarios and related weightings to each scenario, which in turn led to a high degree of auditor judgment, subjectivity and effort in performing procedures and in evaluating audit evidence obtained, and (ii) the audit effort involved professionals with specialized skill and knowledge.

Addressing the matter involved performing procedures and evaluating audit evidence in connection with forming our overall opinion on the consolidated financial statements. These procedures included testing the effectiveness of controls relating to the allowance for loan and lease losses, including controls over the evaluation and approval of models, forecast scenarios and related weightings, and qualitative reserves. These procedures also included, among and related weightings and the reasonableness of certain qualitative reserves.

Valuation of Certain Level 3 Financial Instruments

As described in Notes 1 and 20 to the consolidated financial statements, the Corporation carries certain financial instruments at fair value, which includes $9.3 billion of assets and $6.6 billion of liabilities classified as Level 3 fair value measurements that are valued on a recurring basis and $3.9 billion of assets classified as Level 3 fair value measurements that are valued on a nonrecurring basis, for which the determination of fair value requires significant management judgment or estimation. The Corporation determines the fair value of Level 3 financial instruments using pricing models, discounted cash flow methodologies, or similar techniques that require inputs that are both unobservable and are significant to the overall fair value measurement. Unobservable inputs, such as volatility or implied yield, may be determined using quantitative-based extrapolations, pricing models or other internal methodologies which incorporate management estimates and available market information.

The principal considerations for our determination that performing procedures relating to the valuation of certain Level 3 financial instruments is a critical audit matter are the significant judgment and estimation used by management to determine the fair value of these financial instruments, which in turn led to a high degree of auditor judgment, subjectivity and effort in performing procedures and in evaluating audit evidence obtained, including the involvement of professionals with specialized skill and knowledge.

Addressing the matter involved performing procedures and evaluating audit evidence in connection with forming our overall opinion on the consolidated financial statements. These procedures included testing the effectiveness of controls relating to the valuation of financial instruments, including controls related to valuation models, significant unobservable inputs, and data. These procedures also included, among others, the involvement of professionals with specialized skill and knowledge to assist in developing an independent estimate of fair value for a sample of these certain financial instruments and comparison of management’s estimate to the independently developed estimate of fair value. Developing the independent estimate involved testing the completeness and accuracy of data provided by management and evaluating the reasonableness of management’s significant

Bank of America Corporation and Subsidiaries

Consolidated Statement of Income

(In millions, except per share information)	2023	2022	2021
Net interest income			
Interest income	**$ 130,262**	$ 72,565	$ 47,672
Interest expense	**73,331**	20,103	4,738
Net interest income	**56,931**	52,462	42,934
Noninterest income			
Fees and commissions	**32,009**	33,212	39,299
Market making and similar activities	**12,732**	12,075	8,691
Other income	**(3,091)**	(2,799)	(1,811)
Total noninterest income	**41,650**	42,488	46,179
Total revenue, net of interest expense	**98,581**	94,950	89,113
Provision for credit losses	**4,394**	2,543	(4,594)
Noninterest expense			
Compensation and benefits	**38,330**	36,447	36,140
Occupancy and equipment	**7,164**	7,071	7,138
Information processing and communications	**6,707**	6,279	5,769
Product delivery and transaction related	**3,608**	3,653	3,881
Professional fees	**2,159**	2,142	1,775
Marketing	**1,927**	1,825	1,939
Other general operating	**5,950**	4,021	3,089
Total noninterest expense	**65,845**	61,438	59,731
Income before income taxes	**28,342**	30,969	33,976
Income tax expense	**1,827**	3,441	1,998
Net income	**$ 26,515**	$ 27,528	$ 31,978
Preferred stock dividends and other	**1,649**	1,513	1,421
Net income applicable to common shareholders	**$ 24,866**	$ 26,015	$ 30,557
Per common share information			
Earnings	**$ 3.10**	$ 3.21	$ 3.60
Diluted earnings	3.08	3.19	3.57
Average common shares issued and outstanding	8,028.6	8,113.7	8,493.3
Average diluted common shares issued and outstanding	8,080.5	8,167.5	8,558.4

Consolidated Statement of Comprehensive Income

(Dollars in millions)	2023	2022	2021
Net income	**$ 26,515**	$ 27,528	$ 31,978
Other comprehensive income (loss), net-of-tax:			
Net change in debt securities	**573**	(6,028)	(2,077)
Net change in debit valuation adjustments	**(686)**	755	356
Net change in derivatives	**3,919**	(10,055)	(2,306)
Employee benefit plan adjustments	**(439)**	(667)	624
Net change in foreign currency translation adjustments	**1**	(57)	(45)
Other comprehensive income (loss)	**3,368**	(16,052)	(3,448)
Comprehensive income (loss)	**$ 29,883**	$ 11,476	$ 28,530

See accompanying Notes to Consolidated Financial Statements.

Consolidated Balance Sheet

(Dollars in millions)	December 31 2023	2022
Assets		
Cash and due from banks	**$ 27,892**	$ 30,334
Interest-bearing deposits with the Federal Reserve, non-U.S. central banks and other banks	**305,181**	199,869
Cash and cash equivalents	**333,073**	230,203
Time deposits placed and other short-term investments	**8,346**	7,259
Federal funds sold and securities borrowed or purchased under agreements to resell (includes **$133,053** and $146,999 measured at fair value)	**280,624**	267,574
Trading account assets (includes **$130,815** and $115,505 pledged as collateral)	**277,354**	296,108
Derivative assets	**39,323**	48,642
Debt securities:		
Carried at fair value	**276,852**	229,994
Held-to-maturity, at cost (fair value **$496,597** and $524,267)	**594,555**	632,825
Total debt securities	**871,407**	862,819
Loans and leases (includes **$3,569** and $5,771 measured at fair value)	**1,053,732**	1,045,747
Allowance for loan and lease losses	**(13,342)**	(12,682)
Loans and leases, net of allowance	**1,040,390**	1,033,065
Premises and equipment, net	**11,855**	11,510
Goodwill	**69,021**	69,022
Loans held-for-sale (includes **$2,059** and $1,115 measured at fair value)	**6,002**	6,871
Customer and other receivables	**81,881**	67,543
Other assets (includes **$11,861** and $9,594 measured at fair value)	**160,875**	150,759
Total assets	**$3,180,151**	$ 3,051,375
Liabilities		
Deposits in U.S. offices:		
Noninterest-bearing	**$ 530,619**	$ 640,745
Interest-bearing (includes **$284** and $311 measured at fair value)	**1,273,904**	1,182,590
Deposits in non-U.S. offices:		
Noninterest-bearing	**16,427**	20,480
Interest-bearing	**102,877**	86,526
Total deposits	**1,923,827**	1,930,341
Federal funds purchased and securities loaned or sold under agreements to repurchase (includes **$178,609** and $151,708 measured at fair value)	**283,887**	195,635
Trading account liabilities	**95,530**	80,399
Derivative liabilities	**43,432**	44,816
Short-term borrowings (includes **$4,690** and $832 measured at fair value)	**32,098**	26,932
Accrued expenses and other liabilities (includes $11,473 and $9,752 measured at fair value and **$1,209** and $1,540 of reserve for unfunded lending commitments)	**207,527**	224,073
Long-term debt (includes **$42,809** and $33,070 measured at fair value)	**302,204**	275,982
Total liabilities	**2,888,505**	2,778,178
Commitments and contingencies (Note 6 – Securitizations and Other Variable Interest Entities and Note 12 – Commitments and Contingencies)		
Shareholders' equity		

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, 2020	$ 24,510	8,650.8	$ 85,982	$ 164,088	$ (1,656)	$ 272,924
Net income				31,978		31,978
Net change in debt securities					(2,077)	(2,077)
Net change in debit valuation adjustments					356	356
Net change in derivatives					(2,306)	(2,306)
Employee benefit plan adjustments					624	624
Net change in foreign currency translation adjustments					(45)	(45)
Dividends declared:						
Common				(6,575)		(6,575)
Preferred				(1,421)		(1,421)
Issuance of preferred stock	2,169					2,169
Redemption of preferred stock	(1,971)					(1,971)
Common stock issued under employee plans, net, and other		42.3	1,542	(6)		1,536
Common stock repurchased		(615.3)	(25,126)			(25,126)
Balance, December 31, 2021	$ 24,708	8,077.8	$ 62,398	$ 188,064	$ (5,104)	$ 270,066
Net income				27,528		27,528
Net change in debt securities					(6,028)	(6,028)
Net change in debit valuation adjustments					755	755
Net change in derivatives					(10,055)	(10,055)
Employee benefit plan adjustments					(667)	(667)
Net change in foreign currency translation adjustments					(57)	(57)
Dividends declared:						
Common				(6,963)		(6,963)
Preferred				(1,596)		(1,596)
Issuance of preferred stock	4,426					4,426
Redemption of preferred stock	(737)		83			(654)
Common stock issued under employee plans, net, and other		44.9	1,545	(30)		1,515
Common stock repurchased		(125.9)	(5,073)			(5,073)
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				**26,515**		**26,515**
Net change in debt securities					**573**	**573**

See accompanying Notes to Consolidated Financial Statements.

Bank of America Corporation and Subsidiaries

Consolidated Statement of Cash Flows

(Dollars in millions)	2023	2022	2021
Operating activities			
Net income	**$ 26,515**	$ 27,528	$ 31,978
Adjustments to reconcile net income to net cash provided by operating activities:			
Provision for credit losses	**4,394**	2,543	(4,594)
(Gains) losses on sales of debt securities	**405**	(32)	(22)
Depreciation and amortization	**2,057**	1,978	1,898
Net amortization of premium/discount on debt securities	**(397)**	2,072	5,837
Deferred income taxes	**(2,011)**	739	(838)
Stock-based compensation	**2,942**	2,862	2,768
Loans held-for-sale:			
Originations and purchases	**(15,621)**	(24,862)	(43,635)
Proceeds from sales and paydowns of loans originally classified as held for sale and instruments from related securitization activities	**16,262**	31,567	34,684
Net change in:			
Trading and derivative assets/liabilities	**44,391**	(95,772)	(22,104)
Other assets	**(23,944)**	20,799	(34,455)
Accrued expenses and other liabilities	**(17,719)**	23,029	16,639
Other operating activities, net	**7,708**	1,222	4,651
Net cash provided by (used in) operating activities	**44,982**	(6,327)	(7,193)
Investing activities			
Net change in:			
Time deposits placed and other short-term investments	**(1,087)**	(115)	(598)
Federal funds sold and securities borrowed or purchased under agreements to resell	**(13,050)**	(16,854)	53,338
Debt securities carried at fair value:			
Proceeds from sales	**101,165**	69,114	6,893
Proceeds from paydowns and maturities	**148,699**	110,195	159,616
Purchases	**(290,959)**	(134,962)	(238,398)
Held-to-maturity debt securities:			
Proceeds from paydowns and maturities	**36,955**	63,852	124,880
Purchases	**(98)**	(24,096)	(362,736)
Loans and leases:			
Proceeds from sales of loans originally classified as held for investment and instruments from related securitization activities	**11,081**	26,757	10,396
Purchases	**(5,351)**	(5,798)	(5,164)
Other changes in loans and leases, net	**(17,484)**	(86,010)	(58,039)
Other investing activities, net	**(5,258)**	(4,612)	(3,479)
Net cash used in investing activities	**(35,387)**	(2,529)	(313,291)
Financing activities			
Net change in:			
Deposits	**(6,514)**	(134,190)	268,966
Federal funds purchased and securities loaned or sold under agreements to			

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.

New Accounting Standards Issued

Segment Reporting

The FASB amended the segment reporting requirements to add disclosures of incremental segment expense categories. The amended

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.

Significant Accounting Principles

Cash and Cash Equivalents

Cash and cash equivalents include cash on hand, cash items in the process of collection, cash segregated under federal and other brokerage regulations, and amounts due from correspondent banks, the Federal Reserve Bank and certain non-U.S. central banks. Certain cash balances are restricted as to withdrawal or usage by legally binding contractual agreements or regulatory requirements.

Securities Financing Agreements

Securities borrowed or purchased under agreements to resell and securities loaned or sold under agreements to repurchase (securities financing agreements) are treated as collateralized financing transactions except in instances where the transaction is required to be accounted for as individual sale and purchase transactions. Generally, these agreements are recorded at acquisition or sale price plus accrued interest. In instances where the interest is negative, the Corporation's policy is to present negative interest on financial assets as interest income and negative interest on financial liabilities as interest expense. For securities financing agreements that are accounted for under the fair value option, the changes in the fair value of these securities financing agreements are recorded in market making and similar activities in the Consolidated Statement of Income.

The Corporation's policy is to monitor the market value of the principal amount loaned under resale agreements and obtain collateral from or return collateral pledged to counterparties when appropriate. Securities financing

date basis. Realized and unrealized gains and losses are recognized in market making and similar activities.

Derivatives and Hedging Activities

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 are both designated in qualifying accounting hedge relationships and derivatives used to hedge market risks in relationships that are not designated in qualifying accounting hedge relationships (referred to as other risk management activities). The Corporation manages interest rate and foreign currency exchange rate sensitivity predominantly through the use of derivatives. Derivatives utilized by the Corporation include swaps, futures and forward settlement contracts, and option contracts.

All derivatives are recorded on the Consolidated Balance Sheet at fair value, taking into consideration the effects of legally enforceable master netting agreements that allow the Corporation to settle positive and negative positions and offset cash collateral held with the same counterparty on a net basis. For exchange-traded contracts, fair value is based on quoted market prices in active or inactive markets or is derived from observable market-based pricing parameters, similar to those applied to over-the-counter (OTC) derivatives. For non-exchange traded contracts, fair value is based on dealer quotes, pricing models, discounted cash flow methodologies or similar techniques for which the determination of fair value may require significant management judgment or estimation.

Valuations of derivative assets and liabilities reflect the value of the instrument including counterparty credit risk. These values also take into account the Corporation's own credit standing.

Trading Derivatives and Other Risk Management Activities

Derivatives held for trading purposes are included in derivative assets or derivative liabilities on the Consolidated Balance Sheet with changes in fair value included in market making and similar activities.

Derivatives used for other risk management activities are included in derivative assets or derivative liabilities. Derivatives used in other risk management activities have not been designated in qualifying accounting hedge relationships because they did not qualify or the risk that is being mitigated pertains to an item that is strategies for undertaking various accounting hedges. Additionally, the Corporation primarily uses regression analysis at the inception of a hedge and for each reporting period thereafter to assess whether the derivative used in an accounting hedge transaction is expected to be and has been highly effective in offsetting changes in the fair value or cash flows of a hedged item or forecasted transaction. The Corporation discontinues hedge accounting when it is determined that a derivative is not expected to be or has ceased to be highly effective as a hedge.

Fair value hedges are used to protect against changes in the fair value of the Corporation's assets and liabilities that are attributable to interest rate or foreign exchange volatility. Changes in the fair value of derivatives designated as fair value hedges are recorded in earnings, together and in the same income statement line item with changes in the fair value of the related hedged item. If a derivative instrument in a fair value hedge is terminated or the hedge designation removed, the previous adjustments to the carrying value of the hedged asset or liability are subsequently accounted for in the same manner as other components of the carrying value of that asset or liability. For interest-earning assets and interest-bearing liabilities, such adjustments are amortized to earnings over the remaining life of the respective asset or liability.

Cash flow hedges are used primarily to minimize the variability in cash flows of assets and liabilities or forecasted transactions caused by interest rate or foreign exchange rate fluctuations. The Corporation also uses cash flow hedges to hedge the price risk associated with deferred compensation. Changes in the fair value of derivatives used in cash flow hedges are recorded in accumulated other comprehensive income (OCI) and are reclassified into the line item in the income statement in which the hedged item is recorded in the same period the hedged item affects earnings. Components of a derivative that are excluded in assessing hedge effectiveness are recorded in the same income statement line item as the hedged item.

Net investment hedges are used to manage the foreign exchange rate sensitivity arising from a net investment in a foreign operation. Changes in the spot prices of derivatives that are designated as net investment hedges of foreign operations are recorded as a component of accumulated OCI. The remaining components of these derivatives are excluded in assessing hedge

on level-payment mortgage-backed HTM debt securities since their acquisition, the debt securities, if disposed, are treated as matured for classification purposes.

The Corporation evaluates each AFS security where the value has declined below amortized cost. If the Corporation intends to sell or believes it is more likely than not that it will be required to sell the debt security, it is written down to fair value through earnings. For AFS debt securities the Corporation intends to hold, the Corporation evaluates the debt securities for ECL, except for debt securities that are guaranteed by the U.S. Treasury, U.S. government agencies or sovereign entities of high credit quality where the Corporation applies a zero credit loss assumption. For the remaining AFS debt securities, the Corporation considers qualitative parameters such as internal and external credit ratings and the value of underlying collateral. If an AFS debt security fails any of the qualitative parameters, a discounted cash flow analysis is used by the Corporation to determine if a portion of the unrealized loss is a result of an ECL. The Corporation will then recognize either credit loss expense or a reversal of credit loss expense in other income for the amount necessary to adjust the debt securities valuation allowance to its current estimate of expected credit losses. Cash flows expected to be collected are estimated using all relevant information available such as remaining payment terms, prepayment speeds, the financial condition of the issuer, expected defaults and the value of the underlying collateral. If any of the decline in fair value is related to market factors, that amount is recognized in accumulated OCI. In certain instances, the credit loss may exceed the total decline in fair value, in which case, the allowance recorded is limited to the difference between the amortized cost and the fair value of the asset.

The Corporation separately evaluates its HTM debt securities for any credit losses, of which substantially all qualify for the zero loss assumption. For the remaining securities, the Corporation performs a discounted cash flow analysis to estimate any credit losses which are then recognized as part of the allowance for credit losses.

Interest on debt securities, including amortization of premiums and accretion of discounts, is included in interest income. Premiums and discounts are amortized or accreted to interest income at a constant effective yield over the contractual lives of the securities. Realized gains and losses from the sales or reported in interest income and changes in fair value reported in market making and similar activities or other income.

Under applicable accounting guidance, for reporting purposes, the loan and lease portfolio is categorized by portfolio segment and, within each portfolio segment, by class of financing receivable. A portfolio segment is defined as the level at which an entity develops and documents a systematic methodology to determine the allowance for credit losses, and a class of financing receivable is defined as the level of disaggregation of portfolio segments based on the initial measurement attribute, risk characteristics and methods for assessing risk. The Corporation’s three portfolio segments are Consumer Real Estate, Credit Card and Other Consumer, and Commercial. The classes within the Consumer Real Estate portfolio segment are residential mortgage and home equity. The classes within the Credit Card and Other Consumer portfolio segment are credit card, direct/indirect consumer and other consumer. The classes within the Commercial portfolio segment are U.S. commercial, non-U.S. commercial, commercial real estate, commercial lease financing and U.S. small business commercial.

Leases

The Corporation provides equipment financing to its customers through a variety of lessor arrangements. Direct financing leases and sales-type leases are carried at the aggregate of lease payments receivable plus the estimated residual value of the leased property less unearned income, which is accreted to interest income over the lease terms using methods that approximate the interest method. Operating lease income is recognized on a straight-line basis. The Corporation's lease arrangements generally do not contain non-lease components.

Allowance for Credit Losses

The ECL on funded consumer and commercial loans and leases is referred to as the allowance for loan and lease losses and is reported separately as a contra-asset to loans and leases on the Consolidated Balance Sheet. The ECL for unfunded lending commitments, including home equity lines of credit (HELOCs), standby letters of credit (SBLCs) and binding unfunded loan commitments is reported on the Consolidated Balance Sheet in accrued expenses and other liabilities. The provision for credit losses related to the loan and lease portfolio and unfunded lending commitments is reported in the Consolidated Statement of Income at the amount necessary to

unemployment rates, real estate prices, gross domestic product levels and corporate bond spreads. As any one economic outlook is inherently uncertain, the Corporation leverages multiple scenarios. 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, views of internal and third-party economists and industry trends.

The estimate of credit losses includes expected recoveries of amounts previously charged off (i.e., negative allowance). If a loan has been charged off, the expected cash flows on the loan are not limited by the current amortized cost balance. Instead, expected cash flows can be assumed up to the unpaid principal balance immediately prior to the charge-off.

Included in the allowance for loan and lease losses are qualitative reserves to cover losses that are expected but, in the Corporation's assessment, may not be adequately reflected in the quantitative methods or the economic assumptions described above. For example, factors that the Corporation considers include changes in lending policies and procedures, business conditions, the nature and size of the portfolio, portfolio concentrations, the volume and severity of past due loans and nonaccrual loans, the effect of external factors such as competition, and legal and regulatory requirements, among others. Further, the Corporation considers the inherent uncertainty in quantitative models that are built on historical data.

With the exception of the Corporation's credit card portfolio, the Corporation does not include reserves for interest receivable in the measurement of the allowance for credit losses as the Corporation generally classifies consumer loans as nonperforming at 90 days past due and reverses interest income for these loans at that time. For credit card loans, the Corporation reserves for interest and fees as part of the allowance for loan and lease losses. Upon charge-off of a credit card loan, the Corporation reverses the interest and fee income against the income statement line item where it was originally recorded.

The Corporation has identified the following three portfolio segments and measures the allowance for credit losses using the following methods.

Consumer Real Estate

To estimate ECL for consumer loans secured by residential real estate, the Corporation estimates the number of loans that will default over the life

The ECL associated with these unfunded lending commitments is calculated using the same models and methodologies noted above and incorporate utilization assumptions at time of default.

For loans that are more than 180 days past due, the Corporation bases the allowance on the estimated fair value of the underlying collateral as of the reporting date less costs to sell. The fair value of the collateral securing these loans is generally determined using an automated valuation model (AVM) that estimates the value of a property by reference to market data including sales of comparable properties and price trends specific to the Metropolitan Statistical Area in which the property being valued is located. In the event that an AVM value is not available, the Corporation utilizes publicized indices or if these methods provide less reliable valuations, the Corporation uses appraisals or broker price opinions to estimate the fair value of the collateral. While there is inherent imprecision in these valuations, the Corporation believes that they are representative of this portfolio in the aggregate.

For loans that are more than 180 days past due, with the exception of the Corporation’s fully insured portfolio, the outstanding balance of loans that is in excess of the estimated property value after adjusting for costs to sell is charged off. If the estimated property value decreases in periods subsequent to the initial charge-off, the Corporation will record an additional charge-off; however, if the value increases in periods subsequent to the charge-off, the Corporation will adjust the allowance to account for the increase but not to a level above the cumulative charge-off amount.

Credit Cards and Other Consumer

Credit cards are revolving lines of credit without a defined maturity date. The estimated life of a credit card receivable is determined by estimating the amount and timing of expected future payments (e.g., borrowers making full payments, minimum payments or somewhere in between) that it will take for a receivable balance to pay off. The ECL on the future payments incorporates the spending behavior of a borrower through time using key borrower-specific factors and the economic outlook described above. The Corporation applies all expected payments in accordance with the Credit Card Accountability Responsibility and Disclosure Act of 2009 (i.e., paying down the highest interest rate bucket first). Then forecasted future payments are prioritized to pay off the oldest balance until it is

remaining life of the commitment. For loans collateralized with commercial real estate and for which the underlying asset is the primary source of repayment, the loss forecasting models consider key loan and customer attributes such as LTV ratio, net operating income and debt service coverage, and captures variations in behavior according to property type and region. The outlook on the unemployment rate, gross domestic product, and forecasted real estate prices are utilized to determine indicators such as rent levels and vacancy rates, which impact the ECL estimate. For all other commercial loans and leases, the loss forecasting model determines the probabilities of transition to different credit risk ratings or default at each point over the life of the asset based on the borrower's current credit risk rating, industry sector, size of the exposure and the geographic market. The severity of loss is determined based on the type of collateral securing the exposure, the size of the exposure, the borrower's industry sector, any guarantors and the geographic market. Assumptions of expected loss are conditioned to the economic outlook, and the model considers key economic variables such as unemployment rate, gross domestic product, corporate bond spreads, real estate and other asset prices and equity market returns.

In addition to the allowance for loan and lease losses, the Corporation also estimates ECL related to unfunded lending commitments such as letters of credit, financial guarantees, unfunded bankers acceptances and binding loan commitments, excluding commitments accounted for under the fair value option. Reserves are estimated for the unfunded exposure using the same models and methodologies as the funded exposure and are reported as reserves for unfunded lending commitments.

Nonperforming Loans and Leases, Charge-offs and Delinquencies

Nonperforming loans and leases generally include loans and leases that have been placed on nonaccrual status. Loans accounted for under the fair value option and LHFS are not reported as nonperforming. When a nonaccrual loan is deemed uncollectible, it is charged off against the allowance for credit losses. If the charged-off amount is later recovered, the amount is reversed through the allowance for credit losses at the recovery date. Charge-offs are reported net of recoveries (net charge-offs). If recoveries for the period are greater than charge- offs, net charge-offs are reported as a negative amount.

60 days after receipt of notification of death or bankruptcy or upon confirmation of fraud. These loans continue to accrue interest until they are charged off and, therefore, are not reported as nonperforming loans. Consumer vehicle loans are placed on nonaccrual status when they become 90 days past due, within 60 days after receipt of notification of bankruptcy or death or upon confirmation of fraud. These loans are charged off to their collateral values when the loans become 120 days past due, upon repossession of the collateral, within 60 days after receipt of notification of bankruptcy or death or upon confirmation of fraud. If repossession of the collateral is not expected, the loans are fully charged off.

Commercial loans and leases, excluding business card loans, that are past due 90 days or more as to principal or interest, or where reasonable doubt exists as to timely collection, including loans that are individually identified as being impaired, are generally placed on nonaccrual status and classified as nonperforming unless well-secured and in the process of collection.

Business card loans are charged off in the same manner as consumer credit card loans. Other commercial loans and leases are generally charged off when all or a portion of the principal amount is determined to be uncollectible.

The entire balance of a consumer loan or commercial loan or lease is contractually delinquent if the minimum payment is not received by the specified due date on the customer's billing statement. Interest and fees continue to accrue on past due loans and leases until the date the loan is placed on nonaccrual status, if applicable. Accrued interest receivable is reversed when loans and leases are placed on nonaccrual status. Interest collections on nonaccruing loans and leases for which the ultimate collectability of principal is uncertain are applied as principal reductions; otherwise, such collections are credited to income when received. Loans and leases may be restored to accrual status when all principal and interest is current and full repayment of the remaining contractual principal and interest is expected.

Loans Held-for-sale

Loans that the Corporation intends to sell in the foreseeable future, including residential mortgages, loan syndications, and to a lesser degree, commercial real estate, consumer finance and other loans, are reported as LHFS and are carried at the lower of aggregate cost or fair value. The Corporation accounts for certain LHFS,

and leases on the Consolidated Balance Sheet, the Corporation evaluates these assets for ECL using various techniques. For assets that are subject to collateral maintenance provisions, including federal funds sold and securities borrowed or purchased under agreements to resell, where the collateral consists of daily margining of liquid and marketable assets where the margining is expected to be maintained into the foreseeable future, the expected losses are assumed to be zero. For all other assets, the Corporation performs qualitative analyses, including consideration of historical losses and current economic conditions, to estimate any ECL which are then included in a valuation account that is recorded as a contra-asset against the amortized cost basis of the financial asset.

Lessee Arrangements

Substantially all of the Corporation's lessee arrangements are operating leases. Under these arrangements, the Corporation records right-of-use assets and lease liabilities at lease commencement. Right-of-use assets are reported in other assets on the Consolidated Balance Sheet, and the related lease liabilities are reported in accrued expenses and other liabilities. All leases are recorded on the Consolidated Balance Sheet except leases with an initial term less than 12 months for which the Corporation made the short-term lease election. Lease expense is recognized on a straight-line basis over the lease term and is recorded in occupancy and equipment expense in the Consolidated Statement of Income.

The Corporation made an accounting policy election not to separate lease and non-lease components of a contract that is or contains a lease for its real estate and equipment leases. As such, lease payments represent payments on both lease and non-lease components. At lease commencement, lease liabilities are recognized based on the present value of the remaining lease payments and discounted using the Corporation's incremental borrowing rate. Right-of-use assets initially equal the lease liability, adjusted for any lease payments made prior to lease commencement and for any lease incentives.

Goodwill and Intangible Assets

Goodwill is the purchase premium after adjusting for the fair value of net assets acquired. Goodwill is not amortized but is reviewed for potential impairment on an annual basis, or when events or circumstances indicate a potential impairment, at the reporting unit level. A reporting unit is a business segment or one level below a business quantitative assessment is performed. The Corporation has an unconditional option to bypass the qualitative assessment for any reporting unit in any period and proceed directly to performing the quantitative goodwill impairment test. The Corporation may resume performing the qualitative assessment in any subsequent period.

When performing the quantitative assessment, if the fair value of the reporting unit exceeds its carrying value, goodwill of the reporting unit would not be considered impaired. If the carrying value of the reporting unit exceeds its fair value, a goodwill impairment loss would be recognized for the amount by which the reporting unit's allocated equity exceeds its fair value. An impairment loss recognized cannot exceed the amount of goodwill assigned to a reporting unit. An impairment loss establishes a new basis in the goodwill, and subsequent reversals of goodwill impairment losses are not permitted under applicable accounting guidance.

For intangible assets subject to amortization, an impairment loss is recognized if the carrying value of the intangible asset is not recoverable and exceeds fair value. The carrying value of the intangible asset is considered not recoverable if it exceeds the sum of the undiscounted cash flows expected to result from the use of the asset. Intangible assets deemed to have indefinite useful lives are not subject to amortization. An impairment loss is recognized if the carrying value of the intangible asset with an indefinite life exceeds its fair value.

Variable Interest Entities

A VIE is an entity that lacks equity investors or whose equity investors do not have a controlling financial interest in the entity through their equity investments. The Corporation consolidates a VIE if it has both the power to direct the activities of the VIE that most significantly impact the VIE's economic performance and an obligation to absorb losses or the right to receive benefits that could potentially be significant to the VIE. On a quarterly basis, the Corporation reassesses its involvement with the VIE and evaluates the impact of changes in governing documents and its financial interests in the VIE. The consolidation status of the VIEs with which the Corporation is involved may change as a result of such reassessments.

The Corporation primarily uses VIEs for its securitization activities, in which the Corporation transfers whole loans or debt securities into a trust or other vehicle. When the Corporation is the servicer of whole loans held in a securitization trust, including non-agency residential mortgages,

there are no ongoing activities, sole discretion over the design of the trust, including the identification of securities to be transferred in and the structure of securities to be issued, and also retains securities or has liquidity or other commitments that could potentially be significant to the trust. The Corporation does not consolidate a municipal bond or resecuritization trust if one or a limited number of third-party investors share responsibility for the design of the trust or have control over the significant activities of the trust through liquidation or other substantive rights.

Other VIEs used by the Corporation include collateralized debt obligations (CDOs), investment vehicles created on behalf of customers and other investment vehicles. The Corporation does not routinely serve as collateral manager for CDOs and, therefore, does not typically have the power to direct the activities that most significantly impact the economic performance of a CDO. However, following an event of default, if the Corporation is a majority holder of senior securities issued by a CDO and acquires the power to manage its assets, the Corporation consolidates the CDO.

The Corporation consolidates a customer or other investment vehicle if it has control over the initial design of the vehicle or manages the assets in the vehicle and also absorbs potentially significant gains or losses through an investment in the vehicle, derivative contracts or other arrangements. The Corporation does not consolidate an investment vehicle if a single investor controlled the initial design of the vehicle or manages the assets in the vehicles or if the Corporation does not have a variable interest that could potentially be significant to the vehicle.

Retained interests in securitized assets are initially recorded at fair value. In addition, the Corporation may invest in debt securities issued by unconsolidated VIEs. Fair values of these debt securities, which are classified as trading account assets, debt securities carried at fair value or HTM securities, are based primarily on quoted market prices in active or inactive markets. Generally, quoted market prices for retained residual interests are not available; therefore, the Corporation estimates fair values based on the present value of the associated expected future cash flows.

Fair Value

The Corporation measures the fair values of its assets and liabilities, where applicable, in accordance with accounting guidance that requires an entity to base fair value on exit price. Under this guidance, an entity is required to

that are observable or can be corroborated by observable market data for substantially the full term of the assets or liabilities. Level 2 assets and liabilities include debt securities with quoted prices that are traded less frequently than exchange-traded instruments and derivative contracts where fair value is determined using a pricing model with inputs that are observable in the market or can be derived principally from or corroborated by observable market data. This category generally includes U.S. government and agency mortgage-backed (MBS) and asset-backed securities (ABS), corporate debt securities, derivative contracts, certain loans and LHFS.

Level 3 Unobservable inputs that are supported by little or no market activity and that are significant to the overall fair value of the assets or liabilities. Level 3 assets and liabilities include financial instruments for which the determination of fair value requires significant management judgment or estimation. The fair value for such assets and liabilities is generally determined using pricing models, discounted cash flow methodologies or similar techniques that incorporate the assumptions a market participant would use in pricing the asset or liability. This category generally includes retained residual interests in securitizations, consumer MSRs, certain ABS, highly structured, complex or long-dated derivative contracts, certain loans and LHFS, IRLCs and certain CDOs where independent pricing information cannot be obtained for a significant portion of the underlying assets.

Income Taxes

There are two components of income tax expense: current and deferred. Current income tax expense reflects taxes to be paid or refunded for the current period. Deferred income tax expense results from changes in deferred tax assets and liabilities between periods. These gross deferred tax assets and liabilities represent decreases or increases in taxes expected to be paid in the future because of future reversals of temporary differences in the bases of assets and liabilities as measured by tax laws and their bases as reported in the financial statements. Deferred tax assets are also recognized for tax attributes such as net operating loss carryforwards and tax credit carryforwards. Valuation allowances are recorded

of direct costs. Interchange fees are recognized upon settlement of the credit and debit card payment transactions and are generally determined on a percentage basis for credit cards and fixed rates for debit cards based on the corresponding payment network's rates. Substantially all card fees are recognized at the transaction date, except for certain time-based fees such as annual fees, which are recognized over 12 months. Fees charged to cardholders and merchants that are estimated to be uncollectible are reserved in the allowance for loan and lease losses. Included in direct cost are rewards and credit card partner payments. Rewards paid to cardholders are related to points earned by the cardholder that can be redeemed for a broad range of rewards including cash, travel and gift cards. The points to be redeemed are estimated based on past redemption behavior, card product type, account transaction activity and other historical card performance. The liability is reduced as the points are redeemed. The Corporation also makes payments to credit card partners. The payments are based on revenue-sharing agreements that are generally driven by cardholder transactions and partner sales volumes. As part of the revenue-sharing agreements, the credit card partner provides the Corporation exclusive rights to market to the credit card partner's members or customers on behalf of the Corporation.

Service Charges

Service charges include deposit and lending-related fees. Deposit-related fees consist of fees earned on consumer and commercial deposit activities and are generally recognized when the transactions occur or as the service is performed. Consumer fees are earned on consumer deposit accounts for account maintenance and various transaction-based services, such as ATM transactions, wire transfer activities, check and money order processing and insufficient funds/overdraft transactions. Commercial deposit-related fees are from the Corporation's Global Transaction Services business and consist of commercial deposit and treasury management services, including account maintenance and other services, such as payroll, sweep account and other cash management services. Lending-related fees generally represent transactional fees earned from certain loan commitments, financial guarantees and SBLCs.

Investment and Brokerage Services

Investment and brokerage services consist of asset management and brokerage fees. Asset products or when it acknowledges, affirms, settles and clears transactions and/or submits trade information to the appropriate clearing broker. Certain customers pay brokerage, clearing and/or exchange fees imposed by relevant regulatory bodies or exchanges in order to execute or clear trades. These fees are recorded net and are not reflected in the transaction price, as the Corporation is an agent for those services.

Investment Banking Income

Investment banking income includes underwriting income and financial advisory services income. Underwriting consists of fees earned for the placement of a customer's debt or equity securities. The revenue is generally earned based on a percentage of the fixed number of shares or principal placed. Once the number of shares or notes is determined and the service is completed, the underwriting fees are recognized. The Corporation incurs certain out-of-pocket expenses, such as legal costs, in performing these services. These expenses are recovered through the revenue the Corporation earns from the customer and are included in operating expenses. Syndication fees represent fees earned as the agent or lead lender responsible for structuring, arranging and administering a loan syndication.

Financial advisory services consist of fees earned for assisting clients with transactions related to mergers and acquisitions and financial restructurings. Revenue varies depending on the size of the transaction and scope of services performed and is generally contingent on successful completion of the transaction. Revenue is typically recognized once the transaction is completed and all services have been rendered. Additionally, the Corporation may earn a fixed fee in merger and acquisition transactions to provide a fairness opinion, with the fees recognized when the opinion is delivered to the client.

Other Revenue Measurement and Recognition Policies

The Corporation did not disclose the value of any open performance obligations at December 31, 2023, as its contracts with customers generally have a fixed term that is less than one year, an open term with a cancellation period that is less than one year, or provisions that allow the Corporation to recognize revenue at the amount it has the right to invoice.

Earnings Per Common Share

Earnings per common share (EPS) is computed by dividing net income allocated to common shareholders by the weighted-average common shares outstanding, excluding unvested common

Foreign Currency Translation

Assets, liabilities and operations of foreign branches and subsidiaries are recorded based on the functional currency of each entity. When the functional currency of a foreign operation is the local currency, the assets, liabilities and operations are translated, for consolidation purposes, from the local currency to the U.S. dollar reporting currency at period-end rates for assets and liabilities and generally at average rates for results of operations. The resulting unrealized gains and losses are reported as a component of accumulated OCI, net-of-tax. When the foreign entity's functional currency is the U.S. dollar, the resulting remeasurement gains or losses on foreign currency-denominated assets or liabilities are included in earnings.

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 2023, 2022 and 2021. For more information, see Note 1 – Summary of Significant Accounting Principles. For a disaggregation of noninterest income by business segment and All Other, see Note 23 – Business Segment Information.

(Dollars in millions)	2023	2022	2021
Net interest income			
Interest income			
Loans and leases	**$ 57,124**	$ 37,919	$ 29,282
Debt securities	**20,226**	17,127	12,376
Federal funds sold and securities borrowed or purchased under agreements to resell [1]	**18,679**	4,560	(90)
Trading account assets	**8,773**	5,521	3,770
Other interest income	**25,460**	7,438	2,334
Total interest income	**130,262**	72,565	47,672
Interest expense			
Deposits	**26,163**	4,718	537
Short-term borrowings [1]	**30,553**	6,978	(358)
Trading account liabilities	**2,043**	1,538	1,128
Long-term debt	**14,572**	6,869	3,431
Total interest expense	**73,331**	20,103	4,738
Net interest income	**$ 56,931**	$ 52,462	$ 42,934
Noninterest income			
Fees and commissions			
Card income			
Interchange fees [2]	**$ 3,983**	$ 4,096	$ 4,560
Other card income	**2,071**	1,987	1,658
Total card income	**6,054**	6,083	6,218
Service charges			
Deposit-related fees	**4,382**	5,190	6,271
Lending-related fees	**1,302**	1,215	1,233
Total service charges	**5,684**	6,405	7,504
Investment and brokerage services			
Asset management fees	**12,002**	12,152	12,729
Brokerage fees	**3,561**	3,749	3,961
Total investment and brokerage services	**15,563**	15,901	16,690
Investment banking fees			
Underwriting income	**2,235**	1,970	5,077
Syndication fees	**898**	1,070	1,499
Financial advisory services	**1,575**	1,783	2,311
Total investment banking fees	**4,708**	4,823	8,887
Total fees and commissions	**32,009**	33,212	39,299
Market making and similar activities	**12,732**	12,075	8,691
Other income (loss)	**(3,091)**	(2,799)	(1,811)
Total noninterest income	**$ 41,650**	$ 42,488	$ 46,179

(1) For more information on negative interest, see Note 1 – Summary of Significant Accounting Principles.

(2) Gross interchange fees and merchant income were $13.3 billion, $12.9 billion and $11.5 billion for 2023, 2022 and 2021, respectively, and are presented net of $9.3 billion, $8.8 billion and $6.9 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. The following tables present derivative instruments included on the Consolidated Balance Sheet in derivative assets and liabilities at December 31, 2023 and 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.

		December 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	**$ 15,715.2**	**$ 78.4**	**$ 7.9**	**$ 86.3**	**$ 66.6**	**$ 18.5**	**$ 85.1**
Futures and forwards	**2,803.8**	**5.1**	**—**	**5.1**	**7.0**	**—**	**7.0**
Written options [2]	**1,807.7**	**—**	**—**	**—**	**31.7**	**—**	**31.7**
Purchased options [3]	**1,714.9**	**32.9**	**—**	**32.9**	**—**	**—**	**—**
Foreign exchange contracts							
Swaps	**1,814.7**	**41.1**	**0.2**	**41.3**	**38.2**	**0.5**	**38.7**
Spot, futures and forwards	**3,561.7**	**37.2**	**6.1**	**43.3**	**40.3**	**6.2**	**46.5**
Written options [2]	**462.8**	**—**	**—**	**—**	**6.8**	**—**	**6.8**
Purchased options [3]	**405.3**	**6.2**	**—**	**6.2**	**—**	**—**	**—**
Equity contracts							
Swaps	**427.0**	**13.3**	**—**	**13.3**	**16.7**	**—**	**16.7**
Futures and forwards	**136.9**	**2.1**	**—**	**2.1**	**1.6**	**—**	**1.6**
Written options [2]	**854.9**	**—**	**—**	**—**	**50.1**	**—**	**50.1**
Purchased options [3]	**716.2**	**44.1**	**—**	**44.1**	**—**	**—**	**—**
Commodity contracts							
Swaps	**59.0**	**3.1**	**—**	**3.1**	**4.5**	**—**	**4.5**
Futures and forwards	**187.8**	**3.8**	**—**	**3.8**	**3.1**	**0.4**	**3.5**
Written options [2]	**67.1**	**—**	**—**	**—**	**3.3**	**—**	**3.3**
Purchased options [3]	**70.9**	**3.0**	**—**	**3.0**	**—**	**—**	**—**
Credit derivatives [4]							
Purchased credit derivatives:							
Credit default swaps	**312.8**	**1.7**	**—**	**1.7**	**2.5**	**—**	**2.5**
Total return swaps/options	**69.4**	**0.8**	**—**	**0.8**	**1.3**	**—**	**1.3**
Written credit derivatives:							
Credit default swaps	**289.1**	**2.2**	**—**	**2.2**	**1.6**	**—**	**1.6**
Total return swaps/options	**68.6**	**1.1**	**—**	**1.1**	**0.3**	**—**	**0.3**
Gross derivative assets/ liabilities		**$ 276.1**	**$ 14.2**	**$ 290.3**	**$ 275.6**	**$ 25.6**	**$ 301.2**
Less: Legally enforceable master netting agreements				**(221.6)**			**(221.6)**
Less: Cash collateral received/ paid				**(29.4)**			**(36.2)**
Total derivative assets/ liabilities				**$ 39.3**			**$ 43.4**

(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 $520 million and $266.5 billion at December 31, 2023.

(Dollars in billions)	Contract/ Notional [1]	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
		December 31, 2022					
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. Where legally enforceable, these master netting agreements give the Corporation, in the event of default by the counterparty, the right to liquidate securities held as collateral and to offset receivables and payables with the same counterparty. For purposes of the Consolidated Balance Sheet, the Corporation offsets derivative assets and liabilities and cash collateral held with the same counterparty where it has such a legally enforceable master netting agreement.

The following table presents derivative instruments included in derivative assets and liabilities on the Consolidated Balance Sheet at December 31, 2023 and 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 10 – Securities Financing Agreements, Short-term Borrowings, Collateral and Restricted Cash.

Offsetting of Derivatives [1]

(Dollars in billions)	**Derivative Assets**	**Derivative Liabilities**	Derivative Assets	Derivative Liabilities
	December 31, 2023		December 31, 2022	
Interest rate contracts				
Over-the-counter	**$ 119.2**	**$ 117.7**	$ 138.4	$ 132.3
Exchange-traded	**0.2**	**0.2**	0.4	0.1
Over-the-counter cleared	**4.4**	**3.3**	71.4	71.1
Foreign exchange contracts				
Over-the-counter	**89.7**	**90.4**	109.7	110.6
Over-the-counter cleared	**0.2**	**0.2**	1.3	1.2
Equity contracts				
Over-the-counter	**24.7**	**32.2**	21.5	22.6
Exchange-traded	**34.4**	**33.9**	33.0	33.8
Commodity contracts				
Over-the-counter	**6.6**	**8.4**	8.3	9.3
Exchange-traded	**2.3**	**2.1**	2.4	1.9
Over-the-counter cleared	**0.4**	**0.5**	0.3	0.3
Credit derivatives				
Over-the-counter	**5.7**	**5.6**	8.9	7.5
Total gross derivative assets/liabilities, before netting				
Over-the-counter	**245.9**	**254.3**	286.8	282.3
Exchange-traded	**36.9**	**36.2**	35.8	35.8
Over-the-counter cleared	**5.0**	**4.0**	73.0	72.6
Less: Legally enforceable master netting agreements and cash collateral received/paid				
Over-the-counter	**(212.1)**	**(218.9)**	(243.8)	(248.2)
Exchange-traded	**(35.4)**	**(35.4)**	(33.5)	(33.5)
Over-the-counter cleared	**(3.5)**	**(3.5)**	(72.4)	(72.0)
Derivative assets/liabilities, after netting	**36.8**	**36.7**	45.9	37.0
Other gross derivative assets/liabilities [2]	**2.5**	**6.7**	2.7	7.8
Total derivative assets/liabilities	**39.3**	**43.4**	48.6	44.8
Less: Financial instruments collateral [3]	**(15.5)**	**(13.0)**	(18.5)	(7.4)
Total net derivative assets/liabilities	**$ 23.8**	**$ 30.4**	$ 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.

ALM and Risk Management Derivatives

The Corporation's ALM and risk management activities include the use of derivatives to mitigate risk to the Corporation including derivatives designated in qualifying hedge accounting relationships and derivatives used in other risk management activities. Interest rate, foreign exchange, equity, commodity and credit contracts are utilized in the Corporation's ALM and risk management activities.

The Corporation maintains an overall interest rate risk management strategy that incorporates the use of interest rate contracts, which are generally non-leveraged generic interest rate and basis swaps, options, futures and forwards, to minimize significant fluctuations in earnings caused by interest rate volatility. The Corporation's goal is to manage interest rate sensitivity and volatility so that movements in interest rates do not significantly adversely affect earnings or capital. As a result of interest rate fluctuations, hedged fixed-rate assets and liabilities appreciate or depreciate in fair value. Gains or losses on the derivative instruments that are linked to the hedged fixed-rate assets and liabilities are expected to substantially offset this unrealized appreciation or depreciation.

Market risk, including interest rate risk, can be substantial in the mortgage business. Market risk in the mortgage business is the risk that values of mortgage assets or revenues will be adversely affected by changes in market conditions such as interest rate movements. To mitigate the interest rate risk in mortgage banking production income, the Corporation utilizes forward loan sale commitments and other derivative instruments, including purchased options, and certain debt securities. The Corporation also utilizes derivatives such as interest rate options, interest rate swaps, forward settlement contracts and eurodollar futures to hedge certain market risks of MSRs.

The Corporation uses foreign exchange contracts to manage the foreign exchange risk associated with certain foreign currency-denominated assets and liabilities, as well as the Corporation's investments in non-U.S. subsidiaries. Exposure to loss on these contracts will increase or decrease over their respective lives as currency exchange and interest rates fluctuate.

The Corporation purchases credit derivatives to manage credit risk related to certain funded and unfunded credit exposures. Credit derivatives include credit default swaps (CDS), total return swaps and swaptions. These derivatives are recorded on the Consolidated Balance Sheet at fair value with changes in fair value recorded in other income.

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 2023, 2022 and 2021.

Gains and Losses on Derivatives Designated as Fair Value Hedges

	Derivative			Hedged Item		
(Dollars in millions)	**2023**	2022	2021	**2023**	2022	2021
Interest rate risk on long-term debt [1]	**$ 3,594**	$ (26,654)	$ (7,018)	**$ (3,652)**	$ 26,825	$ 6,838
Interest rate and foreign currency risk [2]	**(17)**	(120)	(90)	**27**	119	79
Interest rate risk on available-for-sale securities [3]	**(3,518)**	21,991	5,203	**3,417**	(22,280)	(5,167)
Price risk on commodity inventory [4]	**2**	674	—	**(2)**	(674)	—
Total	**$ 61**	$ (4,109)	$ (1,905)	**$ (210)**	$ 3,990	$ 1,750

(1) Amounts are recorded in interest expense in the Consolidated Statement of Income.

(2) Represents cross-currency interest rate swaps related to available-for-sale debt securities and long-term debt. For 2023, 2022 and 2021, the derivative amount includes gains (losses) of $6 million, $0 and $0 in interest income, $13 million, $(37) million and $(73) million in interest expense, $(51) million, $(81) million and $0 in market making and similar activities, and $15 million, $(2) million and $(17) million in accumulated OCI, respectively. 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

	December 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]	**$ 203,986**	**$ (5,767)**	$ 187,402	$ (21,372)
Available-for-sale debt securities [2, 3, 4]	134,077	**(1,793)**	167,518	(18,190)
Trading account assets [5]	**7,475**	**414**	16,119	146

(1) Increase (decrease) to carrying value.

(2) At December 31, 2023 and 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 $10.5 billion and an increase of $137 million in the related liability and a decrease in the related asset of $5.6 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 December 31, 2023

and 2022, the amortized cost of the closed portfolios used in these hedging relationships was $39.1 billion and $21.4 billion, of which $22.5 billion and $9.2 billion were designated in a portfolio layer hedging relationship. At December 31, 2023 and 2022, the cumulative adjustment associated with these hedging relationships was an increase of $48 million and a decrease of $451 million.

(4) Carrying value represents amortized cost.

(5) Represents hedging activities related to certain commodities inventory.

Cash Flow and Net Investment Hedges

The following table summarizes certain information related to cash flow hedges and net investment hedges for 2023, 2022 and 2021. Of the $8.0 billion after-tax net loss ($10.7 billion pretax) on derivatives in accumulated OCI at December 31, 2023, losses of $3.4 billion after-tax ($4.6 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 ten 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.

On November 15, 2023, Bloomberg Index Services Limited announced the permanent cessation of the Bloomberg Short-Term Bank Yield Index (BSBY) and all its tenors effective after final publication on November 15, 2024. The Corporation determined that certain forecasted BSBY-indexed interest payments, which had been designated in cash flow hedges, were no longer expected to occur beyond November 15, 2024 as they will transition to a new reference rate. Accordingly, during the fourth quarter of 2023, the Corporation reclassified $2.0 billion of pretax loss from accumulated OCI into market making and similar activities for the amount related to these forecasted transactions.

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

	Gains (Losses) Recognized in Accumulated OCI on Derivatives			Gains (Losses) in Income Reclassified from Accumulated OCI		
(Dollars in millions, amounts pretax)	**2023**	2022	2021	**2023**	2022	2021
Cash flow hedges						
Interest rate risk on variable-rate portfolios [1]	**$ 1,995**	$ (13,492)	$ (2,686)	**$ (3,176)**	$ (338)	$ 148
Price risk on forecasted MBS purchases [1]	**6**	(129)	(249)	**(2)**	11	26
Price risk on certain compensation plans [2]	**48**	(88)	93	**25**	29	55
Total	**$ 2,049**	$ (13,709)	$ (2,842)	**$ (3,153)**	$ (298)	$ 229
Net investment hedges						
Foreign exchange risk [3]	**$ (808)**	$ 1,710	$ 1,451	**$ 143**	$ 3	$ 23

(1) Amounts reclassified from accumulated OCI are recorded in interest income and market making and similar activities 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. Amounts excluded from effectiveness testing and recognized in market making and similar activities were gains of $195 million and losses of $38 million and $123 million in 2023, 2022 and 2021, respectively.

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 2023, 2022 and 2021. These gains (losses) are largely offset by the income or expense recorded on the hedged item.

Gains and Losses on Other Risk Management Derivatives

(Dollars in millions)	**2023**	2022	2021
Interest rate risk on mortgage activities [1, 2]	**$ 16**	$ (326)	$ (18)
Credit risk on loans [2]	**(70)**	(37)	(25)
Interest rate and foreign currency risk on asset and liability management activities [3]	**777**	4,713	1,757
Price risk on certain compensation plans [4]	**584**	(1,073)	917

(1) Includes hedges of interest rate risk on MSRs and 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. For 2023, includes $447 million of positive fair value adjustments related to the interest rate swaps that occurred after de-designation of BSBY hedges and prior to re-designation of the interest rate swaps into new hedges.

(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 December 31, 2023 and 2022, the Corporation had transferred $4.1 billion and $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 $4.2 billion and $4.9 billion at the transfer dates. At December 31, 2023 and 2022, the fair value of the transferred securities was $4.1 billion and $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. The related sales and trading revenue generated within Global Markets is recorded in various income statement line items, including market making and similar activities and net interest income as well as other revenue categories.

Sales and trading revenue includes changes in the fair value and realized gains and losses on the sales of trading and other assets, net interest income, and fees primarily from commissions on equity securities. Revenue is generated by the difference in the client price for an instrument and the price at which the trading desk can execute the trade in the dealer market. For equity securities, commissions related to purchases and sales are recorded in the "Other" column in the Sales and Trading Revenue table. Changes in the fair value of these securities are included in market making and similar activities. For debt securities, revenue, with the exception of interest associated with the debt securities, is typically included in market making and similar activities. Unlike commissions for equity securities, the initial revenue related to broker-dealer services for debt securities is typically included in the pricing of the instrument rather than being charged through separate fee arrangements. Therefore, this revenue is recorded in market making and similar activities as part of the initial mark to fair value. For derivatives, the majority of revenue is included in market making and similar activities. In transactions where the Corporation acts as agent, which include exchange-traded futures and options, fees are recorded in other income.

The following table, 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 2023, 2022 and 2021. This table includes debit valuation adjustment (DVA) and funding valuation adjustment (FVA) gains (losses). Global Markets results in Note 23 – Business Segment Information are presented on a fully taxable-equivalent (FTE) basis. The following table is not presented on an FTE basis.

Sales and Trading Revenue

(Dollars in millions)	Market making and similar activities	Net Interest Income	Other [1]	Total
		2023		
Interest rate risk	**$ 3,192**	**$ 366**	**$ 402**	**$ 3,960**
Foreign exchange risk	**1,800**	**149**	**87**	**2,036**
Equity risk	**6,628**	**(1,955)**	**1,774**	**6,447**
Credit risk	**1,205**	**2,462**	**340**	**4,007**
Other risk [2]	**602**	**(155)**	**(67)**	**380**
Total sales and trading revenue	**$ 13,427**	**$ 867**	**$ 2,536**	**$ 16,830**
		2022		
Interest rate risk	$ 1,919	$ 1,619	$ 392	$ 3,930
Foreign exchange risk	1,981	46	(44)	1,983
Equity risk	6,077	(1,288)	1,757	6,546
Credit risk	592	2,228	177	2,997
Other risk [2]	835	(171)	15	679
Total sales and trading revenue	$ 11,404	$ 2,434	$ 2,297	$ 16,135
		2021		
Interest rate risk	$ 523	$ 1,794	$ 217	$ 2,534
Foreign exchange risk	1,505	(80)	14	1,439
Equity risk	4,581	(5)	1,834	6,410
Credit risk	1,390	1,684	556	3,630
Other risk [2]	759	(128)	124	755
Total sales and trading revenue	$ 8,758	$ 3,265	$ 2,745	$ 14,768

(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 $2.0 billion, $2.0 billion and $1.9 billion in 2023, 2022 and 2021, respectively.

(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 derive value based on an underlying third-party referenced obligation or a portfolio of referenced obligations and generally require the Corporation, as the seller of credit protection, to make payments to a buyer upon the occurrence of a predefined credit event. Such credit events generally include bankruptcy of the referenced credit entity and failure to pay under the obligation, as well as acceleration of indebtedness and payment repudiation or moratorium. For credit derivatives based on a portfolio of referenced credits or credit indices, the Corporation may not be required to make payment until a specified amount of loss has occurred and/or may only be required to make payment up to a specified amount.

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.

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

Credit Derivative Instruments

(Dollars in millions)	Less than One Year	One to Three Years	Three to Five Years	Over Five Years	Total
	December 31, 2023				
	Carrying Value				
Credit default swaps:					
Investment grade	**$ —**	**$ 11**	**$ 26**	**$ 20**	**$ 57**
Non-investment grade	**38**	**277**	**601**	**595**	**1,511**
Total	**38**	**288**	**627**	**615**	**1,568**
Total return swaps/options:					
Investment grade	**59**	**—**	**—**	**—**	**59**
Non-investment grade	**149**	**69**	**56**	**5**	**279**
Total	**208**	**69**	**56**	**5**	**338**
Total credit derivatives	**$ 246**	**$ 357**	**$ 683**	**$ 620**	**$ 1,906**
Credit-related notes:					
Investment grade	**$ —**	**$ —**	**$ —**	**$ 859**	**$ 859**
Non-investment grade	**—**	**5**	**16**	**1,103**	**1,124**
Total credit-related notes	**$ —**	**$ 5**	**$ 16**	**$ 1,962**	**$ 1,983**
	Maximum Payout/Notional				
Credit default swaps:					
Investment grade	**$ 33,750**	**$ 65,015**	**$ 83,313**	**$ 17,023**	**$ 199,101**
Non-investment grade	**18,061**	**32,155**	**33,934**	**5,827**	**89,977**
Total	**51,811**	**97,170**	**117,247**	**22,850**	**289,078**
Total return swaps/options:					
Investment grade	**40,515**	**1,503**	**1,561**	**23**	**43,602**
Non-investment grade	**20,694**	**1,414**	**1,907**	**988**	**25,003**
Total	**61,209**	**2,917**	**3,468**	**1,011**	**68,605**
Total credit derivatives	**$ 113,020**	**$ 100,087**	**$ 120,715**	**$ 23,861**	**$ 357,683**
	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

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 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

The Corporation executes the majority of its derivative contracts in the OTC market with large, international financial institutions, including broker-dealers and, to a lesser degree, with a variety of nonfinancial companies. A significant majority of the derivative transactions are executed on a daily margin basis. Therefore, events such as a credit rating downgrade (depending on the ultimate rating level) or a breach of credit covenants would typically require an increase in the amount of collateral

required of the counterparty, where applicable, and/or allow the Corporation to take additional protective measures such as early termination of all trades. Further, as previously discussed on page 105, the Corporation enters into legally enforceable master netting agreements that reduce risk by permitting closeout and netting of transactions with the same counterparty upon the occurrence of certain events.

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 December 31, 2023 and 2022, the Corporation held cash and securities collateral of $104.1 billion and $101.3 billion and posted cash and securities collateral of $93.4 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.

At December 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 $2.5 billion, including $1.1 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 December 31, 2023 and 2022, the liability recorded for these derivative contracts was not

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

(Dollars in millions)	One Incremental Notch	Second Incremental Notch
Additional collateral required to be posted upon downgrade		
Bank of America Corporation	$ 134	$ 902
Bank of America, N.A. and subsidiaries [1]	45	729
Derivative liabilities subject to unilateral termination upon downgrade		
Derivative liabilities	$ 7	$ 36
Collateral posted	6	23

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

Valuation Adjustments on Derivatives

The Corporation records credit risk valuation adjustments on derivatives in order to properly reflect the credit quality of the counterparties and its own credit quality. The Corporation calculates valuation adjustments on derivatives based on a modeled expected exposure that incorporates current market risk factors. The exposure also takes into consideration credit mitigants such as enforceable master netting agreements and collateral. CDS spread data is used to estimate the default probabilities and severities that are applied to the exposures. Where no observable credit default data is available for counterparties, the Corporation uses proxies and other market data to estimate default probabilities and severity.

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 2023, 2022 and 2021. CVA gains reduce the cumulative CVA thereby increasing the derivative assets balance. DVA gains increase the cumulative DVA thereby decreasing the derivative liabilities balance. CVA and DVA losses have the opposite impact. FVA gains related to derivative assets reduce the cumulative FVA thereby increasing the derivative assets balance. FVA gains related to derivative liabilities increase the cumulative FVA thereby

NOTE 4 Securities

The table below presents the amortized cost, gross unrealized gains and losses, and fair value of AFS debt securities, other debt securities carried at fair value and HTM debt securities at December 31, 2023 and 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
	December 31, 2023				December 31, 2022			
Available-for-sale debt securities								
Mortgage-backed securities:								
Agency	**$ 39,195**	**$ 37**	**$ (1,420)**	**$ 37,812**	$ 25,204	$ 5	$ (1,767)	$ 23,442
Agency-collateralized mortgage obligations	**2,739**	**6**	**(201)**	**2,544**	2,452	—	(231)	2,221
Commercial	**10,909**	**40**	**(514)**	**10,435**	6,894	28	(515)	6,407
Non-agency residential [1]	**449**	**3**	**(70)**	**382**	461	15	(90)	386
Total mortgage-backed securities	**53,292**	**86**	**(2,205)**	**51,173**	35,011	48	(2,603)	32,456
U.S. Treasury and government agencies	**179,108**	**19**	**(1,461)**	**177,666**	160,773	18	(1,769)	159,022
Non-U.S. securities	**22,868**	**27**	**(20)**	**22,875**	13,455	4	(52)	13,407
Other taxable securities	**4,910**	**1**	**(76)**	**4,835**	4,728	1	(84)	4,645
Tax-exempt securities	**10,304**	**17**	**(221)**	**10,100**	11,518	19	(279)	11,258
Total available-for-sale debt securities	**270,482**	**150**	**(3,983)**	**266,649**	225,485	90	(4,787)	220,788
Other debt securities carried at fair value [2]	**10,202**	**56**	**(55)**	**10,203**	8,986	376	(156)	9,206
Total debt securities carried at fair value	**280,684**	**206**	**(4,038)**	**276,852**	234,471	466	(4,943)	229,994
Held-to-maturity debt securities								
Agency mortgage-backed securities	**465,456**	**—**	**(78,930)**	**386,526**	503,233	—	(87,319)	415,914
U.S. Treasury and government agencies	**121,645**	**—**	**(17,963)**	**103,682**	121,597	—	(20,259)	101,338
Other taxable securities	**7,490**	**—**	**(1,101)**	**6,389**	8,033	—	(1,018)	7,015
Total held-to-maturity debt securities	**594,591**	**—**	**(97,994)**	**496,597**	632,863	—	(108,596)	524,267
Total debt securities [3,4]	**$875,275**	**$ 206**	**$(102,032)**	**$773,449**	$867,334	$ 466	$(113,539)	$754,261

[1] At both December 31, 2023 and 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 20 – Fair Value Measurements.

[3] Includes securities pledged as collateral of $204.9 billion and $104.5 billion at December 31, 2023 and 2022.

(4) The Corporation held debt securities from FNMA and FHLMC that each exceeded 10 percent of shareholders' equity, with an amortized cost of $272.5 billion and $171.5 billion, and a fair value of $226.4 billion and $142.3 billion at December 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 December 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 $2.8 billion, net of the related income tax benefit of $960 million. At December 31, 2023 and 2022, nonperforming AFS debt securities held by the Corporation were not significant.

At December 31, 2023 and 2022, $824.9 billion and $826.5 billion of AFS and HTM debt securities, which were predominantly U.S. agency and U.S. Treasury securities, have a zero credit loss assumption. For the same periods, the ECL on the remaining $40.2 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.

At December 31, 2023 and 2022, the Corporation held equity securities at an aggregate fair value of $251 million and $581 million and other equity securities, as valued under the measurement alternative, at a carrying value of $377 million and $340 million, both of which are included in other assets. At December 31, 2023 and 2022, the Corporation also held money market investments at a fair value of $1.2 billion 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 2023, 2022 and 2021 are presented in the table below.

Gains and Losses on Sales of AFS Debt Securities

(Dollars in millions)	**2023**	2022	2021
Gross gains	**$ 109**	$ 1,251	$ 49
Gross losses	**(514)**	(1,219)	(27)
Net gains (losses) on sales of AFS debt securities	**$ (405)**	$ 32	$ 22
Income tax expense (benefit) attributable to realized net gains (losses) on sales of AFS debt securities	**$ (101)**	$ 8	$ 5

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 December 31, 2023 and 2022.

Total AFS Debt Securities in a Continuous Unrealized Loss Position

(Dollars in millions)	Less than Twelve Months		Twelve Months or Longer		Total	
	Fair Value	Gross Unrealized Losses	Fair Value	Gross Unrealized Losses	Fair Value	Gross Unrealized Losses
	December 31, 2023					
Continuously unrealized loss-positioned AFS debt securities						
Mortgage-backed securities:						
Agency	**$ 8,624**	**$ (21)**	**$ 20,776**	**$ (1,399)**	**$ 29,400**	**$ (1,420)**
Agency-collateralized mortgage obligations	**—**	**—**	**1,701**	**(201)**	**1,701**	**(201)**
Commercial	**2,363**	**(27)**	**4,588**	**(487)**	**6,951**	**(514)**
Non-agency residential	**—**	**—**	**370**	**(70)**	**370**	**(70)**
Total mortgage-backed securities	**10,987**	**(48)**	**27,435**	**(2,157)**	**38,422**	**(2,205)**
U.S. Treasury and government agencies	**14,907**	**(12)**	**69,669**	**(1,449)**	**84,576**	**(1,461)**
Non-U.S. securities	**7,702**	**(8)**	**1,524**	**(12)**	**9,226**	**(20)**
Other taxable securities	**3,269**	**(19)**	**1,437**	**(57)**	**4,706**	**(76)**
Tax-exempt securities	**466**	**(5)**	**2,106**	**(216)**	**2,572**	**(221)**
Total AFS debt securities in a continuous unrealized loss position	**$ 37,331**	**$ (92)**	**$102,171**	**$ (3,891)**	**$139,502**	**$ (3,983)**
	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 December 31, 2023 are summarized in the table below. Actual duration and yields may differ as prepayments on the loans underlying the MBS or other 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	$ —	— %	$ 4	4.00 %	$ 8	3.38 %	$ 39,183	4.66 %	$ 39,195	4.66 %
Agency-collateralized mortgage obligations	—	—	—	—	—	—	2,739	3.39	2,739	3.39
Commercial	—	—	1,759	6.18	7,475	4.59	1,688	2.61	10,922	4.54
Non-agency residential	—	—	—	—	—	—	732	10.48	732	10.48
Total mortgage-backed securities	—	—	1,763	6.17	7,483	4.59	44,342	4.60	53,588	4.65
U.S. Treasury and government agencies	79,257	5.29	86,631	3.39	14,868	2.72	42	3.90	180,798	4.17
Non-U.S. securities	19,138	3.96	6,546	1.82	4,203	5.49	1,197	5.07	31,084	3.76
Other taxable securities	422	6.09	3,995	6.14	377	4.30	116	3.27	4,910	5.93
Tax-exempt securities	1,801	4.53	3,698	3.62	873	3.11	3,932	4.17	10,304	3.94
Total amortized cost of debt securities carried at fair value	**$100,618**	**5.03**	**$102,633**	**3.45**	**$ 27,804**	**3.68**	**$ 49,629**	**4.57**	**$280,684**	**4.24**
Amortized cost of HTM debt securities										
Agency mortgage-backed securities	$ —	— %	$ —	— %	$ 12	2.67 %	$ 465,444	2.12 %	$ 465,456	2.12 %
U.S. Treasury and government agencies	—	—	4,563	1.80	117,082	1.38	—	—	121,645	1.40
Other taxable securities	58	1.85	1,240	2.57	253	3.28	5,939	2.49	7,490	2.52
Total amortized cost of HTM debt securities	**$ 58**	**1.85**	**$ 5,803**	**1.96**	**$117,347**	**1.38**	**$471,383**	**2.12**	**$594,591**	**1.97**
Debt securities carried at fair value										
Mortgage-backed securities:										
Agency	$ —		$ 4		$ 8		$ 37,800		$ 37,812	
Agency-collateralized mortgage obligations	—		—		—		2,544		2,544	
Commercial	1		1,720		7,260		1,465		10,446	
Non-agency residential	—		2		—		660		662	
Total mortgage-backed securities	1		1,726		7,268		42,469		51,464	
U.S. Treasury and government agencies	79,268		85,674		14,374		40		179,356	
Non-U.S. securities	19,138		6,554		4,204		1,198		31,094	

(1) The weighted-average yield is computed based on a constant effective yield over the contractual life of each security. The 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 December 31, 2023 and 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
	December 31, 2023						
Consumer real estate							
Residential mortgage	$ 1,177	$ 302	$ 829	$ 2,308	$ 226,095		$ 228,403
Home equity	90	38	161	289	25,238		25,527
Credit card and other consumer							
Credit card	680	515	1,224	2,419	99,781		102,200
Direct/Indirect consumer [2]	306	99	91	496	102,972		103,468
Other consumer	—	—	—	—	124		124
Total consumer	2,253	954	2,305	5,512	454,210		459,722
Consumer loans accounted for under the fair value option [3]						$ 243	243
Total consumer loans and leases	2,253	954	2,305	5,512	454,210	243	459,965
Commercial							
U.S. commercial	477	96	225	798	358,133		358,931
Non-U.S. commercial	86	21	64	171	124,410		124,581
Commercial real estate [4]	247	133	505	885	71,993		72,878
Commercial lease financing	44	8	24	76	14,778		14,854
U.S. small business commercial [5]	166	89	184	439	18,758		19,197
Total commercial	1,020	347	1,002	2,369	588,072		590,441
Commercial loans accounted for under the fair value option [3]						3,326	3,326
Total commercial loans and leases	1,020	347	1,002	2,369	588,072	3,326	593,767
Total loans and leases [6]	$ 3,273	$ 1,301	$ 3,307	$ 7,881	$1,042,282	$ 3,569	$1,053,732
Percentage of outstandings	0.31 %	0.12 %	0.32 %	0.75 %	98.91 %	0.34 %	100.00 %

[1] Consumer real estate loans 30-59 days past due includes fully-insured loans of $198 million and nonperforming loans of $150 million. Consumer real estate loans 60-89 days past due includes fully-insured loans of $77 million and nonperforming loans of $102 million. Consumer real estate loans 90 days or more past due includes fully-insured loans of $252 million and nonperforming loans of $738 million. Consumer real estate loans current or less than 30 days past due includes $1.6 billion, and direct/indirect consumer includes $39 million of nonperforming loans.

[2] Total outstandings primarily includes auto and specialty lending loans and leases of $53.9 billion, U.S. securities-based lending loans of $46.0 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 $66 million and home equity loans of $177 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 $1.2 billion. For more information, see Note 20 – Fair Value Measurements and Note 21 – Fair Value Option.

[4] Total outstandings includes U.S. commercial real estate loans of $66.8 billion and non-U.S. commercial real estate loans of $6.1 billion.

[5] Includes Paycheck Protection Program loans.

[6] Total outstandings includes loans and leases pledged as collateral of $33.7 billion. The Corporation also pledged $246.0 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 20 – Fair Value Measurements and Note 21 – 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 $8.7 billion and $9.5 billion at December 31, 2023 and 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 $2.8 billion at December 31, 2023 from $1.1 billion at December 31, 2022, driven by the commercial real estate property type. Consumer nonperforming loans remained relatively unchanged at $2.7 billion at December 31, 2023.

The following table presents the Corporation's nonperforming loans and leases and loans accruing past due 90 days or more at December 31, 2023 and 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.

Credit Quality

(Dollars in millions)	Nonperforming Loans and Leases		Accruing Past Due 90 Days or More	
	December 31			
	2023	2022	**2023**	2022
Residential mortgage [1]	**$ 2,114**	$ 2,167	**$ 252**	$ 368
With no related allowance [2]	**1,974**	1,973	**—**	—
Home equity [1]	**450**	510	**—**	—
With no related allowance [2]	**375**	393	**—**	—
Credit Card	**n/a**	n/a	**1,224**	717
Direct/indirect consumer	**148**	77	**2**	2
Total consumer	**2,712**	2,754	**1,478**	1,087
U.S. commercial	**636**	553	**51**	190
Non-U.S. commercial	**175**	212	**4**	25
Commercial real estate	**1,927**	271	**32**	46
Commercial lease financing	**19**	4	**7**	8
U.S. small business commercial	**16**	14	**184**	355
Total commercial	**2,773**	1,054	**278**	624
Total nonperforming loans	**$ 5,485**	$ 3,808	**$ 1,756**	$ 1,711
Percentage of outstanding loans and leases	**0.52 %**	0.37 %	**0.17 %**	0.16 %

[1] Residential mortgage loans accruing past due 90 days or more are fully-insured loans. At December 31, 2023 and 2022 residential mortgage included $156 million and $260 million of loans on which interest had been curtailed by the FHA, and therefore were no longer accruing interest, although principal was still insured, and $96 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. Within the Consumer Real Estate portfolio segment, the primary credit quality indicators are refreshed 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 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 December 31, 2023.

Residential Mortgage – Credit Quality Indicators By Vintage

(Dollars in millions)	Total as of December 31, 2023	Term Loans by Origination Year 2023	2022	2021	2020	2019	Prior
Residential Mortgage							
Refreshed LTV							
Less than or equal to 90 percent	**$ 214,661**	$ 15,224	$ 38,225	$ 76,229	$ 35,072	$ 17,432	$ 32,479
Greater than 90 percent but less than or equal to 100 percent	**1,994**	698	911	286	53	25	21
Greater than 100 percent	**785**	264	342	100	31	14	34
Fully-insured loans	**10,963**	540	350	3,415	2,834	847	2,977
Total Residential Mortgage	**$ 228,403**	$ 16,726	$ 39,828	$ 80,030	$ 37,990	$ 18,318	$ 35,511
Residential Mortgage							
Refreshed FICO score							
Less than 620	**$ 2,335**	$ 115	$ 471	$ 589	$ 402	$ 136	$ 622
Greater than or equal to 620 and less than 680	**4,671**	359	919	1,235	777	296	1,085
Greater than or equal to 680 and less than 740	**23,357**	1,934	4,652	6,988	3,742	1,836	4,205
Greater than or equal to 740	**187,077**	13,778	33,436	67,803	30,235	15,203	26,622
Fully-insured loans	**10,963**	540	350	3,415	2,834	847	2,977
Total Residential Mortgage	**$ 228,403**	$ 16,726	$ 39,828	$ 80,030	$ 37,990	$ 18,318	$ 35,511
Gross charge-offs for the year ended December 31, 2023	**$ 67**	$ —	$ 7	$ 12	$ 6	$ 2	$ 40

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, 2023							
Home Equity								
Refreshed LTV								
Less than or equal to 90 percent	$	**25,378**	$	**1,051**	$	**20,380**	$	**3,947**
Greater than 90 percent but less than or equal to 100 percent		**61**		**17**		**35**		**9**
Greater than 100 percent		**88**		**35**		**36**		**17**
Total Home Equity	$	**25,527**	$	**1,103**	$	**20,451**	$	**3,973**
Home Equity								
Refreshed FICO score								
Less than 620	$	**654**	$	**123**	$	**253**	$	**278**
Greater than or equal to 620 and less than 680		**1,107**		**118**		**589**		**400**
Greater than or equal to 680 and less than 740		**4,340**		**240**		**3,156**		**944**
Greater than or equal to 740		**19,426**		**622**		**16,453**		**2,351**
Total Home Equity	$	**25,527**	$	**1,103**	$	**20,451**	$	**3,973**
Gross charge-offs for the year ended December 31, 2023	$	**36**	$	**4**	$	**21**	$	**11**

[1] Includes reverse mortgages of $763 million and home equity loans of $340 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, 2023**	**Revolving Loans**	**2023**	**2022**	**2021**	**2020**	**2019**	**Prior**	**Total Credit Card as of December 31, 2023**	**Revolving Loans**	**Revolving Loans Converted to Term Loans** [1]
Refreshed FICO score											
Less than 620	**$ 1,246**	$ 11	$ 292	$ 428	$ 336	$ 85	$ 55	$ 39	**$ 5,338**	$ 5,030	$ 308
Greater than or equal to 620 and less than 680	**2,506**	11	937	799	501	121	73	64	**11,623**	11,345	278
Greater than or equal to 680 and less than 740	**8,629**	48	3,451	2,582	1,641	462	244	201	**34,777**	34,538	239
Greater than or equal to 740	**41,656**	74	16,761	11,802	7,643	2,707	1,417	1,252	**50,462**	50,410	52
Other internal credit metrics [2,3]	**49,431**	48,764	106	183	110	53	57	158	**—**	—	—
Total credit card and other consumer	**$ 103,468**	$ 48,908	$21,547	$15,794	$10,231	$ 3,428	$ 1,846	$ 1,714	**$ 102,200**	$ 101,323	$ 877
Gross charge-offs for the year ended December 31, 2023	**$ 233**	$ 5	$ 32	$ 95	$ 53	$ 15	$ 10	$ 23	**$ 3,133**	$ 3,013	$ 120

(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 $48.8 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, 2023.

Commercial – Credit Quality Indicators By Vintage [(1)]

(Dollars in millions)	Total as of December 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	**$ 347,563**	$ 41,842	$ 43,290	$ 27,738	$ 13,495	$ 11,772	$ 29,923	$ 179,503
Reservable criticized	**11,368**	278	1,316	708	363	537	1,342	6,824
Total U.S. Commercial	**$ 358,931**	$ 42,120	$ 44,606	$ 28,446	$ 13,858	$ 12,309	$ 31,265	$ 186,327
Gross charge-offs for the year ended December 31, 2023	$ 191	$ 5	$ 38	$ 29	$ 4	$ 2	$ 27	$ 86
Non-U.S. Commercial								
Risk ratings								
Pass rated	**$ 122,931**	$ 17,053	$ 15,810	$ 15,256	$ 2,405	$ 2,950	$ 5,485	$ 63,972
Reservable criticized	**1,650**	50	184	294	90	158	74	800
Total Non-U.S. Commercial	**$ 124,581**	$ 17,103	$ 15,994	$ 15,550	$ 2,495	$ 3,108	$ 5,559	$ 64,772
Gross charge-offs for the year ended December 31, 2023	**$ 37**	$ —	$ —	$ 8	$ 7	$ 1	$ —	$ 21
Commercial Real Estate								
Risk ratings								
Pass rated	**$ 64,150**	$ 4,877	$ 16,147	$ 11,810	$ 4,026	$ 7,286	$ 10,127	$ 9,877
Reservable criticized	**8,728**	134	749	1,728	782	2,132	2,794	409
Total Commercial Real Estate	**$ 72,878**	$ 5,011	$ 16,896	$ 13,538	$ 4,808	$ 9,418	$ 12,921	$ 10,286
Gross charge-offs for the year ended December 31, 2023	**$ 254**	$ 2	$ —	$ 4	$ —	$ 59	$ 189	$ —
Commercial Lease Financing								
Risk ratings								
Pass rated	**$ 14,688**	$ 4,188	$ 3,077	$ 2,373	$ 1,349	$ 1,174	$ 2,527	$ —
Reservable criticized	**166**	9	22	46	16	32	41	—
Total Commercial Lease Financing	**$ 14,854**	$ 4,197	$ 3,099	$ 2,419	$ 1,365	$ 1,206	$ 2,568	$ —
Gross charge-offs for the year ended December 31, 2023	**$ 2**	$ —	$ —	$ 1	$ 1	$ —	$ —	$ —
U.S. Small Business Commercial [(2)]								
Risk ratings								

(1) Excludes $3.3 billion of loans accounted for under the fair value option at December 31, 2023.

(2) Excludes U.S. Small Business Card loans of $9.8 billion. Refreshed FICO scores for this portfolio are $530 million for less than 620; $1.1 billion for greater than or equal to 620 and less than 680; $2.7 billion for greater than or equal to 680 and less than 740; and $5.5 billion greater than or equal to 740. Excludes U.S. Small Business Card loans gross charge-offs of $317 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 for the year ended December 31, 2022	$ 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 for the year ended December 31, 2022	$ 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 for the year ended December 31, 2022	$ 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)]

(Dollars in millions)	Total as of December 31, 2022	Term Loans — Amortized Cost Basis by Origination Year: 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 for the year ended December 31, 2022	$ 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 for the year ended December 31, 2022	$ 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 for the year ended December 31, 2022	$ 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 for the year ended December 31, 2022	$ 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

(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 2023, commercial reservable criticized utilized exposure increased to $23.3 billion at December 31, 2023 from $19.3 billion (to 3.74 percent from 3.12 percent of total commercial reservable utilized exposure) at December 31, 2022, primarily driven by commercial real estate and U.S. commercial.

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).

The Corporation uses various indicators to identify borrowers in financial difficulty. Generally, consumer loan borrowers that are delinquent and commercial loan borrowers that are currently nonperforming or are more-likely-than-not to become nonperforming in the next six months at the modification date are the primary criteria used to identify borrowers who are experiencing financial difficulty.

If a borrower is experiencing financial difficulty and their loan is modified, and they are 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.

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, LHFS and leases are not included in the disclosures.

Consumer Real Estate

The following modification programs are offered for consumer real estate loans to borrowers experiencing financial difficulties. These modifications represented 0.26 percent and 0.34 percent of outstanding residential mortgage and home equity loans at December 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. 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 December 31, 2023, the amortized cost of residential mortgage loans entering trial modifications was $116 million. The amortized cost of home equity loans entering trial modifications during the same period was $34 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 December 31, 2023, the amortized cost of residential mortgage loans that were granted a permanent modification was $154 million. The amortized cost of home equity loans that were granted a permanent modification was $31 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 20 years for both residential mortgage and home equity loans. The weighted-average term extension of permanent modifications for residential mortgage loans was 9.9 years for 2023, while the weighted-average interest rate reduction was 1.41 percent. For the same period, the weighted-average term extension of permanent modifications for home equity loans was 17.7 years, while the weighted-average interest rate reduction was 2.74 percent. Principal forgiveness and payment deferrals were insignificant during 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 December 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

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

(Dollars in millions)	Current	30–89 Days Past Due	90+ Days Past Due	Total
	December 31, 2023			
Residential mortgage	$ 334	$ 101	$ 148	$ 583
Home equity	58	5	25	88
Total	$ 392	$ 106	$ 173	$ 671

[1] Excludes trial modifications and Chapter 7 discharges

Consumer real estate foreclosed properties totaled $83 million and $121 million at December 31, 2023 and 2022. The carrying value of consumer real estate loans, including fully-insured loans, for which formal foreclosure proceedings were in process at December 31, 2023 and 2022 was $633 million and $871 million. During 2023 and 2022, the Corporation reclassified $106 million and $190 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 significantly reduced fixed interest rate, with terms ranging from 6 months to 72 months. As of December 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 December 31, 2023 amortized cost of credit card and other consumer loans that were modified through these programs during 2023 was $598 million. The weighted-average interest rate reduction for the modifications was 19.02 percent, and principal forgiveness was $61 million during 2023.

The Corporation tracks the performance of modified loans to assess effectiveness of modification programs. During 2023, defaults of modified credit card and other consumer loans since January 1, 2023 were insignificant. Of the $598 million in modified credit card and other consumer loans to borrowers experiencing financial difficulty as of December 31, 2023, $491 million were current, $59 million were 30-89 days past due, and $48 million were greater than 90 days past due. These modifications represented 0.29 percent of outstanding credit card and other consumer loans at December 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. The table below provides the ending amortized cost of commercial loans modified during 2023.

Commercial Loans - Modifications to Borrowers in Financial Difficulty

(Dollars in Millions)	Term Extension		Forbearances		Interest Rate Reduction		Total	
	Year ended December 31, 2023							
U.S. commercial	$	1,016	$	30	$	—	$	1,046
Non-U.S. commercial		136		—		24	$	160
Commercial real estate		1,656		416		—	$	2,072
Total	$	2,808	$	446	$	24	$	3,278

Term extensions granted increased the weighted-average life of the impacted loans by 1.6 years during 2023. The deferral period for loan payments can vary, but are mostly in the range of 8 months to 24 months. The weighted-average interest rate reduction was 0.57 percent in 2023. Modifications of loans to troubled borrowers for Commercial Lease Financing and U.S. Small Business Commercial were not significant during 2023.

The Corporation tracks the performance of modified loans to assess effectiveness of modification programs. Defaults of Commercial loans modified in 2023 were $159 million. The following table provides aging information as of December 31, 2023 for commercial loans modified in 2023.

Commercial - Payment Status of Modified Loans to Borrowers in Financial Difficulty

(Dollars in millions)	Current	30-89 Days Past Due	90+ Days Past Due	Total	% of Total Class of Financing Receivable
	December 31, 2023				
U.S. Commercial	$ 1,015	$ 3	$ 28	$ 1,046	0.29 %
Non-U.S. Commercial	157	3	—	160	0.13
Commercial Real Estate	1,608	122	342	2,072	2.84
Total	$ 2,780	$ 128	$ 370	$ 3,278	0.59

For 2023, the Corporation had commitments to lend $1.2 billion 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.

Consumer Real Estate

The table below presents the December 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 2022 and 2021. 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 2022 and 2021

(Dollars in millions)	Unpaid Principal Balance	Carrying Value	Pre-Modification Interest Rate	Post-Modification Interest Rate [1]
	December 31, 2022			
Residential mortgage	$ 1,144	$ 1,015	3.52 %	3.40 %
Home equity	238	191	4.61	4.65
Total	$ 1,382	$ 1,206	3.71	3.62
	December 31, 2021			
Residential mortgage	$ 891	$ 788	3.48 %	3.38 %
Home equity	107	77	3.60	3.59
Total	$ 998	$ 865	3.49	3.41

[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 December 31, 2022 and 2021 carrying value for consumer real estate loans that were modified in a TDR during 2022 and 2021, by type of modification.

Consumer Real Estate – Modification Programs

(Dollars in millions)	TDRs Entered into During 2022	2021
Modifications under government programs	$ 2	$ 4
Modifications under proprietary programs	1,100	774
Loans discharged in Chapter 7 bankruptcy [1]	14	33
Trial modifications	90	54
Total modifications	$ 1,206	$ 865

[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 2022 and 2021 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)	2022	2021
Modifications under government programs	$ —	$ 4
Modifications under proprietary programs	189	128
Loans discharged in Chapter 7 bankruptcy [1]	2	9
Trial modifications [2]	25	19
Total modifications	$ 216	$ 160

[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 December 31, 2022 and 2021 unpaid principal balance, carrying value, and average pre- and post-modification interest rates of loans that were modified in TDRs during 2022 and 2021.

Credit Card and Other Consumer – TDRs Entered into During 2022 and 2021

(Dollars in millions)	Unpaid Principal Balance	Carrying Value [1]	Pre-Modification Interest Rate	Post-Modification Interest Rate
	December 31, 2022			
Credit card	$ 284	$ 293	22.34 %	3.89 %
Direct/Indirect consumer	6	5	5.51	5.50
Total	$ 290	$ 298	22.06	3.92
	December 31, 2021			
Credit card	$ 237	$ 248	18.45 %	4.09 %
Direct/Indirect consumer	23	16	5.88	5.88
Total	$ 260	$ 264	17.68	4.20

[1] Includes accrued interest and fees.

The table below presents the December 31, 2022 and 2021 carrying value for Credit Card and Other Consumer loans that were modified in a TDR during 2022 and 2021 by program type.

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

(Dollars in millions)	2022	2021
Internal programs	$ 251	$ 214
External programs	44	44
Other	3	6
Total	$ 298	$ 264

[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.

Commercial Loans

During 2022, the carrying value of the Corporation’s commercial loans that were modified as TDRs was $1.9 billion compared to $1.3 billion in 2021. At December 31, 2022 and 2021, the Corporation had commitments to lend $358 million and $283 million to commercial borrowers whose loans were classified as TDRs. The balance of commercial TDRs in payment default was $105 million and $262 million at December 31, 2022 and 2021.

Loans Held-for-sale

The Corporation had LHFS of $6.0 billion and $6.9 billion at December 31, 2023 and 2022. Cash and non-cash proceeds from sales and paydowns of loans originally classified as LHFS were $16.3 billion, $32.0 billion and $43.6 billion for 2023, 2022 and 2021, respectively. Cash used for originations and purchases of LHFS totaled $15.6 billion, $24.9 billion and $37.3 billion for 2023, 2022 and 2021, respectively. Also included were non-cash net transfers into LHFS of $632 million during 2023, $1.9 billion during 2022, primarily driven by the transfer of a $1.6 billion affinity card loan portfolio to held for sale that was sold in October 2022, and $808 million during 2021.

Accrued Interest Receivable

Accrued interest receivable for loans and leases and loans held-for-sale at December 31, 2023 and 2022 was $4.5 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 2023 and 2022, the Corporation reversed $584 million and $332 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 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.

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.

The December 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 weighted economic outlook of the above scenarios has improved compared to the weighted economic outlook estimated as of December 31, 2022. The weighted economic outlook assumes that the U.S. average unemployment rate will be just below five percent by the fourth quarter of 2024 and will remain near this level through the fourth quarter of 2025. The weighted economic outlook assumes a mild recession in the first half of 2024 with U.S. real gross domestic product forecasted to grow at 0.3 percent and at 1.4 percent year-over-year in the fourth quarters of 2024 and 2025.

The allowance for credit losses increased $329 million from December 31, 2022 to $14.6 billion at December 31, 2023, which included a $1.3 billion reserve increase related to the consumer portfolio and a $942 million reserve decrease related to the commercial portfolio. The increase in the allowance reflected a reserve build in the Corporation’s consumer portfolio primarily due to credit card loan growth and asset quality, partially offset by a reserve release in the Corporation’s commercial portfolio primarily driven by improved macroeconomic conditions applicable to the commercial portfolio. The 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 on January 1, 2023. The change in the allowance for credit losses was comprised of a net increase of $660 million in the allowance for loan and lease losses and a decrease of $331 million in the reserve for unfunded lending commitments. The provision for credit losses increased $1.9 billion to an expense of $4.4 billion in 2023 compared to an expense of $2.5 billion in 2022 and to a benefit of $4.6 billion in 2021. The increase in provision for credit losses in 2023 was driven by the Corporation’s consumer portfolio primarily due to credit card loan growth and asset quality, partially offset by improved macroeconomic conditions that primarily benefited the Corporation’s commercial portfolio. The increase in the provision for credit losses in 2022 was primarily driven by loan growth and a dampened macroeconomic outlook, partially offset by reduced COVID-19 pandemic uncertainties.

Outstanding loans and leases excluding loans accounted for under the fair value option increased $10.2 billion in 2023 driven by consumer loans, which increased $3.7 billion driven by credit card, partially offset by declines in securities-based lending. Commercial loans increased $6.5 billion driven by broad-based growth.

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

(Dollars in millions)	Consumer Real Estate	Credit Card and Other Consumer	Commercial	Total
	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	**(103)**	**(3,870)**	**(844)**	**(4,817)**
Recoveries of loans and leases previously charged off	**146**	**737**	**135**	**1,018**
Net charge-offs	**43**	**(3,133)**	**(709)**	**(3,799)**
Provision for loan and lease losses	**(19)**	**4,558**	**186**	**4,725**
Other	**9**	**1**	**(33)**	**(23)**
Allowance for loan and lease losses, December 31	**386**	**8,134**	**4,822**	**13,342**
Reserve for unfunded lending commitments, January 1	**94**	**—**	**1,446**	**1,540**
Provision for unfunded lending commitments	**(12)**	**—**	**(319)**	**(331)**
Reserve for unfunded lending commitments, December 31	**82**	**—**	**1,127**	**1,209**
Allowance for credit losses, December 31	**$ 468**	**$ 8,134**	**$ 5,949**	**$ 14,551**
	2022			
Allowance for loan and lease losses, January 1	$ 557	$ 6,476	$ 5,354	$ 12,387
Loans and leases charged off	(206)	(2,755)	(478)	(3,439)
Recoveries of loans and leases previously charged off	224	882	161	1,267
Net charge-offs	18	(1,873)	(317)	(2,172)
Provision for loan and lease losses	(164)	2,215	409	2,460
Other	9	(1)	(1)	7
Allowance for loan and lease losses, December 31	420	6,817	5,445	12,682
Reserve for unfunded lending commitments, January 1	96	—	1,360	1,456
Provision for unfunded lending commitments	(3)	—	86	83
Other	1	—	—	1
Reserve for unfunded lending commitments, December 31	94	—	1,446	1,540
Allowance for credit losses, December 31	$ 514	$ 6,817	$ 6,891	$ 14,222
	2021			
Allowance for loan and lease losses, January 1	$ 858	$ 9,213	$ 8,731	$ 18,802
Loans and leases charged off	(78)	(3,000)	(719)	(3,797)
Recoveries of loans and leases previously charged off	225	1,006	323	1,554
Net charge-offs	147	(1,994)	(396)	(2,243)
Provision for loan and lease losses	(449)	(744)	(2,980)	(4,173)
Other	1	1	(1)	1
Allowance for loan and lease losses, December 31	557	6,476	5,354	12,387
Reserve for unfunded lending commitments, January 1	137	—	1,741	1,878
Provision for unfunded lending commitments	(41)	—	(380)	(421)
Other	—	—	(1)	(1)
Reserve for unfunded lending commitments, December				

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 Corporation routinely securitizes loans and debt securities using VIEs as a source of funding for the Corporation and as a means of transferring the economic risk of the loans or debt securities to third parties. The assets are transferred into a trust or other securitization vehicle such that the assets are legally isolated from the creditors of the Corporation and are not available to satisfy its obligations. These assets can only be used to settle obligations of the trust or other securitization vehicle. The Corporation also administers, structures or invests in other VIEs including CDOs, investment vehicles and other entities. For more information on the Corporation's use of VIEs, see Note 1 – Summary of Significant Accounting Principles.

The tables in this Note present the assets and liabilities of consolidated and unconsolidated VIEs at December 31, 2023 and 2022 in situations where the Corporation has a loan or security interest and involvement with transferred assets or if the Corporation otherwise has an additional interest in the VIE. The tables also present the Corporation's maximum loss exposure at December 31, 2023 and 2022 resulting from its involvement with consolidated VIEs and unconsolidated VIEs. The Corporation's maximum loss exposure is based on the unlikely event that all of the assets in the VIEs become worthless and incorporates not only potential losses associated with assets recorded on the Consolidated Balance Sheet but also potential losses associated with off-balance sheet commitments, such as unfunded liquidity commitments and other contractual arrangements. The Corporation's maximum loss exposure does not include losses previously recognized through write-downs of assets.

The Corporation invests in ABS, CLOs and other similar investments issued by third-party VIEs with which it has no other form of involvement other than a loan or debt security issued by the VIE. In addition, the Corporation also enters into certain commercial lending arrangements that may utilize VIEs for activities secondary to the lending arrangement, for example to hold collateral. The Corporation's maximum loss exposure to these VIEs is the investment balances. These securities and loans are included in Note 4 – Securities or Note 5 – Outstanding Loans and Leases and Allowance for Credit Losses and are not included in the following tables.

The Corporation did not provide financial support to consolidated or unconsolidated VIEs during 2023, 2022 and

2021 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 $989 million and $978 million at December 31, 2023 and 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, generally in the form of residential mortgage-backed securities (RMBS) guaranteed by government-sponsored enterprises, FNMA and FHLMC (collectively the GSEs), or the Government National Mortgage Association (GNMA) primarily in the case of FHA-insured and U.S. Department of Veterans Affairs (VA)-guaranteed mortgage loans. Securitization usually occurs in conjunction with or shortly after origination or purchase, and the Corporation may also securitize loans held in its residential mortgage portfolio. In addition, the Corporation may, from time to time, securitize commercial mortgages it originates or purchases from other entities. The Corporation typically services the loans it securitizes. Further, the Corporation may retain beneficial interests in the securitization trusts including senior and subordinate securities and equity tranches issued by the trusts. Except as described in Note 12 – 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 2023, 2022 and 2021.

First-lien Mortgage Securitizations

	Residential Mortgage - Agency			Commercial Mortgage		
(Dollars in millions)	**2023**	2022	2021	**2023**	2022	2021
Proceeds from loan sales [1]	**$ 4,513**	$ 8,084	$ 6,664	**$ 2,132**	$ 5,853	$ 10,874
Gains (losses) on securitizations [2]	**(15)**	8	9	**44**	46	156
Repurchases from securitization trusts [3]	**33**	53	756	**—**	—	—

(1) The Corporation transfers residential mortgage loans to securitizations sponsored primarily by the GSEs or 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 $49 million, $41 million and $121 million net of hedges, during 2023, 2022 and 2021, respectively, 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 $92.7 billion and $100.1 billion at December 31, 2023 and 2022. Servicing fee and ancillary fee income on serviced loans was $248 million, $274 million and $392 million during 2023, 2022 and 2021, respectively. Servicing advances on serviced loans, including loans serviced for others and loans held for investment, were $1.3 billion and $1.6 billion at December 31, 2023 and 2022. For more information on MSRs, see Note 20 – Fair Value Measurements.

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.

Mortgage and Home Equity Securitizations

During 2023 and 2022, the Corporation deconsolidated agency residential mortgage securitization trusts with total assets of $685 million and $784 million, with no significant deconsolidations in 2021.

The following table summarizes select information related to mortgage and home equity securitization trusts in which the Corporation held a variable interest and had continuing involvement at December 31, 2023 and 2022.

Mortgage and Home Equity Securitizations

	Residential Mortgage									
			Non-agency							
	Agency		Prime and Alt-A		Subprime		Home Equity [3]		Commercial Mortgage	
	December 31									
(Dollars in millions)	**2023**	2022	**2023**	2022	**2023**	2022	**2023**	2022	**2023**	2022
Unconsolidated VIEs										
Maximum loss exposure [1]	**$ 8,190**	$ 9,112	**$ 92**	$ 119	**$ 657**	$ 735	**$ —**	$ 119	**$ 1,558**	$ 1,594
On-balance sheet assets										
Senior securities:										
Trading account assets	**$ 235**	$ 232	**$ 13**	$ 29	**$ 20**	$ 25	**$ —**	$ —	**$ 70**	$ 91
Debt securities carried at fair value	**2,541**	3,027	**—**	—	**341**	410	**—**	1	**—**	—
Held-to-maturity securities	**5,414**	5,853	**—**	—	**—**	—	**—**	—	**1,287**	1,268
All other assets	**—**	—	**4**	5	**23**	25	**—**	—	**79**	101
Total retained positions	**$ 8,190**	$ 9,112	**$ 17**	$ 34	**$ 384**	$ 460	**$ —**	$ 1	**$ 1,436**	$ 1,460
Principal balance outstanding [2]	**$ 76,134**	$ 81,644	**$ 13,963**	$ 15,541	**$ 4,508**	$ 5,034	**$ 252**	$ 326	**$ 80,078**	$ 85,101
Consolidated VIEs										
Maximum loss exposure [1]	**$ 1,164**	$ 1,735	**$ —**	$ —	**$ —**	$ 78	**$ 12**	$ 32	**$ —**	$ —
On-balance sheet assets										
Trading account assets	**$ 1,171**	$ 1,735	**$ —**	$ —	**$ —**	$ 78	**$ —**	$ —	**$ —**	$ —
Loans and leases	**—**	—	**—**	—	**—**	—	**31**	97	**—**	—
Allowance for loan and lease losses	**—**	—	**—**	—	**—**	—	**7**	12	**—**	—
All other assets	**—**	—	**—**	—	**—**	—	**1**	2	**—**	—
Total assets	**$ 1,171**	$ 1,735	**$ —**	$ —	**$ —**	$ 78	$ 39	$ 111	**$ —**	$ —
Total liabilities	**$ 7**	$ —	**$ —**	$ —	**$ —**	$ —	**$ 27**	**$ 79**	**$ —**	$ —

[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 12 – Commitments and Contingencies and Note 20 – 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.

(3) 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 12 – Commitments and Contingencies.

Other Asset-backed Securitizations

The following paragraphs summarize select information related to other asset-backed VIEs in which the Corporation had a variable interest at December 31, 2023 and 2022.

Credit Card and Automobile Loan Securitizations

The Corporation securitizes originated and purchased credit card and automobile loans as a source of financing. The loans are sold on a non-recourse basis to consolidated trusts. The securitizations are ongoing, whereas additional receivables will be funded into the trusts by either loan repayments or proceeds from securities issued to third parties, depending on the securitization structure. The Corporation's continuing involvement with the securitization trusts includes servicing the receivables and holding various subordinated interests, including an undivided seller's interest in the credit card receivables and owning certain retained interests.

At December 31, 2023 and 2022, the carrying values of the receivables in the trusts totaled $16.6 billion and $14.6 billion, which are included in loans and leases, and the carrying values of senior debt securities that were issued to third-party investors from the trusts totaled $7.8 billion and $4.2 billion, which are included in long-term debt.

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 $8.6 billion, $21.8 billion and $28.9 billion of securities during 2023, 2022 and 2021, respectively. 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. Securities received from the resecuritization VIEs were recognized at their fair value of $2.4 billion, $2.4 billion and $2.2 billion during 2023, 2022 and 2021, respectively. In 2023, 2022 and 2021, substantially all of the securities were classified as trading account assets. Substantially all of the trading account securities carried at fair value were categorized as Level 2 within the fair value hierarchy.

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 $952 million and $914 million at December 31, 2023 and 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.

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 $1.7 billion and $2.5 billion at December 31, 2023 and 2022. The weighted-average remaining life of bonds held in the trusts at December 31, 2023 was 12.2 years. There were no significant write-downs or downgrades of assets or issuers during 2023, 2022 and 2021.

Collateralized Debt Obligation VIEs

The Corporation receives fees for structuring CDO VIEs, which hold diversified pools of fixed-income securities, typically corporate debt or ABS, which the CDO VIEs fund by issuing multiple tranches of debt and equity securities. CDOs are generally managed by third-party portfolio managers. The Corporation typically transfers assets to these CDOs, holds securities issued by the CDOs and may be a derivative counterparty to the CDOs. The Corporation maximum loss exposure to consolidated and unconsolidated CDOs totaled $80 million and $197 million at December 31, 2023 and 2022.

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 December 31, 2023 and 2022, the Corporation's consolidated investment VIEs had total assets of $472 million and $854 million. The Corporation also held investments in unconsolidated VIEs with total assets of $18.4 billion and $14.8 billion at December 31, 2023 and 2022. The Corporation's maximum loss exposure associated with both consolidated and unconsolidated investment VIEs totaled $2.6 billion and $3.0 billion at December 31, 2023 and 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 $1.1 billion and $1.2 billion at December 31, 2023 and 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.

The table below summarizes the maximum loss exposure and assets held by the Corporation that related to other asset-backed VIEs at December 31, 2023 and 2022.

Other Asset-backed VIEs

(Dollars in millions)	Credit Card and Automobile [1]		Resecuritization Trusts and Customer VIEs		Municipal Bond Trusts and CDOs		Investment VIEs and Leveraged Lease Trusts	
	December 31							
	2023	2022	**2023**	2022	**2023**	2022	**2023**	2022
Unconsolidated VIEs								
Maximum loss exposure	**$ —**	$ —	**$ 4,494**	$ 4,940	**$ 1,787**	$ 2,734	**$ 2,197**	$ 2,235
On-balance sheet assets								
Securities [2]:								
Trading account assets	**$ —**	$ —	**$ 626**	$ 456	**$ 23**	$ 183	**$ 469**	$ 455
Debt securities carried at fair value	**—**	—	**920**	1,259	**—**	—	**4**	5
Held-to-maturity securities	**—**	—	**2,237**	2,528	**—**	—	**—**	—
Loans and leases	**—**	—	**—**	—	**—**	—	**90**	90
Allowance for loan and lease losses	**—**	—	**—**	—	**—**	—	**(12)**	(12)
All other assets	**—**	—	**711**	697	**7**	18	**1,168**	1,230
Total retained positions	**$ —**	$ —	**$ 4,494**	$ 4,940	**$ 30**	$ 201	**$ 1,719**	$ 1,768
Total assets of VIEs	**$ —**	$ —	**$ 15,862**	$ 13,385	**$ 9,279**	$ 13,595	**$ 18,398**	$ 14,771
Consolidated VIEs								
Maximum loss exposure	**$ 8,127**	$ 9,555	**$ 1,240**	$ 768	**$ 3,136**	$ —	**$ 1,596**	$ 2,069
On-balance sheet assets								
Trading account assets	**$ —**	$ —	**$ 1,798**	$ 1,002	**$ 3,084**	$ —	**$ 1**	$ 1
Debt securities carried at fair value	**—**	—	**—**	—	**52**	—	**—**	—
Loans and leases	**16,640**	14,555	**—**	—	**—**	—	**1,605**	2,086
Allowance for loan and lease losses	**(832)**	(808)	**—**	—	**—**	—	**(1)**	(1)
All other assets	**163**	68	**38**	20	**—**	—	**15**	26
Total assets	**$ 15,971**	$ 13,815	**$ 1,836**	$ 1,022	**$ 3,136**	$ —	**$ 1,620**	$ 2,112
On-balance sheet liabilities								
Short-term borrowings	**$ —**	$ —	**$ —**	$ —	**$ 2,934**	$ —	**$ 23**	$ 42
Long-term debt	**7,825**	4,247	**596**	254	**—**	—	**1**	1
All other liabilities	**19**	13	**—**	—	**—**	—	**—**	—
Total liabilities	**$ 7,844**	$ 4,260	**$ 596**	$ 254	**$ 2,934**	$ —	**$ 24**	$ 43

[1] At December 31, 2023 and 2022, loans and leases in the consolidated credit card trust included $3.2 billion and $3.3 billion of seller's interest.

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

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 $84.1 billion and $74.8 billion as of December 31, 2023 and 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 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 $15.8 billion and $14.7 billion at December 31, 2023 and 2022, which included unfunded capital contributions of $7.2 billion and $6.9 billion that 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 2023, 2022 and 2021, the Corporation recognized tax credits and other tax benefits related to affordable housing and other tax credit equity investments of $1.9 billion, $1.5 billion and $1.3 billion, and reported pretax losses in other income of $1.5 billion, $1.2 billion and $1.1 billion. The Corporation's equity investments in renewable energy totaled $14.2 billion and $13.9 billion at December 31, 2023 and 2022. In addition, the Corporation had unfunded capital contributions for renewable energy investments of $6.2 billion and $1.9 billion at December 31, 2023 and 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 2023, 2022 and 2021, the Corporation recognized tax credits and other tax benefits related to renewable energy equity investments of $4.0 billion, $2.9 billion and $3.1 billion and reported pretax losses in other income of $3.1 billion, $2.1 billion and $2.2 billion. The Corporation may also enter into power purchase agreements with renewable energy tax credit entities.

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

Unconsolidated Tax Credit VIEs

	December 31	
(Dollars in millions)	**December 31, 2023**	December 31, 2022
Maximum loss exposure	**$ 30,040**	$ 28,277
On-balance sheet assets		
All other assets	**30,040**	$ 28,277
Total	**$ 30,040**	$ 28,277
On-balance sheet liabilities		
All other liabilities	**7,254**	$ 6,907

During 2023, the Corporation completed its annual goodwill impairment test as of June 30, 2023 using a quantitative assessment for all applicable reporting units. Based on the results of the annual goodwill impairment test, the Corporation determined there was no impairment. For more information on the use of quantitative assessments, see Note 1 – Summary of Significant Accounting Principles.

Intangible Assets

At December 31, 2023 and 2022, the net carrying value of intangible assets was $2.0 billion and $2.1 billion. At both December 31, 2023 and 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 $78 million for both 2023 and 2022 and $76 million for 2021.

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

Net Investment [(1)]

	December 31	
(Dollars in millions)	**2023**	2022
Lease receivables	**$ 16,565**	$ 15,123
Unguaranteed residuals	**2,485**	2,143
Total net investment in sales-type and direct financing leases	**$ 19,050**	$ 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 $6.8 billion and $6.5 billion at December 31, 2023 and 2022.

The table below presents lease income for

The table below provides information on the right-of-use assets, lease liabilities and weighted-average discount rates and lease terms at December 31, 2023 and 2022.

Supplemental Information for Lessee Arrangements

	December 31	
(Dollars in millions)	**2023**	2022
Right-of-use assets	**$ 9,150**	$ 9,755
Lease liabilities	**9,782**	10,359
Weighted-average discount rate used to calculate present value of future minimum lease payments	**3.51 %**	3.25 %
Weighted-average lease term (in years)	**8.2**	8.6
Right-of-use assets obtained in exchange for new operating lease liabilities [1]	**$ 430**	$ 824

	2023	2022	2021
Operating cash flows from operating leases [2]	**$ 1,975**	$ 1,986	$ 1,964
Lease Cost and Supplemental Information:			
Operating lease cost	**$ 1,981**	$ 2,008	$ 2,025
Variable lease cost [3]	**460**	464	462
Total lease cost [4]	**$ 2,441**	$ 2,472	$ 2,487

[1] Represents non-cash activity and, accordingly, is not reflected in the Consolidated Statement of Cash Flows.

[2] Represents cash paid for amounts included in the measurements of lease liabilities.

[3] Primarily consists of payments for common area maintenance and property taxes.

[4] Amounts are recorded in occupancy and equipment expense in the Consolidated Statement of Income.

Maturity Analysis

The maturities of lessor and lessee arrangements outstanding at December 31, 2023 are presented in the table below based on undiscounted cash flows.

Maturities of Lessor and Lessee Arrangements

	Lessor		**Lessee [1]**
	Operating Leases	**Sales-type and Direct Financing Leases [2]**	**Operating Leases**
(Dollars in millions)	**December 31, 2023**		
2024	$ 838	$ 5,248	$ 1,947
2025	647	4,137	1,734
2026	504	4,397	1,515
2027	393	1,588	1,308
2028	319	1,382	1,027
Thereafter	533	1,688	11,307
Total undiscounted cash flows	$ 3,234	18,440	18,838
Less: Net present value adjustment		1,875	9,056
Total [3]		**$ 16,565**	**$ 9,782**

[1] Excludes $98 million in commitments under lessee arrangements that have not yet commenced with lease terms that will begin in 2024.

[2] Includes $11.3 billion in commercial lease financing receivables and $5.3 billion in direct/indirect consumer lease financing receivables.

[3] Represents lease receivables for lessor arrangements and lease liabilities for lessee arrangements.

NOTE 9 Deposits

The scheduled contractual maturities for total time deposits at December 31, 2023 are presented in the table below.

Contractual Maturities of Total Time Deposits

(Dollars in millions)	U.S.	Non-U.S.	Total
Due in 2024	$ 143,585	$ 9,667	**$ 153,252**
Due in 2025	8,239	55	**8,294**
Due in 2026	242	13	**255**
Due in 2027	121	17	**138**
Due in 2028	95	2,903	**2,998**
Thereafter	203	8	**211**
Total time deposits	$ 152,485	$ 12,663	**$ 165,148**

At December 31, 2023 and 2022, the Corporation had aggregate U.S. time deposits of $105.0 billion and $12.8 billion and non-U.S. time deposits of $12.6 billion and $9.0 billion in denominations that met or exceeded insurance limits.

NOTE 10 Securities Financing Agreements, Short-term Borrowings, 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 21 – Fair Value Option.

Offsetting of Securities Financing Agreements

Substantially all of the Corporation’s securities financing activities are transacted under legally enforceable master repurchase agreements or legally enforceable master securities lending agreements that give the Corporation, in the event of default by the counterparty, the right to liquidate securities held and to offset receivables and payables with the same counterparty. The Corporation offsets securities financing transactions with the same counterparty on the Consolidated Balance Sheet where it has such a legally enforceable master netting agreement and the transactions have the same maturity date.

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 December 31, 2023 and 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.

Securities Financing Agreements

(Dollars in millions)	Gross Assets/ Liabilities [1]	Amounts Offset	Net Balance Sheet Amount	Financial Instruments [2]	Net Assets/ Liabilities
	December 31, 2023				
Securities borrowed or purchased under agreements to resell [3]	**$ 703,641**	**$ (423,017)**	**$ 280,624**	**$ (257,541)**	**$ 23,083**
Securities loaned or sold under agreements to repurchase	**$ 706,904**	**$ (423,017)**	**$ 283,887**	**$ (272,285)**	**$ 11,602**
Other [4]	**10,066**	**—**	**10,066**	**(10,066)**	**—**
Total	**$ 716,970**	**$ (423,017)**	**$ 293,953**	**$ (282,351)**	**$ 11,602**
	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 $8.7 billion reported in loans and leases on the Consolidated Balance Sheet for both December 31, 2023 and 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
			December 31, 2023		
Securities sold under agreements to repurchase	**$ 234,974**	**$ 228,627**	**$ 85,176**	**$ 75,020**	**$ 623,797**
Securities loaned	**76,580**	**139**	**618**	**5,770**	**83,107**
Other	**10,066**	**—**	**—**	**—**	**10,066**
Total	**$ 321,620**	**$ 228,766**	**$ 85,794**	**$ 80,790**	**$ 716,970**
			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
	December 31, 2023			
U.S. government and agency securities	**$ 352,950**	**$ 34**	**$ 38**	**$ 353,022**
Corporate securities, trading loans and other	**23,242**	**1,805**	**661**	**25,708**
Equity securities	**11,517**	**81,266**	**9,367**	**102,150**
Non-U.S. sovereign debt	**231,140**	**2**	**—**	**231,142**
Mortgage trading loans and ABS	**4,948**	**—**	**—**	**4,948**
Total	**$ 623,797**	**$ 83,107**	**$ 10,066**	**$ 716,970**
	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

Under repurchase agreements, the Corporation is required to post collateral with a market value equal to or in excess of the principal amount borrowed. For securities loaned transactions, the Corporation receives collateral in the form of cash, letters of credit or other securities. To determine whether the market value of the underlying collateral remains sufficient, collateral is generally valued daily, and the Corporation may be required to deposit additional collateral or may receive or return collateral pledged when appropriate. Repurchase agreements and securities loaned transactions are generally either overnight, continuous (i.e., no stated term) or short-term. The Corporation manages liquidity risks related to these agreements by sourcing funding from a diverse group of counterparties, providing a range of securities collateral and pursuing longer durations, when appropriate.

Short-term Borrowings

The Corporation classifies borrowings with an original maturity of less than one year as short-term borrowings on the Consolidated Balance Sheet. At December 31, 2023 and 2022, the majority of short-term borrowings consisted of Federal Home Loan Bank advances, which totaled $13.2 billion and $9.2 billion, and commercial paper, which totaled $13.1 billion and $9.9 billion.

Collateral

The Corporation accepts securities and loans as collateral that it is permitted by contract or practice to sell or repledge. At December 31, 2023 and 2022, the fair value of this collateral was $911.3 billion and $827.6 billion, of which $870.9 billion and $764.1 billion were sold or repledged. The primary source of this collateral is securities borrowed or purchased under agreements to resell.

The Corporation also pledges company-owned securities and loans as collateral in transactions that include repurchase agreements, securities loaned, public and trust deposits, U.S. Treasury tax and loan notes, and short-term borrowings. This collateral, which in some cases can be sold or repledged by the counterparties to the transactions, is parenthetically disclosed on the Consolidated Balance Sheet.

In certain cases, the Corporation has transferred assets to consolidated VIEs where those restricted assets serve as collateral for the interests issued by the VIEs. These assets are included on the Consolidated Balance Sheet in Assets of Consolidated VIEs.

In addition, the Corporation obtains collateral in connection with its derivative contracts. Required collateral levels vary depending on the credit risk rating and the type of counterparty. Generally, the Corporation accepts collateral in the form of cash, U.S. Treasury securities and other marketable securities. Based on provisions contained in master netting agreements, the Corporation nets cash collateral received against derivative assets. The Corporation also pledges collateral on its own derivative positions which can be applied against derivative liabilities. For more information on the collateral of derivatives, see Note 3 – Derivatives.

Restricted Cash

At December 31, 2023 and 2022, the Corporation held restricted cash included within cash and cash equivalents on the Consolidated Balance Sheet of $5.6 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 11 Long-term Debt

Long-term debt consists of borrowings having an original maturity of one year or more. The table below presents the balance of long-term debt at December 31, 2023 and 2022, and the related contractual rates and maturity dates as of December 31, 2023.

(Dollars in millions)	Weighted-average Rate	Interest Rates	Maturity Dates	December 31 2023	2022
Notes issued by Bank of America Corporation [1]					
Senior notes:					
Fixed	**3.29 %**	**0.25 - 8.05 %**	**2024 - 2052**	**$ 194,388**	$ 188,429
Floating	**5.72**	**0.74 - 10.40**	**2024 - 2044**	**14,007**	17,469
Senior structured notes				**14,895**	11,608
Subordinated notes:					
Fixed	**4.89**	**2.94 - 8.57**	**2024 - 2045**	**20,909**	21,098
Floating	**3.54**	**2.48 - 6.41**	**2026 - 2037**	**4,597**	4,544
Junior subordinated notes:					
Fixed	**6.71**	**6.45 - 8.05**	**2027 - 2066**	**744**	743
Floating	**6.44**	**6.44**	**2056**	**1**	1
Total notes issued by Bank of America Corporation				**249,541**	243,892
Notes issued by Bank of America, N.A.					
Senior notes:					
Fixed	**5.58**	**5.25 - 5.82**	**2024 - 2028**	**5,076**	—
Floating	**5.82**	**5.26 - 6.42**	**2024 - 2028**	**3,517**	2,600
Subordinated notes	**6.00**	**6.00**	**2036**	**1,476**	1,485
Advances from Federal Home Loan Banks:					
Fixed	**5.62**	**0.01 - 7.42**	**2024 - 2034**	**5,826**	681
Securitizations and other BANA VIEs [2]				**7,892**	4,300
Other				**782**	908
Total notes issued by Bank of America, N.A.				**24,569**	9,974
Other debt					
Structured liabilities [3]				**27,471**	21,835
Nonbank VIEs [2]				**564**	281
Other				**59**	—
Total notes issued by nonbank and other entities				**28,094**	22,116
Total long-term debt				**$ 302,204**	$ 275,982

(1) Includes total loss-absorbing capacity compliant debt.

(2) Represents liabilities of consolidated VIEs included in total long-term debt on the Consolidated Balance Sheet. Long-term debt of VIEs is collateralized by the assets of the VIEs. At December 31, 2023, amount includes debt predominantly from credit card and automobile securitizations and other VIEs of $7.8 billion and $204 million. For more information, see Note 6 – Securitizations and Other Variable Interest Entities.

(3) Includes debt outstanding of $10.0 billion and $8.0 billion at December 31, 2023 and 2022 that was issued by BofA Finance LLC, a consolidated finance subsidiary of Bank of America Corporation, the parent company, and is fully and unconditionally guaranteed by the parent company.

During 2023, the Corporation issued $62.0 billion of long-term debt consisting of $24.0 billion of notes issued by Bank of America Corporation, $25.1 billion of notes issued by Bank of America, N.A. and $12.9 billion of other debt. During 2022, the Corporation issued $66.0 billion of long-term debt consisting of $44.2 billion of notes issued by Bank of America Corporation, $10.0 billion of notes issued by Bank of America, N.A. and $11.8 billion of other debt.

During 2023, the Corporation had total long-term debt maturities and redemptions in the aggregate of $42.7 billion consisting of $25.3 billion for Bank of America Corporation, $10.5 billion for Bank of America, N.A. and $6.9 billion of other debt. During 2022, the Corporation had total long-term debt maturities and redemptions in the aggregate of $33.3 billion consisting of $19.8 billion for Bank of America Corporation, $9.9 billion for Bank of America, N.A. and $3.6 billion of other debt.

Bank of America Corporation and Bank of America, N.A. maintain various U.S. and non-U.S. debt programs to offer both senior and subordinated notes. The notes may be denominated in U.S. dollars or foreign currencies. At December 31, 2023 and 2022, the amount of foreign currency-denominated debt translated into U.S. dollars included in total long-term debt was $49.8 billion and $46.7 billion. Foreign currency contracts may be used to convert certain foreign currency-denominated debt into U.S. dollars.

The weighted-average effective interest rates for total long-term debt (excluding senior structured notes), total fixed-rate debt and total floating-rate debt were 3.70 percent, 3.55 percent and 5.21 percent, respectively, at December 31, 2023, and 3.27 percent, 3.23 percent and 4.14 percent, respectively, at December 31, 2022. The Corporation's ALM activities maintain an overall interest rate risk management strategy that incorporates the use of interest rate contracts to manage fluctuations in earnings caused by interest rate volatility. The Corporation's goal is to manage interest rate sensitivity so that movements in interest rates do not have a significantly adverse effect on earnings and capital. The weighted-average rates are the contractual interest rates on the debt and do not reflect the impacts of derivative transactions.

The following table shows the carrying value for aggregate annual contractual maturities of long-term debt as of December 31, 2023. Included in the table are certain structured notes issued by the Corporation that contain provisions whereby the borrowings are redeemable at the option of the holder (put options) at specified dates prior to maturity. Other structured notes have coupon or repayment terms linked to the performance of debt or equity securities, indices, currencies or commodities, and the maturity may be accelerated based on the value of a referenced index or security. In both cases, the Corporation or a subsidiary may be required to settle the obligation for cash or other securities prior to the contractual maturity date. These borrowings are reflected in the table as maturing at their contractual maturity date.

Long-term Debt by Maturity

(Dollars in millions)	2024	2025	2026	2027	2028	Thereafter	Total
Bank of America Corporation							
Senior notes	$ 7,650	$ 25,526	$ 24,743	$ 21,447	$ 27,986	$ 101,043	**$ 208,395**
Senior structured notes	719	698	1,177	627	1,056	10,618	**14,895**
Subordinated notes	3,136	5,137	4,904	2,118	940	9,271	**25,506**
Junior subordinated notes	—	—	—	190	—	555	**745**
Total Bank of America Corporation	11,505	31,361	30,824	24,382	29,982	121,487	**249,541**
Bank of America, N.A.							
Senior notes	2,270	2,422	3,219	—	682	—	**8,593**
Subordinated notes	—	—	—	—	—	1,476	**1,476**
Advances from Federal Home Loan Banks	5,750	13	9	4	9	41	**5,826**
Securitizations and other Bank VIEs [1]	1,215	2,249	3,364	—	866	198	**7,892**
Other	348	204	38	57	134	1	**782**
Total Bank of America, N.A.	9,583	4,888	6,630	61	1,691	1,716	**24,569**
Other debt							
Structured Liabilities	5,603	3,046	3,726	2,048	2,042	11,006	**27,471**
Nonbank VIEs [1]	6	—	7	—	7	544	**564**
Other	40	19	—	—	—	—	**59**
Total other debt	5,649	3,065	3,733	2,048	2,049	11,550	**28,094**
Total long-term debt	**$ 26,737**	**$ 39,314**	**$ 41,187**	**$ 26,491**	**$ 33,722**	**$ 134,753**	**$ 302,204**

[1] Represents liabilities of consolidated VIEs included in total long-term debt on the Consolidated Balance Sheet.

NOTE 12 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.

Credit Extension Commitments

The Corporation enters into commitments to extend credit such as loan commitments, 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 $10.3 billion and $10.4 billion at December 31, 2023 and 2022. The carrying value of the Corporation's credit extension commitments at December 31, 2023 and 2022, excluding commitments accounted for under the fair value option, was $1.2 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 following table includes the notional amount of commitments of $2.6 billion and $3.0 billion at December 31, 2023 and 2022 that are accounted for under the fair value option. However, the table excludes the cumulative net fair value for these commitments of $67 million and $110 million at December 31, 2023 and 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 21 – 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
	December 31, 2023				
Notional amount of credit extension commitments					
Loan commitments [1]	**$ 124,298**	**$ 198,818**	**$ 193,878**	**$ 15,386**	**$ 532,380**
Home equity lines of credit	**2,775**	**9,182**	**11,195**	**21,975**	**45,127**
Standby letters of credit and financial guarantees [2]	**21,067**	**9,633**	**2,693**	**652**	**34,045**
Letters of credit	**873**	**207**	**66**	**29**	**1,175**
Other commitments [3]	**17**	**50**	**108**	**1,035**	**1,210**
Legally binding commitments	**149,030**	**217,890**	**207,940**	**39,077**	**613,937**
Credit card lines [4]	**440,328**	**—**	**—**	**—**	**440,328**
Total credit extension commitments	**$ 589,358**	**$ 217,890**	**$ 207,940**	**$ 39,077**	**$ 1,054,265**
	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 December 31, 2023 and 2022, $3.1 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 $23.6 billion and $9.7 billion at December 31, 2023, and $25.1 billion and $9.5 billion at December 31, 2022. Amounts in the table include consumer SBLCs of $744 million and $575 million at December 31, 2023 and 2022.

[3] Primarily includes second-loss positions on lease-end residual value guarantees.

[4] Includes business card unused lines of credit.

Other Commitments

At December 31, 2023 and 2022, the Corporation had commitments to purchase loans (e.g., residential mortgage and commercial real estate) of $822 million and $636 million, which upon settlement will be included in trading account assets, loans or LHFS, and commitments to purchase commercial loans of $420 million and $294 million, which upon settlement will be included in trading account assets.

At December 31, 2023 and 2022, the Corporation had commitments to enter into resale and forward-dated resale and securities borrowing agreements of $117.0 billion and $92.0 billion, and commitments to enter into forward-dated repurchase and securities lending agreements of $63.0 billion and $57.8 billion. A significant portion of these commitments will expire within the next 12 months.

At December 31, 2023 and 2022, the Corporation had a commitment to originate or purchase up to $4.0 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 December 31, 2023 and 2022, the Corporation had unfunded equity investment commitments of $477 million and $571 million.

As a Federal Reserve member bank, the Corporation is required to subscribe to a certain amount of shares issued by its Federal Reserve district bank, which pays cumulative dividends at a prescribed rate. At both December 31, 2023 and 2022, the Corporation paid $5.4 billion for half of its subscribed shares, with the remaining half subject to call by the Federal Reserve district bank board, which the Corporation believes is remote.

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 December 31, 2023 and 2022, the notional amount of these guarantees totaled $3.8 billion and $4.3 billion. At December 31, 2023 and 2022, the Corporation's maximum exposure related to these guarantees totaled $577 million and $632 million, with estimated maturity dates between 2033 and 2037.

Indemnifications

In the ordinary course of business, the Corporation enters into various agreements that contain indemnifications, such as tax indemnifications, whereupon payment may become due if certain external events occur, such as a change in tax law. The indemnification clauses are often standard contractual terms and were entered into in the normal course of business based on an assessment that the risk of loss would be remote. These agreements typically contain an early termination clause that permits the Corporation to exit the agreement upon these events. The maximum potential future payment under indemnification agreements is difficult to assess for several reasons, including the occurrence of an external event, the inability to predict future changes in tax and other laws, the difficulty in determining how such laws would apply to parties in contracts, the absence of exposure limits contained in standard contract language and the timing of any early termination clauses. Historically, any payments made under these guarantees have been de minimis. The Corporation has assessed the probability of making such payments in the future as remote.

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 $395 billion, is an estimate of the Corporation's maximum potential exposure as of December 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.

Exchange and Clearing House Member Guarantees

The Corporation is a member of various securities and derivative exchanges and clearinghouses, both in the U.S. and other countries. As a member, the Corporation may be required to pay a pro-rata share of the losses incurred by some of these organizations as a result of another member default and under other loss scenarios. The Corporation's potential obligations may be limited to its membership interests in such exchanges and clearinghouses, to the amount (or multiple) of the Corporation's contribution to the guarantee fund or, in limited instances, to the full pro-rata share of the residual losses after applying the guarantee fund. The Corporation's maximum potential exposure under these membership agreements is difficult to estimate; however, the Corporation has assessed the probability of making any such payments as remote.

Prime Brokerage and Securities Clearing Services

In connection with its prime brokerage and clearing businesses, the Corporation performs securities clearance and settlement services with 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 $132.5 billion and $59.6 billion at December 31, 2023 and 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 and capital securities issued by certain statutory trust companies that are 100 percent owned finance subsidiaries of the Corporation.

Representations and Warranties Obligations and Corporate Guarantees

The Corporation securitizes first-lien residential mortgage loans generally in the form of RMBS guaranteed by the GSEs or by GNMA in the case of FHA-insured, VA-guaranteed and Rural Housing Service-guaranteed mortgage loans, and sells pools of first-lien residential mortgage loans in the form of whole loans. In addition, in prior years, legacy companies and certain subsidiaries sold pools of first-lien residential mortgage loans and home equity loans as private-label securitizations or in the form of whole loans. In connection with these transactions, the Corporation or certain of its subsidiaries or legacy companies make and have made various representations and warranties. Breaches of these representations and warranties have resulted in and may continue to result in the requirement to repurchase mortgage loans or to otherwise make whole or provide indemnification or other remedies to sponsors, investors, securitization trusts, guarantors, insurers or other parties (collectively, repurchases).

Unresolved Repurchase Claims

During 2023, the Corporation received $254 million in new repurchase claims that were not time-barred. During 2023, $269 million in claims were resolved.

Reserve and Related Provision

The reserve for representations and warranties obligations and corporate guarantees was $604 million and $612 million at December 31, 2023 and 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.

Other Contingencies

On November 16, 2023, the Federal Deposit Insurance Corporation (FDIC) issued its final rule to impose a special assessment to recover the loss to the Deposit Insurance Fund (DIF) resulting from the closure of Silicon Valley Bank and Signature Bank. The special assessment is based on uninsured deposits as of December 31, 2022, adjusted to exclude the first $5 billion. Accordingly, in the fourth quarter of 2023, the Corporation recorded noninterest expense of $2.1 billion in other general operating expenses for its estimated assessment amount. The FDIC will collect the special assessment over eight quarterly assessment periods. The special assessment is subject to change for any updates made by the FDIC to the estimated loss to the DIF, or if the assessments collected from insured depository institutions change due to amendments made to their uninsured deposits reported for the December 31, 2022 period. In the event of any such change resulting in an increased assessment, the Corporation could recognize further expense in future periods.

Litigation and Regulatory Matters

In the ordinary course of business, the Corporation and its subsidiaries are routinely defendants in or parties to many pending and liability that has been previously established. Excluding expenses of internal and external legal service providers, litigation and regulatory investigation-related expense of $519 million and $1.2 billion was recognized in 2023 and 2022.

For any matter disclosed in this Note 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 December 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 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 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 January 9, 2017, the FDIC filed suit against BANA in the U.S. District Court for the District of Columbia (District Court) alleging failure to pay a December 15, 2016 invoice for additional deposit insurance assessments and interest in the amount of $542 million for the quarters ending June 30, 2013 through December 31, 2014. On April 7, 2017, the FDIC amended its complaint to add a claim for additional deposit insurance and interest in the amount of $583 million for the quarters ending March 31, 2012 through March 31, 2013. The FDIC asserts these claims based on BANA's

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 has been submitted to the District Court judge for consideration, and the parties have filed objections to the recommendations in the Report.

LIBOR

The Corporation, BANA and certain Merrill Lynch entities have been named as defendants along with most of the other LIBOR panel banks in a number of individual and putative class actions by persons alleging that they sustained losses on U.S. dollar LIBOR-based financial instruments as a result of collusion or manipulation by defendants regarding the setting of U.S. dollar LIBOR. Plaintiffs assert a variety of claims, including antitrust, Commodity Exchange Act, Racketeer Influenced and Corrupt Organizations (RICO), Securities Exchange Act of 1934, common law fraud and breach of contract claims, and seek compensatory, treble and punitive damages, and injunctive relief. All but one of the cases naming the Corporation and its affiliates relating to U.S. dollar LIBOR are pending in the U.S. District Court for the Southern District of New York (District Court). The District Court has dismissed all RICO claims, and dismissed all manipulation claims against Bank of America entities based on alleged trader conduct. The District Court has also substantially limited the scope of antitrust, Commodity Exchange Act and various other claims, including by dismissing in their entirety certain individual and putative class plaintiffs' antitrust claims for lack of standing. On December 30, 2021, the U.S. Court of Appeals for the Second Circuit affirmed the dismissal of these antitrust claims for lack of standing. Certain individual and putative class actions remain pending against the Corporation, BANA and certain Merrill Lynch entities. On February 28, 2018, the District Court granted certification of a class of persons that purchased OTC swaps and notes that referenced U.S. dollar LIBOR from one of the U.S. dollar LIBOR panel banks, limited to claims under Section 1 of the Sherman Act.

Unemployment Insurance Prepaid Cards

BANA has been named as a defendant in a number of putative class action, mass action, and individual lawsuits in multiple states related to its administration of prepaid debit cards to distribute unemployment and other state benefits. These lawsuits generally assert claims for monetary damages and injunctive relief.

Class action and mass action lawsuits related to the California program, the largest program administered by BANA measured by total benefits and number of participants, have been consolidated into a multidistrict litigation (MDL) in the U.S. District Court for the Southern District of California. On May 25, 2023, the court dismissed certain of the claims in the MDL while allowing others to proceed, and plaintiffs subsequently filed an amended complaint. BANA filed a partial motion to dismiss certain of the remaining claims in the amended complaint in the MDL, which is currently pending.

NOTE 13 Shareholders’ Equity

Common Stock

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

Declaration Date	Record Date	Payment Date	Dividend Per Share
January 31, 2024	March 1, 2024	March 29, 2024	$ 0.24
October 18, 2023	December 1, 2023	December 29, 2023	0.24
July 19, 2023	September 1, 2023	September 29, 2023	0.24
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 February 20, 2024.

The cash dividends paid per share of common stock were $0.92 $0.86 and $0.78 for 2023, 2022 and 2021, respectively.

The table below summarizes common stock repurchases during 2023, 2022 and 2021.

Common Stock Repurchase Summary

(in millions)	**2023**	2022	2021
Total share repurchases, including CCAR capital plan repurchases	147	126	615
Purchase price of shares repurchased and retired [(1)]	$ 4,576	$ 5,073	$ 25,126

(1) Consists of repurchases pursuant to the Corporation’s CCAR capital plans.

During 2023, in connection with employee stock plans, the Corporation issued 75 million shares of its common stock and, to satisfy tax withholding obligations, repurchased 30 million shares of common stock. At December 31, 2023, the Corporation had reserved 497 million unissued shares of common stock for future issuances under employee stock plans, convertible notes and preferred stock.

Preferred Stock

The cash dividends declared on preferred stock were $1.6 billion in both 2023 and 2022 and $1.4 billion in 2021.

All series of preferred stock in the Preferred Stock Summary table have a par value of $0.01 per share, are not subject to the operation of a sinking fund, have no participation rights, and with the exception of the Series L Preferred Stock, are not convertible. The holders of the Series B Preferred Stock and Series 1 through 5 Preferred Stock have general voting rights and vote together with the common stock. The holders of the other series included in the table have no general voting rights. All outstanding series of preferred stock of the Corporation have preference over the Corporation’s common stock with respect to the payment of dividends and distribution of the Corporation’s assets in the event of a liquidation or dissolution. With the exception of the Series B, F and G Preferred Stock, if any dividend payable on these series is in arrears for three or more semi-annual or six or more quarterly dividend periods, as applicable (whether consecutive or not), the holders of these series and any other class or series of preferred stock ranking equally as to payment of dividends and upon which equivalent voting rights have been conferred and are exercisable (voting as a single class) will be entitled to vote for the election of two additional directors. These voting rights terminate when the Corporation has paid in full dividends on these series for at least two semi-annual or four quarterly dividend periods, as applicable, following the dividend arrearage.

The 7.25% Non-Cumulative Perpetual Convertible Preferred Stock, Series L (Series L Preferred Stock) does not have early redemption/call rights. Each share of the Series L Preferred Stock may be converted at any time, at the option of the holder, into 20 shares of the Corporation’s common stock plus cash in lieu of fractional shares. The Corporation may cause some or all of the Series L Preferred Stock, at its option, at any time or from time to time, to be converted into shares of common stock at the then-applicable conversion rate if, for 20 trading days during any period of 30 consecutive trading days, the closing price of common stock exceeds 130 percent of the then-applicable conversion price of the Series L Preferred Stock. If a conversion of Series L Preferred Stock occurs at the option of the holder, subsequent to a dividend record date but prior to the dividend payment date, the Corporation will still pay any accrued dividends payable.

The table below presents a summary of perpetual preferred stock outstanding at December 31, 2023.

Preferred Stock Summary

(Dollars in millions, except as noted)

Series	Description	Initial Issuance Date	Total Shares Outstanding	Liquidation Preference per Share (in dollars)	Carrying Value	Per Annum Dividend Rate	Dividend per Share (in dollars) (1)	Annual Dividend	Redemption Period (2)
Series B	7.000% Cumulative Redeemable	June 1997	7,076	$ 100	$ 1	7.00 %	$ 7	$ —	n/a
Series E (3)	Floating Rate Non-Cumulative	November 2006	12,317	25,000	308	3-mo. CME Term SOFR + 61.161 bps (4)(5)	1.38	17	On or after November 15, 2011
Series F	Floating Rate Non-Cumulative	March 2012	1,409	100,000	141	3-mo. CME Term SOFR + 66.161 bps (4)(5)	5,693.77	8	On or after March 15, 2012
Series G	Adjustable Rate Non-Cumulative	March 2012	4,925	100,000	492	3-mo. CME Term SOFR + 66.161 bps (4)(5)	5,693.77	28	On or after March 15, 2012
Series L	7.25% Non-Cumulative Perpetual Convertible	January 2008	3,080,182	1,000	3,080	7.25 %	72.50	223	n/a
Series U (7)	Fixed-to-Floating Rate Non-Cumulative	May 2013	40,000	25,000	1,000	5.2% to, but excluding, 6/1/23;3-mo. CME Term SOFR + 339.661 bps thereafter (5)(6)	70.32	70	On or after June 1, 2023
Series X (7)	Fixed-to-Floating Rate Non-Cumulative	September 2014	80,000	25,000	2,000	6.250% to, but excluding, 9/5/24; 3-mo. CME Term SOFR + 396.661 bps thereafter (5)	62.50	125	On or after September 5, 2024
Series Z (7)	Fixed-to-Floating Rate Non-Cumulative	October 2014	56,000	25,000	1,400	6.500% to, but excluding, 10/23/24; 3-mo. CME Term SOFR + 443.561 bps thereafter (5)	65.00	91	On or after October 23, 2024
Series AA (7)	Fixed-to-Floating Rate Non-Cumulative	March 2015	76,000	25,000	1,900	6.100% to, but excluding, 3/17/25; 3-mo. CME Term SOFR + 415.961 bps thereafter (5)	61.00	116	On or after March 17, 2025
Series DD (7)	Fixed-to-Floating Rate Non-Cumulative	March 2016	40,000	25,000	1,000	6.300% to, but excluding, 3/10/26; 3-mo. CME Term SOFR + 481.461 bps thereafter (5)	63.00	63	On or after March 10, 2026
	Fixed-to-Floating					5.875% to, but excluding, 3/15/28; 3-mo. CME Term			

[1] For all series of preferred stock other than Series B, Series F, Series G and Series L, “Dividend per Share” means the amount of dividends per depositary share of such series.

[2] The Corporation may redeem series of preferred stock on or after the redemption date, in whole or in part, at its option, at the liquidation preference plus declared and unpaid dividends. Series B and Series L Preferred Stock do not have early redemption/call rights.

[3] Ownership is held in the form of depositary shares, each representing a 1/1,000th interest in a share of preferred stock, paying a quarterly cash dividend, if and when declared.

[4] Subject to 4.00% minimum rate per annum.

[5] The number of basis points to be added to 3-mo. Term SOFR is equal to the original basis point spread applicable to floating rate periods when the preferred stock was originally issued, plus a tenor spread adjustment of 26.161 bps relating to the transition from 3-mo. LIBOR to 3-mo. Term SOFR.

[6] Solely for the dividend period commencing 6/1/23, the per annum dividend rate for the Series U Preferred Stock was determined by reference to 3-mo. LIBOR + 313.5 bps.

[7] Ownership is held in the form of depositary shares, each representing a 1/25th interest in a share of preferred stock, paying a semi-annual cash dividend, if and when declared, until the first redemption date at which time, it adjusts to a quarterly cash dividend, if and when declared, thereafter.

[8] Ownership is held in the form of depositary shares, each representing a 1/25th interest in a share of preferred stock, paying a quarterly cash dividend, if and when declared.

[9] Ownership is held in the form of depositary shares, each representing a 1/1,200th interest in a share of preferred stock, paying a quarterly cash dividend, if and when declared.

[10] Subject to 3.00% minimum rate per annum.

n/a = not applicable

NOTE 14 Accumulated Other Comprehensive Income (Loss)

The table below presents the changes in accumulated OCI after-tax for 2023, 2022 and 2021.

(Dollars in millions)	Debt Securities	Debit Valuation Adjustments	Derivatives	Employee Benefit Plans	Foreign Currency	Total
Balance, December 31, 2020	$ 5,122	$ (1,992)	$ 426	$ (4,266)	$ (946)	$ (1,656)
Net change	(2,077)	356	(2,306)	624	(45)	(3,448)
Balance, December 31, 2021	$ 3,045	$ (1,636)	$ (1,880)	$ (3,642)	$ (991)	$ (5,104)
Net change	(6,028)	755	(10,055)	(667)	(57)	(16,052)
Balance, December 31, 2022	$ (2,983)	$ (881)	$ (11,935)	$ (4,309)	$ (1,048)	$ (21,156)
Net change	**573**	**(686)**	**3,919**	**(439)**	**1**	**3,368**
Balance, December 31, 2023	**$ (2,410)**	**$ (1,567)**	**$ (8,016)**	**$ (4,748)**	**$ (1,047)**	**$ (17,788)**

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 2023, 2022 and 2021.

(Dollars in millions)	Pretax	Tax effect	After-tax	Pretax	Tax effect	After-tax	Pretax	Tax effect	After-tax
	2023			2022			2021		
Debt securities:									
Net increase (decrease) in fair value	**$ 348**	**$ (79)**	**$ 269**	$ (7,995)	$ 1,991	$ (6,004)	$(2,749)	$ 689	$(2,060)
Net realized (gains) losses reclassified into earnings [1]	**405**	**(101)**	**304**	(32)	8	(24)	(22)	5	(17)
Net change	**753**	**(180)**	**573**	(8,027)	1,999	(6,028)	(2,771)	694	(2,077)
Debit valuation adjustments:									
Net increase (decrease) in fair value	**(917)**	**223**	**(694)**	980	(237)	743	449	(103)	346
Net realized (gains) losses reclassified into earnings [1]	**11**	**(3)**	**8**	16	(4)	12	13	(3)	10
Net change	**(906)**	**220**	**(686)**	996	(241)	755	462	(106)	356
Derivatives:									
Net increase (decrease) in fair value	**2,064**	**(514)**	**1,550**	(13,711)	3,430	(10,281)	(2,849)	703	(2,146)
Reclassifications into earnings:									
Net interest income	**1,153**	**(288)**	**865**	332	(84)	248	(166)	48	(118)
Market making and similar activities	**2,031**	**(508)**	**1,523**	—	—	—	—	—	—
Compensation and benefits expense	**(25)**	**6**	**(19)**	(29)	7	(22)	(55)	13	(42)
Net realized (gains) losses reclassified into earnings	**3,159**	**(790)**	**2,369**	303	(77)	226	(221)	61	(160)
Net change	**5,223**	**(1,304)**	**3,919**	(13,408)	3,353	(10,055)	(3,070)	764	(2,306)
Employee benefit plans:									
Net increase (decrease) in fair value	**(642)**	**162**	**(480)**	(1,103)	276	(827)	463	(72)	391
Net actuarial losses and other reclassified into earnings [2]	**56**	**(16)**	**40**	198	(49)	149	295	(67)	228
Settlements, curtailments and other	**1**	**—**	**1**	11	—	11	5	—	5
Net change	**(585)**	**146**	**(439)**	(894)	227	(667)	763	(139)	624
Foreign currency:									
Net increase (decrease) in fair value	**(177)**	**192**	**15**	332	(390)	(58)	296	(341)	(45)
Net realized (gains) losses reclassified into earnings [1]	**(48)**	**34**	**(14)**	—	1	1	(5)	5	—
Net change	**(225)**	**226**	**1**	332	(389)	(57)	291	(336)	(45)
Total other comprehensive income (loss)	**$4,260**	**$ (892)**	**$3,368**	$(21,001)	$ 4,949	$(16,052)	$(4,325)	$ 877	$(3,448)

[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 15 Earnings Per Common Share

The calculation of EPS and diluted EPS for 2023, 2022 and 2021 is presented below. For more information on the calculation of EPS, see Note 1 – Summary of Significant Accounting Principles.

(In millions, except per share information)	2023	2022	2021
Earnings per common share			
Net income	**$ 26,515**	$ 27,528	$ 31,978
Preferred stock dividends and other	**(1,649)**	(1,513)	(1,421)
Net income applicable to common shareholders	**$ 24,866**	$ 26,015	$ 30,557
Average common shares issued and outstanding	8,028.6	8,113.7	8,493.3
Earnings per common share	$ 3.10	$ 3.21	$ 3.60
Diluted earnings per common share			
Net income applicable to common shareholders	**$ 24,866**	$ 26,015	$ 30,557
Average common shares issued and outstanding	**8,028.6**	8,113.7	8,493.3
Dilutive potential common shares [1]	**51.9**	53.8	65.1
Total diluted average common shares issued and outstanding	8,080.5	8,167.5	8,558.4
Diluted earnings per common share	$ 3.08	$ 3.19	$ 3.57

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

For 2023, 2022 and 2021, 62 million average dilutive potential common shares associated with the Series L preferred stock were not included in the diluted share count because the result would have been antidilutive under the "if-converted" method.

NOTE 16 Regulatory Requirements and Restrictions

The Federal Reserve, Office of the Comptroller of the Currency (OCC) and FDIC (collectively, U.S. banking regulators) jointly establish regulatory capital adequacy rules, including Basel 3, for U.S. banking organizations. As a financial holding company, the Corporation is subject to capital adequacy rules issued by the Federal Reserve. The Corporation's banking entity affiliates are subject to capital adequacy rules issued by the OCC.

The Corporation and its primary banking entity affiliate, BANA, are Advanced approaches institutions under Basel 3. As Advanced approaches institutions, the Corporation and its banking entity affiliates are required to report regulatory risk-based capital ratios and risk-weighted assets under both the Standardized and Advanced approaches. The approach that yields the lower ratio is used to assess capital adequacy, including under the Prompt Corrective Action (PCA) framework.

The Corporation is 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 to executive officers. The Corporation's insured depository institution subsidiaries are required to maintain a minimum 6.0 percent SLR to be considered well capitalized under the PCA framework.

The following table presents capital ratios and related information in accordance with Basel 3 Standardized and Advanced approaches as measured at December 31, 2023 and 2022 for the Corporation and BANA.

Regulatory Capital under Basel 3

(Dollars in millions, except as noted)	Bank of America Corporation			Bank of America, N.A.		
	Standardized Approach (1)	Advanced Approaches (1)	Regulatory Minimum (2)	Standardized Approach (1)	Advanced Approaches (1)	Regulatory Minimum (3)
	December 31, 2023					
Risk-based capital metrics:						
Common equity tier 1 capital	**$194,928**	**$194,928**		**$187,621**	**$187,621**	
Tier 1 capital	**223,323**	**223,323**		**187,621**	**187,621**	
Total capital (4)	**251,399**	**241,449**		**201,932**	**192,175**	
Risk-weighted assets (in billions)	**1,651**	**1,459**		**1,395**	**1,114**	
Common equity tier 1 capital ratio	**11.8 %**	**13.4 %**	**9.5 %**	**13.5 %**	**16.8 %**	**7.0 %**
Tier 1 capital ratio	**13.5**	**15.3**	**11.0**	**13.5**	**16.8**	**8.5**
Total capital ratio	**15.2**	**16.6**	**13.0**	**14.5**	**17.2**	**10.5**
Leverage-based metrics:						
Adjusted quarterly average assets (in billions) (5)	**$ 3,135**	**$ 3,135**		**$ 2,471**	**$ 2,471**	
Tier 1 leverage ratio	**7.1 %**	**7.1 %**	**4.0**	**7.6 %**	**7.6 %**	**5.0**
Supplementary leverage exposure (in billions)		**$ 3,676**			**$ 2,910**	
Supplementary leverage ratio		**6.1 %**	**5.0**		**6.4 %**	**6.0**
	December 31, 2022					
Risk-based capital metrics:						
Common equity tier 1 capital	$ 180,060	$ 180,060		$ 181,089	$ 181,089	
Tier 1 capital	208,446	208,446		181,089	181,089	
Total capital (4)	238,773	230,916		194,254	186,648	
Risk-weighted assets (in billions)	1,605	1,411		1,386	1,087	
Common equity tier 1 capital ratio	11.2 %	12.8 %	10.4 %	13.1 %	16.7 %	7.0 %
Tier 1 capital ratio	13.0	14.8	11.9	13.1	16.7	8.5
Total capital ratio	14.9	16.4	13.9	14.0	17.2	10.5
Leverage-based metrics:						
Adjusted quarterly average assets (in billions) (5)	$ 2,997	$ 2,997		$ 2,358	$ 2,358	
Tier 1 leverage ratio	7.0 %	7.0 %	4.0	7.7 %	7.7 %	5.0
Supplementary leverage exposure (in billions)		$ 3,523			$ 2,785	
Supplementary leverage ratio		5.9 %	5.0		6.5 %	6.0

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

(2) The common equity tier 1 (CET1) capital regulatory minimum is the sum of the CET1 capital ratio minimum of 4.5 percent, the Corporation's G-SIB surcharge of 2.5 percent and the Corporation's capital conservation buffer of 2.5 percent (under the Advanced approaches) or the stress capital buffer of 2.5 percent at December 31, 2023 and 3.4 percent at December 31, 2022 (under the Standardized approach), as applicable. The countercyclical capital buffer was zero for both periods. The SLR regulatory minimum includes a leverage buffer of 2.0 percent.

(3) Risk-based capital regulatory minimums at both December 31, 2023 and 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.

(4) 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.

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

The capital adequacy rules issued by the U.S. banking regulators require institutions to meet the established minimums outlined in the table above. Failure to meet the minimum requirements can lead to certain mandatory and discretionary actions by regulators that could have a material adverse impact on the Corporation's financial position. At December 31, 2023 and 2022, the Corporation and its banking entity affiliates were well capitalized.

Other Regulatory Matters

At December 31, 2023 and 2022, the Corporation had cash and cash equivalents in the amount of $3.6 billion and $5.6 billion, and securities with a fair value of $18.0 billion and $16.6 billion that were segregated in compliance with securities regulations. Cash and cash equivalents segregated in compliance with securities regulations are a component of restricted cash. For more information, see Note 10 – Securities Financing Agreements, Short-term Borrowings, Collateral and Restricted Cash. In addition, at December 31, 2023 and 2022, the Corporation had cash deposited with clearing organizations of $23.7 billion and $20.7 billion primarily recorded in other assets on the Consolidated Balance Sheet.

Bank Subsidiary Distributions

The primary sources of funds for cash distributions by the Corporation to its shareholders are capital distributions received from its bank subsidiaries, BANA and Bank of America California, N.A. In 2023, the Corporation received dividends of $22.2 billion from BANA and $199 million from Bank of America California, N.A.

The amount of dividends that a subsidiary bank may declare in a calendar year without OCC approval is the subsidiary bank's net profits for that year combined with its retained net profits for the preceding two years. Retained net profits, as defined by the OCC, consist of net income less dividends declared during the period. In 2024, BANA can declare and pay dividends of approximately $12.0 billion to the Corporation plus an additional amount equal to its retained net profits for 2024 up to the date of any such dividend declaration. Bank of America California, N.A. can pay dividends of $66 million in 2024 plus an additional amount equal to its retained net profits for 2024 up to the date of any such dividend declaration.

NOTE 17 Employee Benefit Plans

Pension and Postretirement Plans

The Corporation sponsors a qualified noncontributory trusteed pension plan (Qualified Pension Plan), a number of noncontributory nonqualified pension plans and postretirement health and life plans that cover eligible employees. Non-U.S. pension plans sponsored by the Corporation vary based on the country and local practices.

The Qualified Pension Plan has a balance guarantee feature for account balances with participant-selected investments, applied at the time a benefit payment is made from the plan that effectively provides principal protection for participant balances transferred and certain compensation credits. The Corporation is responsible for funding any shortfall on the guarantee feature.

Benefits earned under the Qualified Pension Plan have been frozen. Thereafter, the cash balance accounts continue to earn investment credits or interest credits in accordance with the terms of the plan document.

The Corporation has an annuity contract that guarantees the payment of benefits vested under a terminated U.S. pension plan (Other Pension Plan). The Corporation, under a supplemental agreement, may be responsible for or benefit from actual experience and investment performance of the annuity assets. The Corporation made no contribution under this agreement in 2023 or 2022. Contributions may be required in the future under this agreement.

The Corporation's noncontributory, nonqualified pension plans are unfunded and provide supplemental defined pension benefits to certain eligible employees.

In addition to retirement pension benefits, certain benefits-eligible employees may become eligible to continue participation as retirees in health care and/or life insurance plans sponsored by the Corporation. These plans are referred to as the Postretirement Health and Life Plans.

The Pension and Postretirement Plans table summarizes the changes in the fair value of plan assets, changes in the projected benefit obligation (PBO), the funded status of both the accumulated benefit obligation (ABO) and the PBO, and the weighted-average assumptions used to determine benefit obligations for the pension plans and postretirement plans at December 31, 2023 and 2022. The estimate of the Corporation's PBO associated with these plans considers various actuarial assumptions, including assumptions for mortality rates and discount rates. The discount rate assumptions are derived from a cash flow matching technique that utilizes rates that are based on Aa-rated corporate bonds with cash flows that match estimated benefit payments of each of the plans. The decreases in the weighted-average discount rates in 2023 resulted in an increase to the PBO of $511 million at December 31, 2023. The increases in the weighted-average discount rates in 2022 resulted in a decrease to the PBO of approximately $5.3 billion at December 31, 2022. Significant gains and losses related to changes in the PBO for 2023 and 2022 primarily resulted from changes in the discount rate.

Pension and Postretirement Plans (1)

(Dollars in millions)	Qualified Pension Plan		Non-U.S. Pension Plans		Nonqualified and Other Pension Plans		Postretirement Health and Life Plans	
	2023	2022	**2023**	2022	**2023**	2022	**2023**	2022
Fair value, January 1	**$ 17,258**	$ 22,078	**$ 1,728**	$ 3,031	**$ 1,886**	$ 2,585	**$ 107**	$ 117
Actual return on plan assets	**1,436**	(3,896)	**17**	(898)	**103**	(332)	**5**	2
Company contributions (withdrawals)	**—**	—	**28**	30	**80**	(135)	**43**	45
Plan participant contributions	**—**	—	**1**	1	**—**	—	**102**	104
Settlements and curtailments	**—**	—	**(12)**	(51)	**—**	(6)	**—**	—
Benefits paid	**(1,062)**	(924)	**(80)**	(62)	**(220)**	(226)	**(159)**	(161)
Federal subsidy on benefits paid	**n/a**	n/a	**n/a**	n/a	**n/a**	n/a	**—**	—
Foreign currency exchange rate changes	**n/a**	n/a	**97**	(323)	**n/a**	n/a	**n/a**	n/a
Fair value, December 31	**$ 17,632**	$ 17,258	**$ 1,779**	$ 1,728	**$ 1,849**	$ 1,886	**$ 98**	$ 107
Change in projected benefit obligation								
Projected benefit obligation, January 1	**$ 11,580**	$ 15,676	**$ 1,752**	$ 3,116	**$ 2,109**	$ 2,753	**$ 700**	$ 928
Service cost	**—**	—	**27**	29	**—**	—	**2**	4
Interest cost	**616**	438	**80**	53	**111**	74	**36**	25
Plan participant contributions	**—**	—	**1**	1	**—**	—	**102**	104
Plan amendments	**—**	—	**4**	3	**—**	—	**—**	—
Settlements and curtailments	**—**	—	**(12)**	(51)	**—**	(6)	**—**	—
Actuarial loss (gain)	**635**	(3,610)	**121**	(1,054)	**92**	(486)	**(9)**	(198)
Benefits paid	**(1,062)**	(924)	**(80)**	(62)	**(220)**	(226)	**(160)**	(161)
Federal subsidy on benefits paid	**n/a**	n/a	**n/a**	n/a	**n/a**	n/a	**—**	—
Foreign currency exchange rate changes	**n/a**	n/a	**81**	(283)	**n/a**	n/a	**1**	(2)
Projected benefit obligation, December 31	**$ 11,769**	$ 11,580	**$ 1,974**	$ 1,752	**$ 2,092**	$ 2,109	**$ 672**	$ 700
Amounts recognized on Consolidated Balance Sheet								
Other assets	**$ 5,863**	$ 5,678	**$ 235**	$ 370	**$ 452**	$ 495	**$ —**	$ —
Accrued expenses and other liabilities	**—**	—	**(430)**	(394)	**(695)**	(718)	**(574)**	(593)
Net amount recognized, December 31	**$ 5,863**	$ 5,678	**$ (195)**	$ (24)	**$ (243)**	$ (223)	**$ (574)**	$ (593)
Funded status, December 31								
Accumulated benefit obligation	**$ 11,769**	$ 11,580	**$ 1,903**	$ 1,694	**$ 2,091**	$ 2,109	**n/a**	n/a
Overfunded (unfunded) status of ABO	**5,863**	5,678	**(124)**	34	**(242)**	(223)	**n/a**	n/a
Provision for future salaries	**—**	—	**71**	58	**1**	—	**n/a**	n/a
Projected benefit obligation	**11,769**	11,580	**1,974**	1,752	**2,092**	2,109	**$ 672**	$ 700
Weighted-average assumptions, December 31								
Discount rate	**5.13 %**	5.54 %	**4.48 %**	4.59 %	**5.19 %**	5.58 %	**5.17 %**	5.56 %

[1] The measurement date for all of the above plans was December 31 of each year reported.

n/a = not applicable

The Corporation’s estimate of its contributions to be made to the Non-U.S. Pension Plans, Nonqualified and Other Pension Plans, and Postretirement Health and Life Plans in 2024 is $28 million, $82 million and $25 million, respectively. The Corporation does not expect to make a contribution to the Qualified Pension Plan in 2024. It is the policy of the Corporation to fund no less than the minimum funding amount required by the Employee Retirement Income Security Act of 1974 (ERISA).

Pension Plans with ABO and PBO in excess of plan assets as of December 31, 2023 and 2022 are presented in the table below. For these plans, funding strategies vary due to legal requirements and local practices.

Plans with ABO and PBO in Excess of Plan Assets

	Non-U.S. Pension Plans		Nonqualified and Other Pension Plans	
(Dollars in millions)	**2023**	2022	**2023**	2022
PBO	**$ 499**	$ 458	**$ 695**	$ 719
ABO	**445**	416	**695**	719
Fair value of plan assets	**75**	71	**1**	1

Components of Net Periodic Benefit Cost

(Dollars in millions)	Qualified Pension Plan			Non-U.S. Pension Plans		
	2023	2022	2021	**2023**	2022	2021
Components of net periodic benefit cost (income)						
Service cost	**$ —**	$ —	$ —	**$ 27**	$ 29	$ 28
Interest cost	**616**	438	414	**80**	53	45
Expected return on plan assets	**(1,191)**	(1,204)	(1,173)	**(72)**	(59)	(70)
Amortization of actuarial loss (gain) and prior service cost	**94**	140	193	**11**	14	19
Other	**—**	—	—	**1**	10	5
Net periodic benefit cost (income)	**$ (481)**	$ (626)	$ (566)	**$ 47**	$ 47	$ 27
Weighted-average assumptions used to determine net cost for years ended December 31						
Discount rate	**5.54 %**	2.86 %	2.57 %	**4.59 %**	1.85 %	1.35 %
Expected return on plan assets	**6.50**	5.75	5.75	**4.17**	2.17	2.30
Rate of compensation increase	**n/a**	n/a	n/a	**4.25**	4.46	4.11

(Dollars in millions)	Nonqualified and Other Pension Plans			Postretirement Health and Life Plans		
	2023	2022	2021	**2023**	2022	2021
Components of net periodic benefit cost (income)						
Service cost	**$ —**	$ —	$ —	**$ 2**	$ 4	$ 5
Interest cost	**111**	74	67	**36**	25	24
Expected return on plan assets	**(97)**	(59)	(49)	**(2)**	(2)	(3)
Amortization of actuarial loss (gain) and prior service cost	**29**	54	63	**(78)**	(9)	20
Other	**—**	1	—	**—**	—	—
Net periodic benefit cost (income)	**$ 43**	$ 70	$ 81	**$ (42)**	$ 18	$ 46
Weighted-average assumptions used to determine net cost for years ended December 31						
Discount rate	**5.58 %**	2.80 %	2.33 %	**5.56 %**	2.85 %	2.48 %
Expected return on plan assets	**4.98**	2.38	1.88	**2.00**	2.00	2.00
Rate of compensation increase	**4.00**	4.00	4.00	**n/a**	n/a	n/a

n/a = not applicable

The asset valuation method used to calculate the expected return on plan assets component of net periodic benefit cost for the Qualified Pension Plan recognizes 60 percent of the prior year's market gains or losses at the next measurement date with the remaining 40 percent spread equally over the subsequent four years.

Gains and losses for all benefit plans except postretirement health care are recognized in accordance with the standard amortization provisions of the applicable accounting guidance. Net periodic postretirement health and life expense was determined using the "projected unit credit" actuarial method. For the U.S. Postretirement Health and Life Plans, 50 percent of the unrecognized gain or loss at the beginning of the year (or at subsequent remeasurement) is recognized on a level basis during the year.

Assumed health care cost trend rates affect the postretirement benefit obligation and benefit cost reported for the Postretirement Health and Life Plans. The assumed health care cost trend rate used to measure the expected cost of benefits covered by the U.S. Postretirement Health and Life Plans is 6.50 percent for 2024, reducing in steps to 5.00 percent in 2028 and later years.

The Corporation's net periodic benefit cost (income) recognized for the plans is sensitive to the discount rate and expected return on plan assets. For the Qualified Pension Plan, Non-U.S. Pension Plans, Nonqualified and Other Pension Plans, and Postretirement Health and Life Plans, a 25 bps decline in discount rates and expected return on assets would not have had a significant impact on the net periodic benefit cost for 2023.

Pretax Amounts included in Accumulated OCI and OCI

(Dollars in millions)	Qualified Pension Plan 2023	Qualified Pension Plan 2022	Non-U.S. Pension Plans 2023	Non-U.S. Pension Plans 2022	Nonqualified and Other Pension Plans 2023	Nonqualified and Other Pension Plans 2022	Postretirement Health and Life Plans 2023	Postretirement Health and Life Plans 2022	Total 2023	Total 2022
Net actuarial loss (gain)	**$5,072**	$4,775	**$ 478**	$ 312	**$ 852**	$ 796	**$ (125)**	$ (187)	**$6,277**	$5,696
Prior service cost (credits)	**—**	—	**46**	43	**—**	—	**—**	(1)	**46**	42
Amounts recognized in accumulated OCI	**$5,072**	$4,775	**$ 524**	$ 355	**$ 852**	$ 796	**$ (125)**	$ (188)	**$6,323**	$5,738
Current year actuarial loss (gain)	**$ 391**	$1,490	**$ 177**	$ (107)	**$ 85**	$ (95)	**$ (15)**	$ (198)	**$ 638**	$1,090
Amortization of actuarial gain (loss) and prior service cost	**(94)**	(140)	**(12)**	(14)	**(29)**	(54)	**78**	9	**(57)**	(199)
Current year prior service cost (credit)	**—**	—	**4**	3	**—**	—	**—**	—	**4**	3
Amounts recognized in OCI	**$ 297**	$1,350	**$ 169**	$ (118)	**$ 56**	$ (149)	**$ 63**	$ (189)	**$ 585**	$ 894

Plan Assets

The Qualified Pension Plan has been established as a retirement vehicle for participants, and trusts have been established to secure benefits promised under the Qualified Pension Plan. The Corporation's policy is to invest the trust assets in a prudent manner for the exclusive purpose of providing benefits to participants and defraying reasonable expenses of administration. The Corporation's investment strategy is designed to provide a total return that, over the long term, increases the ratio of assets to liabilities. The strategy attempts to maximize the investment return on assets at a level of risk deemed appropriate by the Corporation while complying with ERISA and any applicable regulations and laws. The investment strategy utilizes asset allocation as a principal determinant for establishing the risk/return profile of the assets. Asset allocation ranges are established, periodically reviewed and adjusted as funding levels and liability characteristics change. Active and passive investment managers are employed to help enhance the risk/return profile of the assets. An additional aspect of the investment strategy used to minimize risk (part of the asset allocation plan) includes matching the exposure of participant-selected investment measures.

The assets of the Non-U.S. Pension Plans are primarily attributable to a U.K. pension plan. This U.K. pension plan's assets are invested prudently so that the benefits promised to members are provided with consideration given to the nature and the duration of the plans' liabilities. The selected asset allocation strategy is designed to achieve a higher return than the lowest risk strategy.

The expected rate of return on plan assets assumption was developed through analysis of historical market returns, historical asset class volatility and correlations, current market conditions, anticipated future asset allocations, the funds' past experience and expectations on potential future market returns. The expected return on plan assets assumption is determined using the calculated market-related value for the Qualified Pension Plan and the Other Pension Plan and the fair value for the Non-U.S. Pension Plans and Postretirement Health and Life Plans. The expected return on plan assets assumption represents a long-term average view of the performance of the assets in the Qualified Pension Plan, the Non-U.S. Pension Plans, the Other Pension Plan, and Postretirement Health and Life Plans, a return that may or may not be achieved during any one calendar year. The Other Pension Plan is invested solely in an annuity contract, which is primarily invested in fixed-income securities structured such that asset maturities match the duration of the plan's obligations.

The target allocations for 2024 by asset category for the Qualified Pension Plan, Non-U.S. Pension Plans, and Nonqualified and Other Pension Plans are presented in the table below. Equity securities for the Qualified Pension Plan include common stock of the Corporation in the amounts of $299 million (1.69 percent of total plan assets) and $296 million (1.72 percent of total plan assets) at December 31, 2023 and 2022.

2024 Target Allocation

	Percentage		
Asset Category	**Qualified Pension Plan**	**Non-U.S. Pension Plans**	**Nonqualified and Other Pension Plans**
Equity securities	15 - 45%	0 - 20%	0 - 5%
Debt securities	40 - 80%	40 - 75%	95 - 100%
Real estate	0 - 10%	0 - 15%	0 - 5%
Other	0 - 10%	10 - 40%	0 - 5%

Fair Value Measurements

For more information on fair value measurements, including descriptions of Level 1, 2 and 3 of the fair value hierarchy and the valuation methods employed by the Corporation, see Note 1 – Summary of

Significant Accounting Principles and Note 20 – Fair Value Measurements. Combined plan investment assets measured at fair value by level and in total at December 31, 2023 and 2022 are summarized in the Fair Value Measurements table.

Fair Value Measurements

(Dollars in millions)	Level 1	Level 2	Level 3	Total	Level 1	Level 2	Level 3	Total
	December 31, 2023				December 31, 2022			
Money market and interest-bearing cash	**$ 1,013**	**$ —**	**$ —**	**$ 1,013**	$ 1,329	$ —	$ —	$ 1,329
U.S. government and government agency obligations	**3,692**	**729**	**4**	**4,425**	3,313	704	5	4,022
Corporate debt	**—**	**3,343**	**—**	**3,343**	—	3,587	—	3,587
Non-U.S. debt securities	**567**	**987**	**—**	**1,554**	327	933	—	1,260
Asset-backed securities	**—**	**1,464**	**—**	**1,464**	—	1,273	—	1,273
Mutual and exchange-traded funds	**953**	**—**	**—**	**953**	1,247	—	—	1,247
Collective investment funds	**—**	**2,350**	**—**	**2,350**	—	1,988	—	1,988
Common and preferred stocks	**4,027**	**—**	**—**	**4,027**	3,901	—	—	3,901
Real estate investment trusts	**45**	**—**	**—**	**45**	76	—	—	76
Participant loans	**—**	**—**	**6**	**6**	—	—	6	6
Other investments [1]	**1**	**47**	**427**	**475**	1	23	410	434
Total plan investment assets, at fair value [2]	**$ 10,298**	**$ 8,920**	**$ 437**	**$ 19,655**	$ 10,194	$ 8,508	$ 421	$ 19,123

[1] Other investments includes insurance annuity contracts of $404 million and $390 million and other various investments of $71 million and $44 million at December 31, 2023 and 2022.

[2] At December 31, 2023 and 2022, excludes $1.7 billion and $1.9 billion of certain investments that are measured at fair value using the net asset value per share (or its equivalent) as a practical expedient and are not required to be classified in the fair value hierarchy.

The Level 3 Fair Value Measurements table presents a reconciliation of all plan investment assets measured at fair value using significant unobservable inputs (Level 3) during 2023, 2022 and 2021.

Level 3 Fair Value Measurements

(Dollars in millions)	Balance January 1	Actual Return on Plan Assets Still Held at the Reporting Date	Purchases, Sales and Settlements	Balance December 31
	2023			
U.S. government and government agency obligations	**$ 5**	**$ —**	**$ (1)**	**$ 4**
Participant Loans	**6**	**—**	**—**	**6**
Other investments	**410**	**4**	**13**	**427**
Total	**$ 421**	**$ 4**	**$ 12**	**$ 437**
	2022			
U.S. government and government agency obligations	$ 6	$ —	$ (1)	$ 5
Participant Loans	7	—	(1)	6
Other investments	630	(8)	(212)	410
Total	$ 643	$ (8)	$ (214)	$ 421
	2021			
U.S. government and government agency obligations	$ 7	$ —	$ (1)	$ 6
Participant loans	7	—	—	7
Other investments	684	(5)	(49)	630
Total	$ 698	$ (5)	$ (50)	$ 643

Projected Benefit Payments

Benefit payments projected to be made from the Qualified Pension Plan, Non-U.S. Pension Plans, Nonqualified and Other Pension Plans, and Postretirement Health and Life Plans are presented in the table below.

Projected Benefit Payments

(Dollars in millions)	Qualified Pension Plan [1]	Non-U.S. Pension Plans [2]	Nonqualified and Other Pension Plans [2]	Postretirement Health and Life Plans [3]
2024	$ 877	$ 113	$ 227	$ 66
2025	901	121	231	63
2026	906	123	218	61
2027	894	122	210	59
2028	885	125	199	56
2029 - 2033	4,194	619	847	248

(1) Benefit payments expected to be made from the plan's assets.

(2) Benefit payments expected to be made from a combination of the plans' and the Corporation's assets.

(3) Benefit payments (net of retiree contributions) expected to be made from a combination of the plans' and the Corporation's assets.

Defined Contribution Plans

The Corporation maintains qualified and nonqualified defined contribution retirement plans. The Corporation recorded expense of $1.2 billion in 2023, 2022 and 2021 related to the qualified defined contribution plans. At December 31, 2023 and 2022, 178 million and 179 million shares of the Corporation's common stock were held by these plans. Payments to the plans for dividends on common stock were $166 million, $153 million and $139 million in 2023, 2022 and 2021, respectively.

Certain non-U.S. employees are covered under defined contribution pension plans that are separately administered in accordance with local laws.

NOTE 18 Stock-based Compensation Plans

The Corporation administers a number of equity compensation plans, with awards being granted predominantly from the Bank of America Corporation Equity Plan (BACEP). Under this plan, 790 million shares of the Corporation's common stock are authorized to be used for grants of awards.

During 2023 and 2022, the Corporation granted 115 million and 102 million RSUs to certain employees under the BACEP. These RSUs were authorized to settle predominantly in shares of common stock of the Corporation. Certain RSUs will be settled in cash or contain settlement provisions that subject these awards to variable accounting whereby compensation expense is adjusted to fair value based on changes in the share price of the Corporation's common stock up to the settlement date. The RSUs granted in 2023 and 2022 predominantly vest over four years in one-fourth increments on each of the first four anniversaries of the grant date, provided that the employee remains continuously employed with the Corporation during that time, and will be expensed ratably over the vesting period, net of estimated forfeitures, for non-retirement eligible employees based on the grant-date fair value of the shares. Of the RSUs granted in 2023 and 2022, 42 million and 39 million do not include retirement eligibility. For all other RSUs granted to employees who are retirement eligible, they are deemed authorized as of the beginning of the year preceding the grant date when the incentive award plans are generally approved. As a result, the estimated value is expensed ratably over the year preceding the grant date. The compensation cost for the stock-based plans was $3.1 billion, $2.9 billion and $3.0 billion, and the related income tax benefit was $733 million, $697 million

Restricted Stock and Restricted Stock Units

The total fair value of restricted stock and restricted stock units vested in 2023, 2022 and 2021 was $2.6 billion, $3.4 billion and $2.3 billion, respectively. The table below presents the status at December 31, 2023 of the share-settled restricted stock and restricted stock units and changes during 2023.

Stock-settled Restricted Stock and Restricted Stock Units

	Shares/Units	Weighted-average Grant Date Fair Value
Outstanding at January 1, 2023	202,559,798	$ 38.60
Granted	112,616,369	33.88
Vested	(72,958,812)	35.94
Canceled	(8,707,200)	38.30
Outstanding at December 31, 2023	**233,510,155**	**37.17**

NOTE 19 Income Taxes

The components of income tax expense for 2023, 2022 and 2021 are presented in the table below.

Income Tax Expense

(Dollars in millions)	**2023**	2022	2021
Current income tax expense			
U.S. federal	**$ 1,361**	$ 1,157	$ 1,076
U.S. state and local	**559**	389	775
Non-U.S.	**1,918**	1,156	985
Total current expense	**3,838**	2,702	2,836
Deferred income tax expense			
U.S. federal	**(2,241)**	110	962
U.S. state and local	**(53)**	254	491
Non-U.S.	**283**	375	(2,291)
Total deferred expense	**(2,011)**	739	(838)
Total income tax expense	**$ 1,827**	$ 3,441	$ 1,998

Total income tax expense does not reflect the tax effects of items that are included in OCI each period. For more information, see Note 14 – Accumulated Other Comprehensive Income (Loss). Other tax effects included in OCI each period

Reconciliation of Income Tax Expense

(Dollars in millions)	**2023**		2022		2021	
	Amount	**Percent**	Amount	Percent	Amount	Percent
Expected U.S. federal income tax expense	**$ 5,952**	**21.0 %**	$ 6,504	21.0 %	$ 7,135	21.0 %
Increase (decrease) in taxes resulting from:						
State tax expense, net of federal benefit	**475**	**1.7**	756	2.4	1,087	3.2
Affordable housing/energy/other credits	**(4,920)**	**(17.4)**	(3,698)	(11.9)	(3,795)	(11.2)
Tax-exempt income, including dividends	**(373)**	**(1.3)**	(273)	(0.9)	(352)	(1.0)
Tax law changes	**(137)**	**(0.5)**	186	0.6	(2,050)	(6.0)
Changes in prior-period UTBs, including interest	**(26)**	**(0.1)**	(273)	(0.9)	(155)	(0.5)
Rate differential on non-U.S. earnings	**601**	**2.1**	368	1.2	45	0.1
Nondeductible expenses	**367**	**1.3**	352	1.1	206	0.6
Other	**(112)**	**(0.4)**	(481)	(1.5)	(123)	(0.3)
Total income tax expense	**$ 1,827**	**6.4 %**	$ 3,441	11.1 %	$ 1,998	5.9 %

Tax Law changes reflect the impact of certain state legislative enactments in 2023 of approximately $137 million and the 2022 and 2021 U.K. enacted corporate income tax rate changes, which resulted in a negative tax adjustment of approximately $186 million in 2022 and a positive income tax adjustment of approximately $2.0 billion in 2021, with corresponding adjustments of U.K. net deferred tax assets. The U.K. net deferred tax assets are primarily net operating losses (NOLs), incurred by the Corporation's U.K. broker-dealer entity in historical periods, which do not expire under U.K. tax law and are assessed regularly for impairment. If further U.K. tax law changes are enacted, a corresponding income tax adjustment will be made based on the amount of available net deferred tax assets and applicable tax rate changes.

Tax credits originate from investments in affordable housing and renewable energy partnerships and similar entities. Significant increases in the tax credits recognized over the last three annual periods have been primarily driven by the Corporation's continued growth in the volume of investments in wind and solar energy production facilities, consistent with the Corporation's commitment to support the transition to a lower carbon economy. For more information, see Note 6 – Securitizations and Other Variable Interest Entities.

The reconciliation of the beginning unrecognized tax benefits (UTB) balance to the ending balance is presented in the table below.

Reconciliation of the Change in Unrecognized Tax Benefits

(Dollars in millions)	**2023**	2022	2021
Balance, January 1	**$ 1,056**	$ 1,322	$ 1,340
Increases related to positions taken during the current year	**76**	121	208
Increases related to positions taken during prior years [1]	**139**	167	265
Decreases related to positions taken during prior years [1]	**(32)**	(289)	(413)
Settlements	**(380)**	(99)	(23)
Expiration of statute of limitations	**(48)**	(166)	(55)
Balance, December 31	**$ 811**	$ 1,056	$ 1,322

At December 31, 2023, 2022 and 2021, the balance of the Corporation's UTBs which would, if recognized, affect the Corporation's effective tax rate was $671 million, $709 million and $959 million, respectively. Included in the UTB balance are some items the recognition of which would not affect the effective tax rate, such as the tax effect of certain temporary differences, the portion of gross state UTBs that would be offset by the tax benefit of the associated federal deduction and the portion of gross non-U.S. UTBs that would be offset by tax reductions in other jurisdictions.

It is reasonably possible that the UTB balance may decrease by as much as $109 million during the next 12 months, since resolved items will be removed from the balance whether their resolution results in payment or recognition.

The Corporation recognized an interest expense of $35 million in 2023 and interest benefit of $50 million in 2022 and interest expense of $32 million in 2021. At December 31, 2023 and 2022, the Corporation's accrual for interest and penalties that related to income taxes, net of taxes and remittances, was $134 million and $107 million.

The Corporation files income tax returns in more than 100 states and non-U.S. jurisdictions each year. The IRS and other tax authorities in countries and states in which the Corporation has significant business operations examine tax returns periodically (continuously in some jurisdictions). The table below summarizes the status of examinations by major jurisdiction for the Corporation and various subsidiaries at December 31, 2023.

Tax Examination Status

	Years under Examination [1]	**Status at December 31, 2023**
United States	2017-2021	Field Examination
California	2015-2017	Field Examination
California	2018-2021	To begin in 2024
New York	2019-2021	Field Examination
United Kingdom [2]	2021	Field Examination

[1] All tax years subsequent to the years shown remain subject to examination.

[2] Field examination for tax year 2022 to begin in 2024.

Significant components of the Corporation's net deferred tax assets and liabilities at December 31,

Deferred Tax Assets and Liabilities

(Dollars in millions)	December 31 2023	2022
Deferred tax assets		
Tax attribute carryforwards [1]	**$ 11,084**	$ 9,798
Security, loan and debt valuations [2]	**3,991**	5,748
Allowance for credit losses	**3,518**	3,503
Lease liability	**2,328**	2,443
Employee compensation and retirement benefits	**1,698**	1,625
Accrued expenses	**1,640**	1,143
Other	**1,475**	1,371
Gross deferred tax assets	**25,734**	25,631
Valuation allowance	**(2,108)**	(2,133)
Total deferred tax assets, net of valuation allowance	**23,626**	23,498
Deferred tax liabilities		
Equipment lease financing	**2,488**	2,432
Right-of-use asset	**2,180**	2,303
Tax credit investments	**1,884**	1,759
Fixed Assets	**789**	1,200
Other	**1,913**	2,459
Gross deferred tax liabilities	**9,254**	10,153
Net deferred tax assets	**$ 14,372**	$ 13,345

(1) Includes both net operating loss and tax credit carryforwards.

(2) Includes AFS debt securities.

The table below summarizes the deferred tax assets and related valuation allowances recognized for the net operating loss (NOL) and tax credit carryforwards at December 31, 2023.

Net Operating Loss and Tax Credit Carryforward Deferred Tax Assets

(Dollars in millions)	Deferred Tax Asset	Valuation Allowance	Net Deferred Tax Asset	First Year Expiring
Net operating losses - U.K. [1]	$ 7,588	$ —	**$ 7,588**	None
Net operating losses - other non-U.S.	235	(44)	**191**	Various
Net operating				

NOTE 20 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 that require an entity to maximize the use of observable inputs and minimize the use of unobservable inputs. The Corporation categorizes its financial instruments into three levels based on the established fair value hierarchy 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. For more information regarding the fair value hierarchy and how the Corporation measures fair value, see Note 1 – Summary of Significant Accounting Principles. The Corporation accounts for certain financial instruments under the fair value option. For more information, see Note 21 – Fair Value Option.

Valuation Techniques

The following sections outline the valuation methodologies for the Corporation's assets and liabilities. While the Corporation believes its valuation methods are appropriate and consistent with other market participants, the use of different methodologies or assumptions to determine the fair value of certain financial instruments could result in a different estimate of fair value at the reporting date.

During 2023, there were no significant 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.

Trading Account Assets and Liabilities and Debt Securities

The fair values of trading account assets and liabilities are primarily based on actively traded markets where prices are based on either direct market quotes or observed transactions. The fair values of debt securities are generally based on quoted market prices or market prices for similar assets. Liquidity is a significant factor in the determination of the fair values of trading account assets and liabilities and debt securities. Market

principally from reviewing the issuer's financial statements and changes in credit ratings made by one or more rating agencies.

Derivative Assets and Liabilities

The fair values of derivative assets and liabilities traded in the OTC market are determined using quantitative models that utilize multiple market inputs including interest rates, prices and indices to generate continuous yield or pricing curves and volatility factors to value the position. The majority of market inputs are actively quoted and can be validated through external sources, including brokers, market transactions and third-party pricing services. When third-party pricing services are used, the methods and assumptions are reviewed by the Corporation. Estimation risk is greater for derivative asset and liability positions that are either option-based or have longer maturity dates where observable market inputs are less readily available, or are unobservable, in which case, quantitative-based extrapolations of rate, price or index scenarios are used in determining fair values. The fair values of derivative assets and liabilities include adjustments for market liquidity, counterparty credit quality and other instrument-specific factors, where appropriate. In addition, the Corporation incorporates within its fair value measurements of OTC derivatives a valuation adjustment to reflect the credit risk associated with the net position. Positions are netted by counterparty, and fair value for net long exposures is adjusted for counterparty credit risk while the fair value for net short exposures is adjusted for the Corporation's own credit risk. The Corporation also incorporates FVA within its fair value measurements to include funding costs on uncollateralized derivatives and derivatives where the Corporation is not permitted to use the collateral it receives. An estimate of severity of loss is also used in the determination of fair value, primarily based on market data.

Loans and Loan Commitments

The fair values of loans and loan commitments are based on market prices, where available, or discounted cash flow analyses using market-based credit spreads of comparable debt instruments or credit derivatives of the specific borrower or comparable borrowers. Results of discounted cash flow analyses may be adjusted, as appropriate, to reflect other market conditions or the perceived credit risk of the borrower.

Mortgage Servicing Rights

The fair values of MSRs are primarily determined using an option-adjusted spread valuation

Loans Held-for-sale

The fair values of LHFS are based on quoted market prices, where available, or are determined by discounting estimated cash flows using interest rates approximating the Corporation's current origination rates for similar loans adjusted to reflect the inherent credit risk. The borrower-specific credit risk is embedded within the quoted market prices or is implied by considering loan performance when selecting comparables.

Short-term Borrowings and Long-term Debt

The Corporation issues structured liabilities that have coupons or repayment terms linked to the performance of debt or equity securities, interest rates, indices, currencies or commodities. The fair values of these structured liabilities are estimated using quantitative models for the combined derivative and debt portions of the notes. These models incorporate observable and, in some instances, unobservable inputs including security prices, interest rate yield curves, option volatility, currency, commodity or equity rates and correlations among these inputs. The Corporation also considers the impact of its own credit spread in determining the discount rate used to value these liabilities. The credit spread is determined by reference to observable spreads in the secondary bond market.

Securities Financing Agreements

The fair values of certain reverse repurchase agreements, repurchase agreements and securities borrowed transactions are determined using quantitative models, including discounted cash flow models that require the use of multiple market inputs including interest rates and spreads to generate continuous yield or pricing curves, and volatility factors. The majority of market inputs are actively quoted and can be validated through external sources, including brokers, market transactions and third-party pricing services.

Deposits

The fair values of deposits are determined using quantitative models, including discounted cash flow models that require the use of multiple market inputs including interest rates and spreads to generate continuous yield or pricing curves, and volatility factors. The majority of market inputs are actively quoted and can be validated through external sources, including brokers, market transactions and third-party pricing services. The Corporation considers the impact of its own credit spread in the valuation of these liabilities. The credit risk is determined by

Recurring Fair Value

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

	December 31, 2023				
	Fair Value Measurements				
(Dollars in millions)	**Level 1**	**Level 2**	**Level 3**	**Netting Adjustments** [1]	**Assets/ Liabilities at Fair Value**
Assets					
Time deposits placed and other short-term investments	$ **1,181**	$ **—**	$ **—**	$ **—**	$ **1,181**
Federal funds sold and securities borrowed or purchased under agreements to resell	**—**	**436,340**	**—**	**(303,287)**	**133,053**
Trading account assets:					
U.S. Treasury and government agencies	**65,160**	**1,963**	**—**	**—**	**67,123**
Corporate securities, trading loans and other	**—**	**41,462**	**1,689**	**—**	**43,151**
Equity securities	**47,431**	**41,380**	**187**	**—**	**88,998**
Non-U.S. sovereign debt	**5,517**	**21,195**	**396**	**—**	**27,108**
Mortgage trading loans, MBS and ABS:					
U.S. government-sponsored agency guaranteed	**—**	**38,802**	**2**	**—**	**38,804**
Mortgage trading loans, ABS and other MBS	**—**	**10,955**	**1,215**	**—**	**12,170**
Total trading account assets [2]	**118,108**	**155,757**	**3,489**	**—**	**277,354**
Derivative assets	**14,676**	**272,244**	**3,422**	**(251,019)**	**39,323**
AFS debt securities:					
U.S. Treasury and government agencies	**176,764**	**902**	**—**	**—**	**177,666**
Mortgage-backed securities:					
Agency	**—**	**37,812**	**—**	**—**	**37,812**
Agency-collateralized mortgage obligations	**—**	**2,544**	**—**	**—**	**2,544**
Non-agency residential	**—**	**109**	**273**	**—**	**382**
Commercial	**—**	**10,435**	**—**	**—**	**10,435**
Non-U.S. securities	**1,093**	**21,679**	**103**	**—**	**22,875**
Other taxable securities	**—**	**4,835**	**—**	**—**	**4,835**
Tax-exempt securities	**—**	**10,100**	**—**	**—**	**10,100**
Total AFS debt securities	**177,857**	**88,416**	**376**	**—**	**266,649**
Other debt securities carried at fair value:					
U.S. Treasury and government agencies	**1,690**	**—**	**—**	**—**	**1,690**
Non-agency residential MBS	**—**	**211**	**69**	**—**	**280**
Non-U.S. and other securities	**1,786**	**6,447**	**—**	**—**	**8,233**
Total other debt securities carried at fair value	**3,476**	**6,658**	**69**	**—**	**10,203**
Loans and leases	**—**	**3,476**	**93**	**—**	**3,569**
Loans held-for-sale	**—**	**1,895**	**164**	**—**	**2,059**
Other assets [3]	**8,052**	**2,152**	**1,657**	**—**	**11,861**
Total assets [4]	$ **323,350**	$ **966,938**	$ **9,270**	$ **(554,306)**	$ **745,252**
Liabilities					
Interest-bearing deposits in U.S. offices	$ **—**	$ **284**	$ **—**	$ **—**	$ **284**
Federal funds purchased and securities loaned					

(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 $18.0 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 $42 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 $970 million.

(4) Total recurring Level 3 assets were 0.29 percent of total consolidated assets, and total recurring Level 3 liabilities were 0.23 percent of total consolidated liabilities.

	December 31, 2022				
	Fair Value Measurements				
(Dollars in millions)	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 [2]	—	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 [3]	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 [4]	6,898	897	1,799	—	9,594
Total assets [5]	$ 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					

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

(2) Amounts have been netted by $221.7 billion to reflect the application of legally enforceable master netting agreements.

(3) 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.

(4) Includes MSRs, which are classified as Level 3 assets, of $1.0 billion.

(5) 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 2023, 2022 and 2021, 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 Purchases	Gross Sales	Gross Issuances	Gross Settlements	Gross Transfers into Level 3	Gross Transfers out of Level 3	Balance December 31	Change in Unrealized Gains (Losses) in Net Income Related to Financial Instruments Still Held [2]
Year Ended December 31, 2023											
Federal funds sold and securities borrowed or purchased under agreements to resell	$ —	$ —	$ —	$ —	$ —	$ —	$ —	$ 7	$ (7)	$ —	$ —
Trading account assets:											
Corporate securities, trading loans and other	**2,384**	**144**	**2**	**453**	**(241)**	**20**	**(1,029)**	**385**	**(429)**	**1,689**	**50**
Equity securities	**145**	**44**	**—**	**39**	**(52)**	**—**	**(61)**	**153**	**(81)**	**187**	**(5)**
Non-U.S. sovereign debt	**518**	**68**	**30**	**64**	**(23)**	**—**	**(259)**	**—**	**(2)**	**396**	**70**
Mortgage trading loans, MBS and ABS	**1,552**	**(50)**	**—**	**263**	**(417)**	**—**	**(241)**	**436**	**(326)**	**1,217**	**(71)**
Total trading account assets	**4,599**	**206**	**32**	**819**	**(733)**	**20**	**(1,590)**	**974**	**(838)**	**3,489**	**44**
Net derivative assets (liabilities) [4]	**(2,893)**	**179**	**(375)**	**1,318**	**(1,281)**	**—**	**(1,575)**	**(8)**	**2,141**	**(2,494)**	**(857)**
AFS debt securities:											
Non-agency residential MBS	**258**	**1**	**23**	**—**	**—**	**—**	**(9)**	**—**	**—**	**273**	**2**
Non-U.S. and other taxable securities	**195**	**10**	**7**	**—**	**—**	**—**	**(106)**	**4**	**(7)**	**103**	**2**
Tax-exempt securities	**51**	**1**	**—**	**—**	**—**	**—**	**(52)**	**—**	**—**	**—**	**—**
Total AFS debt securities	**504**	**12**	**30**	**—**	**—**	**—**	**(167)**	**4**	**(7)**	**376**	**4**
Other debt securities carried at fair value – Non-agency residential MBS	**119**	**(4)**	**—**	**—**	**(19)**	**—**	**(6)**	**—**	**(21)**	**69**	**(3)**
Loans and leases [5,6]	**253**	**(9)**	**—**	**9**	**(54)**	**—**	**(100)**	**16**	**(22)**	**93**	**(13)**
Loans held-for-sale [5,6]	**232**	**24**	**3**	**—**	**(25)**	**—**	**(70)**	**—**	**—**	**164**	**13**
Other assets [6,7]	**1,799**	**211**	**10**	**176**	**(326)**	**104**	**(319)**	**2**	**—**	**1,657**	**74**
Trading account liabilities – Equity											

(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 - market making and similar activities and other income; 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 primarily 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, derivatives designated in cash flow hedges 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 (losses) of $(324) million and $28 million related to financial instruments still held at December 31, 2023 and 2022.

(4) Net derivative assets (liabilities) include derivative assets of $3.4 billion and $3.2 billion and derivative liabilities of $5.9 billion and $6.1 billion at December 31, 2023 and 2022.

(5) Amounts represent instruments that are accounted for under the fair value option.

(6) Issuances represent loan originations and 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.

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 Purchases	Gross Sales	Gross Issuances	Gross Settlements	Gross Transfers into Level 3	Gross Transfers out of Level 3	Balance December 31	Change in Unrealized Gains (Losses) in Net Income Related to Financial Instruments Still Held [2]
Year Ended December 31, 2021											
Trading account assets:											
Corporate securities, trading loans and other	$ 1,359	$ (17)	$ —	$ 765	$ (437)	$ —	$ (327)	$ 1,218	$ (451)	$ 2,110	$ (79)
Equity securities	227	(18)	—	103	(68)	—	—	112	(166)	190	(44)
Non-U.S. sovereign debt	354	31	(20)	18	—	—	(13)	26	—	396	34
Mortgage trading loans, MBS and ABS	1,440	(58)	—	518	(721)	7	(167)	771	(263)	1,527	(91)
Total trading account assets	3,380	(62)	(20)	1,404	(1,226)	7	(507)	2,127	(880)	4,223	(180)
Net derivative assets (liabilities) [4]	(3,468)	927	—	521	(653)	—	293	(74)	(208)	(2,662)	800
AFS debt securities:											
Non-agency residential MBS	378	(11)	(111)	—	(98)	—	(45)	304	(101)	316	8
Non-U.S. and other taxable securities	89	(4)	(7)	8	(10)	—	(4)	—	(1)	71	—
Tax-exempt securities	176	20	—	—	—	—	(2)	—	(142)	52	(19)
Total AFS debt securities	643	5	(118)	8	(108)	—	(51)	304	(244)	439	(11)
Other debt securities carried at fair value - Non-agency residential MBS	267	1	—	—	(45)	—	(37)	101	(45)	242	10
Loans and leases [5,6]	717	62	—	59	(13)	70	(180)	46	(13)	748	65
Loans held-for-sale											

[(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 - predominantly 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; Long-term debt - market making and similar activities.

[(3)] Includes unrealized 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 losses of $19 million related to financial instruments still held at December 31, 2021.

[(4)] Net derivative assets (liabilities) include derivative assets of $3.1 billion and derivative liabilities of $5.8 billion.

[(5)] Amounts represent instruments that are accounted for under the fair value option.

[(6)] Issuances represent loan originations and 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 December 31, 2023 and 2022.

Quantitative Information about Level 3 Fair Value Measurements at December 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	**$ 538**	Discounted cash flow, Market comparables	Yield	0% to 22%	9 %
Trading account assets – Mortgage trading loans, MBS and ABS	109		Prepayment speed	1% to 42% CPR	10% CPR
Loans and leases	87		Default rate	0% to 3% CDR	1% CDR
AFS debt securities – Non-agency residential	273		Price	$0 to $115	$70
Other debt securities carried at fair value – Non-agency residential	69		Loss severity	0% to 100%	27 %
Instruments backed by commercial real estate assets	**$ 363**	Discounted cash flow	Yield	0% to 25%	12 %
Trading account assets – Corporate securities, trading loans and other	301		Price	$0 to $100	$75
Trading account assets – Mortgage trading loans, MBS and ABS	62				
Commercial loans, debt securities and other	**$ 3,103**	Discounted cash flow, Market comparables	Yield	5% to 59%	13 %
Trading account assets – Corporate securities, trading loans and other	1,388		Prepayment speed	10% to 20%	16 %
Trading account assets – Non-U.S. sovereign debt	396		Default rate	3% to 4%	4 %
Trading account assets – Mortgage trading loans, MBS and ABS	1,046		Loss severity	35% to 40%	37 %
AFS debt securities – Non-U.S. and other taxable securities	103		Price	$0 to $157	$70
Loans and leases	6				
Loans held-for-sale	164				
Other assets, primarily auction rate securities	**$ 687**	Discounted cash flow, Market comparables	Price	$10 to $95	$85
			Discount rate	10 %	n/a
MSRs	**$ 970**	Discounted cash flow	Weighted-average life, fixed rate [5]	0 to 14 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	**$ (614)**		Yield	58%	n/a

(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 153: Trading account assets – Corporate securities, trading loans and other of $1.7 billion, Trading account assets – Non-U.S. sovereign debt of $396 million, Trading account assets – Mortgage trading loans, MBS and ABS of $1.2 billion, AFS debt securities of $376 million, Other debt securities carried at fair value - Non-agency residential of $69 million, Other assets, including MSRs, of $1.7 billion, Loans and leases of $93 million and LHFS of $164 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)

			Inputs		
Financial Instrument	Fair Value	Valuation Technique	Significant Unobservable Inputs	Ranges of 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 %

[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 154: 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

In the previous tables, instruments backed by residential and commercial real estate assets include RMBS, commercial MBS, whole loans and mortgage CDOs. Commercial loans, debt securities and other include corporate CLOs and CDOs, commercial loans and bonds, and securities backed by non-real estate assets. Structured liabilities primarily include equity-linked notes that are accounted for under the fair value option.

The Corporation uses multiple market approaches in valuing certain of its Level 3 financial instruments. For example, market comparables and discounted cash flows are used together. For a given product, such as corporate debt securities, market comparables may be used to estimate some of the unobservable inputs, and then these inputs are incorporated into a discounted cash flow model. Therefore, the balances disclosed encompass both of these techniques.

The levels of aggregation and diversity within the products disclosed in the tables result in certain ranges of inputs being wide and unevenly distributed across asset and liability categories.

Uncertainty of Fair Value Measurements from Unobservable Inputs

Loans and Securities

A significant increase in market yields, default rates, loss severities or duration would have resulted in a significantly lower fair value for long positions. Short positions would have been impacted in a directionally opposite way. The impact of changes in prepayment speeds would have resulted in differing impacts depending on the seniority of the instrument and, in the case of CLOs, whether prepayments can be reinvested. A significant increase in price would have resulted in a significantly higher fair value for long positions, and short positions would have been impacted in a directionally opposite way.

Structured Liabilities and Derivatives

For credit derivatives, a significant increase in market yield, upfront points (i.e., a single upfront payment made by a protection buyer at inception), credit spreads, default rates or loss severities would have resulted in a significantly lower fair value for protection sellers and higher fair value for protection buyers. The impact of changes in prepayment speeds would have resulted in differing impacts depending on the seniority of the instrument.

Structured credit derivatives are impacted by credit correlation. Default correlation is a parameter that describes the degree of dependence among credit default rates within a credit portfolio that underlies a credit derivative instrument. The sensitivity of this input on the fair value varies depending on the level of subordination of the tranche. For senior tranches that are net purchases of protection, a significant increase in default correlation would have resulted in a significantly higher fair value. Net short protection positions would have been impacted in a directionally opposite way.

For equity derivatives, commodity derivatives, interest rate derivatives and structured liabilities, a significant change in long-dated rates and volatilities and correlation inputs (i.e., the degree of correlation between an equity security and an index, between two different commodities, between two different interest rates, or between interest rates and foreign exchange rates) would have resulted in a significant impact to the fair value; however, the magnitude and direction of the impact depend on whether the Corporation is long or short the exposure. For structured liabilities, a significant increase in yield or decrease in price would have resulted in a significantly lower fair value.

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 2023, 2022 and 2021.

Assets Measured at Fair Value on a Nonrecurring Basis

(Dollars in millions)	**December 31, 2023**		December 31, 2022	
	Level 2	**Level 3**	Level 2	Level 3
Assets				
Loans held-for-sale	**$ 77**	**$ 2,793**	$ 1,979	$ 3,079
Loans and leases [1]	**—**	**153**	—	166
Foreclosed properties [2, 3]	**—**	**48**	—	7
Other assets [4]	**31**	**898**	88	165

	Gains (Losses)		
	2023	2022	2021
Assets			
Loans held-for-sale	**$ (246)**	$ (387)	$ (44)
Loans and leases [1]	**(45)**	(48)	(60)
Foreclosed properties	**(6)**	(6)	(2)
Other assets	**(252)**	(91)	(492)

(1) Includes $10 million, $15 million and $24 million of losses on loans that were written down to a collateral value of zero during 2023, 2022 and 2021, respectively.

(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 $31 million and $60 million of properties acquired upon foreclosure of certain government-guaranteed loans (principally FHA-insured loans) at December 31, 2023 and 2022.

(4) Represents the fair value of certain impaired renewable energy investments.

The table below presents information about significant unobservable inputs utilized in the Corporation's nonrecurring Level 3 fair value measurements at December 31, 2023 and 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)	**Year Ended December 31, 2023**				
Loans held-for-sale	**$ 2,793**	Pricing model	Implied yield	7% to 23%	n/a
Loans and leases [2]	**153**	Market comparables	OREO discount	10% to 66%	26 %
			Costs to sell	8% to 24%	9 %
Other assets [3]	**898**	Discounted cash flow	Discount rate	7 %	n/a
	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 21 Fair Value Option

Loans and Loan Commitments

The Corporation elects to account for certain loans and loan commitments that exceed the Corporation's single-name credit risk concentration guidelines under the fair value option. Lending commitments are actively managed and, as appropriate, credit risk for these lending relationships may be mitigated through the use of credit derivatives, with the Corporation's public side credit view and market perspectives determining the size and timing of the hedging activity. These credit derivatives do not meet the requirements for designation as accounting hedges and are carried at fair value. The fair value option allows the Corporation to carry these loans and loan commitments at fair value, which is more consistent with management's view of the underlying economics and the manner in which they are managed. In addition, the fair value option allows the Corporation to reduce the accounting volatility that would otherwise result from the asymmetry created by accounting for the financial instruments at historical cost and the credit derivatives at fair value.

Loans Held-for-sale

The Corporation elects to account for residential mortgage LHFS, commercial mortgage LHFS and certain other LHFS under the fair value option. These loans are actively managed and monitored and, as appropriate, certain market risks of the loans may be mitigated through the use of derivatives. The Corporation has elected not to designate the derivatives as qualifying accounting hedges, and therefore, they are carried at fair value. The changes in fair value of the loans are largely offset by changes in the fair value of the derivatives. The fair value option allows the Corporation to reduce the accounting volatility that would otherwise result from the asymmetry created by accounting for the financial instruments at the lower of cost or fair value and the derivatives at fair value. The Corporation has not elected to account for certain other LHFS under the fair value option primarily because these loans are floating-rate loans that are not hedged using derivative instruments.

Loans Reported as Trading Account Assets

The Corporation elects to account for certain loans that are held for the purpose of trading and are risk-managed on a fair value basis under the fair value option.

Other Assets

The Corporation elects to account for certain long-term fixed-rate margin loans that are hedged with derivatives under the fair value option. Election of the fair value option allows the Corporation to reduce the accounting volatility that would otherwise result from the asymmetry created by accounting for the financial instruments at historical cost and the derivatives at fair value.

Securities Financing Agreements

The Corporation elects to account for certain securities financing agreements, including resale and repurchase agreements, under the fair value option. These elections include certain agreements collateralized by the U.S. government and its agencies, which are generally short-dated and have minimal interest rate risk.

Long-term Deposits

The Corporation elects to account for certain long-term fixed-rate and rate-linked deposits that are hedged with derivatives that do not qualify for hedge accounting. Election of the fair value option allows the Corporation to reduce the accounting volatility that would otherwise result from the asymmetry created by accounting for the financial instruments at historical cost and the derivatives at fair value. The Corporation has not elected to carry other long-term deposits at fair value because they are not hedged using derivatives.

Short-term Borrowings

The Corporation elects to account for certain short-term borrowings, primarily short-term structured liabilities, under the fair value option because this debt is risk-managed on a fair value basis.

The Corporation also elects to account for certain asset-backed secured financings, which are also classified in short-term borrowings, under the fair value option. Election of the fair value option allows the Corporation to reduce the accounting volatility that would otherwise result from the asymmetry created by accounting for the asset-backed secured financings at historical cost and the corresponding mortgage LHFS securing these financings at fair value.

Long-term Debt

The Corporation elects to account for certain long-term debt, primarily structured liabilities, under the fair value option. This long-term debt is either risk-managed on a fair value basis or the related hedges do not qualify for hedge accounting.

Fair Value Option Elections

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 December 31, 2023 and 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 2023, 2022 and 2021.

Fair Value Option Elections

	December 31, 2023			December 31, 2022		
(Dollars in millions)	**Fair Value Carrying Amount**	**Contractual Principal Outstanding**	**Fair Value Carrying Amount Less Unpaid Principal**	Fair Value Carrying Amount	Contractual Principal Outstanding	Fair Value Carrying Amount Less Unpaid Principal
Federal funds sold and securities borrowed or purchased under agreements to resell	**$ 133,053**	**$ 133,001**	**$ 52**	$ 146,999	$ 147,158	$ (159)
Loans reported as trading account assets [1]	**8,377**	**15,580**	**(7,203)**	10,143	17,682	(7,539)
Trading inventory – other	**25,282**	**n/a**	**n/a**	20,770	n/a	n/a
Consumer and commercial loans	**3,569**	**3,618**	**(49)**	5,771	5,897	(126)
Loans held-for-sale [1]	**2,059**	**2,873**	**(814)**	1,115	1,873	(758)
Other assets	**1,986**	**n/a**	**n/a**	620	n/a	n/a
Long-term deposits	**284**	**267**	**17**	311	381	(70)
Federal funds purchased and securities loaned or sold under agreements to repurchase	**178,609**	**178,634**	**(25)**	151,708	151,885	(177)
Short-term borrowings	**4,690**	**4,694**	**(4)**	832	833	(1)
Unfunded loan commitments	**67**	**n/a**	**n/a**	110	n/a	n/a
Accrued expenses and other liabilities	**1,341**	**1,347**	**(6)**	1,217	1,161	56
Long-term debt	**42,809**	**46,707**	**(3,898)**	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

(Dollars in millions)	Market making and similar activities	Other Income	Total
		2023	
Loans reported as trading account assets	**$ 251**	**—**	**$ 251**
Trading inventory – other [1]	**5,121**	**—**	**5,121**
Consumer and commercial loans	**(174)**	**67**	**(107)**
Loans held-for-sale [2]	**—**	**22**	**22**
Short-term borrowings	**7**	**—**	**7**
Unfunded loan commitments	**(1)**	**39**	**38**
Accrued expenses and other liabilities	**609**	**—**	**609**
Long-term debt [3]	**(1,143)**	**(35)**	**(1,178)**
Other [4]	**93**	**(23)**	**70**
Total	**$ 4,763**	**$ 70**	**$ 4,833**
		2022	
Loans reported as trading account assets	$ (164)	$ —	$ (164)
Trading inventory – other [1]	(1,159)	—	(1,159)
Consumer and commercial loans	(58)	(27)	(85)
Loans held-for-sale [2]	—	(304)	(304)
Short-term borrowings	639	—	639
Unfunded loan commitments	—	8	8
Accrued expenses and other liabilities	11	—	11
Long-term debt [3]	4,359	(46)	4,313
Other [4]	74	30	104
Total	$ 3,702	$ (339)	$ 3,363
		2021	
Loans reported as trading account assets	$ 275	$ —	$ 275
Trading inventory – other [1]	(211)	—	(211)
Consumer and commercial loans	78	40	118
Loans held-for-sale [2]	—	58	58
Short-term borrowings	883	—	883
Long-term debt [3]	(604)	(41)	(645)
Other [4]	18	(23)	(5)
Total	$ 439	$ 34	$ 473

(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 14 – Accumulated Other Comprehensive Income (Loss). For more information on how the Corporation's own credit spread is determined, see Note 20 – Fair Value Measurements.

(4) Includes gains (losses) on federal funds sold and securities borrowed or purchased under agreements to resell, other assets, long-term deposits, and federal funds purchased and securities loaned or sold under agreements to repurchase.

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

(Dollars in millions)	**2023**	2022	2021
Loans reported as trading account assets	**$ (3)**	$ (950)	$ 128
Consumer and commercial loans	**44**	(51)	7
Loans held-for-sale	**(15)**	(23)	28
Unfunded loan commitments	**39**	8	(1)

NOTE 22 Fair Value of Financial Instruments

Financial instruments are classified within the fair value hierarchy using the methodologies described in Note 20 – Fair Value Measurements. 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. 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.

Short-term Financial Instruments

The carrying value of short-term financial instruments, including cash and cash equivalents, certain time deposits placed and other short-term investments, federal funds sold and purchased, certain resale and repurchase agreements and short-term borrowings, approximates the fair value of these instruments. These financial instruments generally expose the Corporation to limited credit risk and have no stated maturities or have short-term maturities and carry interest rates that approximate market. The Corporation accounts for certain resale and repurchase agreements under the fair value option.

Under the fair value hierarchy, cash and cash equivalents are classified as Level 1. Time deposits placed and other short-term investments, such as U.S. government securities and short-term commercial paper, are classified as Level 1 or Level 2. Federal funds sold and purchased are classified as Level 2. Resale and repurchase agreements are classified as Level 2 because they are generally short-dated and/or variable-rate instruments collateralized by U.S. government or agency securities. Short-term borrowings are generally classified as Level 2.

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 December 31, 2023 and 2022 are presented in the table below.

Fair Value of Financial Instruments

		Fair Value		
	Carrying Value	**Level 2**	**Level 3**	**Total**
(Dollars in millions)	**December 31, 2023**			
Financial assets				
Loans	**$1,020,281**	**$ 49,311**	**$949,977**	**$ 999,288**
Loans held-for-sale	**6,002**	**3,024**	**2,979**	**6,003**
Financial liabilities				
Deposits [1]	**1,923,827**	**1,925,015**	**—**	**1,925,015**
Long-term debt	**302,204**	**303,070**	**913**	**303,983**
Commercial unfunded lending commitments [2]	**1,275**	**44**	**3,927**	**3,971**
	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				

Global Wealth & Investment Management

GWIM provides a high-touch client experience through a network of financial advisors focused on clients with over $250,000 in total investable assets, including tailored solutions to meet clients' needs through a full set of investment management, brokerage, banking and retirement products. GWIM also provides comprehensive wealth management solutions targeted to high net worth and ultra high net worth clients, as well as customized solutions to meet clients' wealth structuring, investment management, trust and banking needs, including specialty asset management services.

Global Banking

Global Banking provides a wide range of lending-related products and services, integrated working capital management and treasury solutions, and underwriting and advisory services through the Corporation's network of offices and client relationship teams. Global Banking also provides investment banking products to clients. 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 clients generally include middle-market companies, commercial real estate firms, not-for-profit companies, large global corporations, financial institutions, leasing clients, and mid-sized U.S.-based businesses requiring customized and integrated financial advice and solutions.

Global Markets

Global Markets offers sales and trading services and research services to institutional clients across fixed-income, credit, currency, commodity and equity businesses. Global Markets provides market-making, financing, securities clearing, settlement and custody services globally to institutional investor clients in support of their investing and trading activities. Global Markets product coverage includes securities and derivative products in both the primary and secondary markets. Global Markets also works with commercial and corporate clients to provide risk management products. As a result of market-making activities, Global Markets may be required to manage risk in a broad range of financial products. In addition, the economics of certain investment banking and underwriting activities are shared primarily between Global Markets and Global Banking under an internal revenue-sharing arrangement.

All Other

that are utilized to determine net income. The net interest income of the businesses includes the results of a funds transfer pricing process that matches assets and liabilities with similar interest rate sensitivity and maturity characteristics. In segments where the total of liabilities and equity exceeds assets, which are generally deposit-taking segments, the Corporation allocates assets to match liabilities. Net interest income of the business segments also includes an allocation of net interest income generated by certain of the Corporation’s ALM activities.

The Corporation’s ALM activities include an overall interest rate risk management strategy that incorporates the use of various derivatives and cash instruments to manage fluctuations in earnings and capital that are caused by interest rate volatility. The Corporation’s goal is to manage interest rate sensitivity so that movements in interest rates do not significantly adversely affect earnings and capital. The results of a majority of the Corporation’s ALM activities are allocated to the business segments and fluctuate based on the performance of the ALM activities. ALM activities include external product pricing decisions including deposit pricing strategies, the effects of the Corporation’s internal funds transfer pricing process and the net effects of other ALM activities.

Certain expenses not directly attributable to a specific business segment are allocated to the segments. The costs of certain centralized or shared functions are allocated based on methodologies that reflect utilization.

The table below presents net income (loss) and the components thereto (with net interest income on an FTE basis for the business segments, All Other and the total Corporation) for 2023, 2022 and 2021, and total assets at December 31, 2023, 2022 and 2021 for each business segment, as well as All Other.

Results of Business Segments and All Other

At and for the year ended December 31	Total Corporation (1)			Consumer Banking		
(Dollars in millions)	**2023**	2022	2021	**2023**	2022	2021
Net interest income	**$ 57,498**	$ 52,900	$ 43,361	**$ 33,689**	$ 30,045	$ 24,929
Noninterest income	**41,650**	42,488	46,179	**8,342**	8,590	9,076
Total revenue, net of interest expense	**99,148**	95,388	89,540	**42,031**	38,635	34,005
Provision for credit losses	**4,394**	2,543	(4,594)	**5,158**	1,980	(1,035)
Noninterest expense	**65,845**	61,438	59,731	**21,416**	20,077	19,290
Income before income taxes	**28,909**	31,407	34,403	**15,457**	16,578	15,750
Income tax expense	**2,394**	3,879	2,425	**3,864**	4,062	3,859
Net income	**$ 26,515**	$ 27,528	$ 31,978	**$ 11,593**	$ 12,516	$ 11,891
Year-end total assets	**$3,180,151**	$3,051,375		**$1,049,830**	$1,126,453	

	Global Wealth & Investment Management			Global Banking		
	2023	2022	2021	**2023**	2022	2021
Net interest income	**$ 7,147**	$ 7,466	$ 5,664	**$ 14,645**	$ 12,184	$ 8,511
Noninterest income	**13,958**	14,282	15,084	**10,151**	10,045	12,364
Total revenue, net of interest expense	**21,105**	21,748	20,748	**24,796**	22,229	20,875
Provision for credit losses	**6**	66	(241)	**(586)**	641	(3,201)
Noninterest expense	**15,836**	15,490	15,258	**11,344**	10,966	10,632
Income before income taxes	**5,263**	6,192	5,731	**14,038**	10,622	13,444
Income tax expense	**1,316**	1,517	1,404	**3,790**	2,815	3,630
Net income	**$ 3,947**	$ 4,675	$ 4,327	**$ 10,248**	$ 7,807	$ 9,814
Year-end total assets	**$ 344,626**	$ 368,893		**$ 621,751**	$ 588,466	

	Global Markets			All Other		
	2023	2022	2021	**2023**	2022	2021
Net interest income	**$ 1,678**	$ 3,088	$ 4,011	**$ 339**	$ 117	$ 246
Noninterest income	**17,849**	15,050	15,244	**(8,650)**	(5,479)	(5,589)
Total revenue, net of interest expense	**19,527**	18,138	19,255	**(8,311)**	(5,362)	(5,343)
Provision for credit losses	**(131)**	28	65	**(53)**	(172)	(182)
Noninterest expense	**13,206**	12,420	13,032	**4,043**	2,485	1,519
Income (loss) before income taxes	**6,452**	5,690	6,158	**(12,301)**	(7,675)	(6,680)
Income tax expense (benefit)	**1,774**	1,508	1,601	**(8,350)**	(6,023)	(8,069)
Net income (loss)	**$ 4,678**	$ 4,182	$ 4,557	**$ (3,951)**	$ (1,652)	$ 1,389
Year-end total assets	**$ 817,588**	$ 812,489		**$ 346,356**	$ 155,074	

(1) There were no material intersegment revenues.

The table below presents noninterest income and the associated components for 2023, 2022, and 2021 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

(Dollars in millions)	Total Corporation			Consumer Banking			Global Wealth & Investment Management		
	2023	2022	2021	**2023**	2022	2021	**2023**	2022	2021
Fees and commissions:									
Card income									
Interchange fees	**$ 3,983**	$ 4,096	$ 4,560	**$ 3,157**	$ 3,239	$ 3,597	**$ (12)**	$ 20	$ 43
Other card income	**2,071**	1,987	1,658	**2,107**	1,930	1,575	**57**	50	42
Total card income	**6,054**	6,083	6,218	**5,264**	5,169	5,172	**45**	70	85
Service charges									
Deposit-related fees	**4,382**	5,190	6,271	**2,317**	2,706	3,538	**41**	65	72
Lending-related fees	**1,302**	1,215	1,233	**—**	—	—	**37**	8	—
Total service charges	**5,684**	6,405	7,504	**2,317**	2,706	3,538	**78**	73	72
Investment and brokerage services									
Asset management fees	**12,002**	12,152	12,729	**197**	195	188	**11,805**	11,957	12,541
Brokerage fees	**3,561**	3,749	3,961	**111**	109	132	**1,408**	1,604	1,771
Total investment and brokerage services	**15,563**	15,901	16,690	**308**	304	320	**13,213**	13,561	14,312
Investment banking fees									
Underwriting income	**2,235**	1,970	5,077	**—**	—	—	**171**	189	388
Syndication fees	**898**	1,070	1,499	**—**	—	—	**—**	—	—
Financial advisory services	**1,575**	**1,783**	**2,311**	**—**	—	—	**—**	—	—
Total investment banking fees	**4,708**	4,823	8,887	**—**	—	—	**171**	189	388
Total fees and commissions	**32,009**	33,212	39,299	**7,889**	8,179	9,030	**13,507**	13,893	14,857
Market making and similar activities	**12,732**	12,075	**8,691**	**20**	10	1	**137**	102	40
Other income (loss)	**(3,091)**	(2,799)	**(1,811)**	**433**	401	45	**314**	287	187
Total noninterest income	**$41,650**	$ 42,488	$ 46,179	**$ 8,342**	$ 8,590	$ 9,076	**$13,958**	$ 14,282	$ 15,084

	Global Banking			Global Markets			All Other [1]		
	2023	2022	2021	**2023**	2022	2021	**2023**	2022	2021
Fees and commissions:									
Card income									
Interchange fees	**$ 772**	$ 767	$ 700	**$ 66**	$ 66	$ 220	**$ —**	$ 4	$ —
Other card income	**9**	7	13	**—**	—	—	**(102)**	—	28
Total card income	**781**	774	713	**66**	66	220	**(102)**	4	28
Service charges									
Deposit-related fees	**1,943**	2,310	2,508	**79**	101	146	**2**	8	7
Lending-related fees	**1,009**	983	1,015	**256**	224	218	**—**	—	—
Total service charges	**2,952**	3,293	3,523	**335**	325	364	**2**	8	7
Investment and brokerage services									

(1) All Other includes eliminations of intercompany transactions.

The table below presents a reconciliation of the four business segments' total revenue, net of interest expense, on an FTE basis, and net income to the Consolidated Statement of Income, and total assets to the Consolidated Balance Sheet.

Business Segment Reconciliations

(Dollars in millions)	**2023**	2022	2021
Segments' total revenue, net of interest expense	**$ 107,459**	$ 100,750	$ 94,883
Adjustments [1]:			
Asset and liability management activities	**(2,011)**	(164)	(4)
Liquidating businesses, eliminations and other	**(6,300)**	(5,198)	(5,339)
FTE basis adjustment	**(567)**	(438)	(427)
Consolidated revenue, net of interest expense	**$ 98,581**	$ 94,950	$ 89,113
Segments' total net income	**30,466**	29,180	30,589
Adjustments, net-of-tax [1]:			
Asset and liability management activities	**(1,550)**	(122)	11
Liquidating businesses, eliminations and other	**(2,401)**	(1,530)	1,378
Consolidated net income	**$ 26,515**	$ 27,528	$ 31,978

	December 31	
	2023	2022
Segments' total assets	**$ 2,833,795**	$ 2,896,301
Adjustments [1]:		
Asset and liability management activities, including securities portfolio	**1,255,241**	1,133,375
Elimination of segment asset allocations to match liabilities	**(972,925)**	(1,041,793)
Other	**64,040**	63,492
Consolidated total assets	**$ 3,180,151**	$ 3,051,375

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

NOTE 24 Parent Company Information

The following tables present the Parent Company-only financial information.

Condensed Statement of Income

(Dollars in millions)	2023	2022	2021
Income			
Dividends from subsidiaries:			
Bank holding companies and related subsidiaries	**$ 22,384**	$ 22,250	$ 15,621
Interest from subsidiaries	**21,314**	12,420	8,362
Other income (loss)	**(1,012)**	(201)	(114)
Total income	**42,686**	34,469	23,869
Expense			
Interest on borrowed funds from subsidiaries	**896**	236	54
Other interest expense	**14,119**	7,041	3,383
Noninterest expense	**1,699**	1,322	1,531
Total expense	**16,714**	8,599	4,968
Income before income taxes and equity in undistributed earnings of subsidiaries	**25,972**	25,870	18,901
Income tax expense	**838**	683	886
Income before equity in undistributed earnings of subsidiaries	**25,134**	25,187	18,015
Equity in undistributed earnings (losses) of subsidiaries:			
Bank holding companies and related subsidiaries	**1,203**	2,333	14,078
Nonbank companies and related subsidiaries	**178**	8	(115)
Total equity in undistributed earnings (losses) of subsidiaries	**1,381**	2,341	13,963
Net income	**$ 26,515**	$ 27,528	$ 31,978

Condensed Balance Sheet

(Dollars in millions)	December 31 2023	2022
Assets		
Cash held at bank subsidiaries	**$ 4,559**	$ 9,609
Securities	**644**	617
Receivables from subsidiaries:		
Bank holding companies and related subsidiaries	**249,320**	222,584
Banks and related subsidiaries	**205**	220
Nonbank companies and related subsidiaries	**1,255**	978
Investments in subsidiaries:		
Bank holding companies and related subsidiaries	**306,946**	301,207
Nonbank companies and related subsidiaries	**3,946**	3,770
Other assets	**6,799**	7,156
Total assets	**$ 573,674**	$ 546,141
Liabilities and shareholders' equity		
Accrued expenses and other liabilities	**$ 14,510**	$ 14,193
Payables to subsidiaries:		
Banks and related subsidiaries	**207**	260
Bank holding companies and related subsidiaries	**14**	21
Nonbank companies and related subsidiaries	**17,756**	14,578
Long-term debt	**249,541**	243,892
Total liabilities	**282,028**	272,944
Shareholders' equity	**291,646**	273,197
Total liabilities and shareholders' equity	**$ 573,674**	$ 546,141

Condensed Statement of Cash Flows

(Dollars in millions)	**2023**	2022	2021
Operating activities			
Net income	**$ 26,515**	$ 27,528	$ 31,978
Reconciliation of net income (loss) to net cash provided by (used in) operating activities:			
Equity in undistributed (earnings) losses of subsidiaries	**(1,381)**	(2,341)	(13,963)
Other operating activities, net	**3,395**	(31,777)	(7,144)
Net cash provided by (used in) operating activities	**28,529**	(6,590)	10,871
Investing activities			
Net sales (purchases) of securities	**(15)**	25	(14)
Net payments to subsidiaries	**(21,267)**	(6,044)	(10,796)
Other investing activities, net	**(43)**	(34)	(26)
Net cash used in investing activities	**(21,325)**	(6,053)	(10,836)
Financing activities			
Net increase (decrease) in other advances	**2,825**	2,853	503
Proceeds from issuance of long-term debt	**23,950**	44,123	56,106
Retirement of long-term debt	**(25,366)**	(19,858)	(24,544)
Proceeds from issuance of preferred stock and warrants	**—**	4,426	2,170
Redemption of preferred stock	**—**	(654)	(1,971)
Common stock repurchased	**(4,576)**	(5,073)	(25,126)
Cash dividends paid	**(9,087)**	(8,576)	(8,055)
Net cash provided by (used in) financing activities	**(12,254)**	17,241	(917)
Net increase (decrease) in cash held at bank subsidiaries	**(5,050)**	4,598	(882)
Cash held at bank subsidiaries at January 1	**9,609**	5,011	5,893
Cash held at bank subsidiaries at December 31	**$ 4,559**	$ 9,609	$ 5,011

NOTE 25 Performance by Geographical Area

The Corporation's operations are highly integrated with operations in both U.S. and non-U.S. markets. The non-U.S. business activities are largely conducted in Europe, the Middle East and Africa and in Asia. The Corporation identifies its geographic performance based on the business unit structure used to manage the capital or expense deployed in the region as applicable. This requires certain judgments related to the allocation of revenue so that revenue can be appropriately matched with the related capital or expense deployed in the region. Certain asset, liability, income and expense amounts have been allocated to arrive at total assets, total revenue, net of interest expense, income before income taxes and net income by geographic area as presented below.

(Dollars in millions)		Total Assets at Year End [1]	Total Revenue, Net of Interest Expense [2]	Income Before Income Taxes	Net Income
U.S. [3]	**2023**	**$2,768,003**	**$ 85,571**	**$ 24,525**	**$ 23,656**
	2022	2,631,815	82,890	28,135	25,607
	2021		78,012	31,392	27,781
Asia	**2023**	**139,967**	**4,952**	**1,512**	**1,139**
	2022	127,399	4,597	1,144	865
	2021		4,439	988	733
Europe, Middle East and Africa	**2023**	**238,052**	**6,393**	**1,540**	**1,098**
	2022	262,856	6,044	1,121	689
	2021		5,423	1,097	3,134
Latin America and the Caribbean	**2023**	**34,129**	**1,665**	**765**	**622**
	2022	29,305	1,419	569	367
	2021		1,239	499	330
Total Non-U.S.	**2023**	**412,148**	**13,010**	**3,817**	**2,859**
	2022	419,560	12,060	2,834	1,921
	2021		11,101	2,584	4,197
Total Consolidated	**2023**	**$3,180,151**	**$ 98,581**	**$ 28,342**	**$ 26,515**
	2022	3,051,375	94,950	30,969	27,528
	2021		89,113	33,976	31,978

(1) Total assets include long-lived assets, which are primarily located in the U.S.

(2) There were no material intercompany revenues between geographic regions for any of the periods presented.

(3) Substantially reflects the U.S.

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

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

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
AI	Artificial intelligence
ALM	Asset and liability management
ARR	Alternative reference rates
AUM	Assets under management
AVM	Automated valuation model
BANA	Bank of America, National Association
BHC	Bank holding company
BofAS	BofA Securities, Inc.
BofASE	BofA Securities Europe SA
bps	Basis points
BSBY	Bloomberg Short-Term Bank Yield Index
CAE	Chief Audit Executive
CCAR	Comprehensive Capital Analysis and Review
CCP	Central counterparty clearinghouses
CCPA	California's Consumer Privacy Act
CDO	Collateralized debt obligation
CECL	Current expected credit losses
CET1	Common equity tier 1
CFPB	Consumer Financial Protection Bureau
CFTC	Commodity Futures Trading Commission
CLO	Collateralized loan obligation
CLTV	Combined loan-to-value
CPRA	California Privacy Rights Act
CRO	Chief Risk Officer
CVA	Credit valuation adjustment
DIF	Deposit Insurance Fund
DTA	Deferred tax assets
DVA	Debit valuation adjustment
ECL	Expected credit losses
EEA	European Economic Area
EPS	Earnings per common share
ERC	Enterprise Risk Committee
ESG	Environmental, social and governance
EU	European Union
FDIC	Federal Deposit Insurance Corporation
FDICIA	Federal Deposit Insurance Corporation Improvement Act of 1991
FHA	Federal Housing Administration
FHLB	Federal Home Loan Bank
FHLMC	Freddie Mac
FICC	Fixed income, currencies and commodities
GLS	Global Liquidity Sources
GNMA	Government National Mortgage Association
GRM	Global Risk Management
GSE	Government-sponsored enterprise
G-SIB	Global systemically important bank
GWIM	Global Wealth & Investment Management
HELOC	Home equity line of credit
HQLA	High Quality Liquid Assets
HTM	Held-to-maturity
ICAAP	Internal Capital Adequacy Assessment Process
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
MRC	Management Risk Committee
MSA	Metropolitan Statistical Area
MSR	Mortgage servicing right
NOL	Net operating loss
NSFR	Net Stable Funding Ratio
OCC	Office of the Comptroller of the Currency
OCI	Other comprehensive income
OECD	Organization for Economic Cooperation and Development
OREO	Other real estate owned
OTC	Over-the-counter
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

Item 9. Changes in and Disagreements with Accountants on Accounting and Financial Disclosure

None

Item 9A. Controls and Procedures

Disclosure Controls and Procedures

As of the end of the period covered by this report and pursuant to Rule 13a-15 of the Securities Exchange Act of 1934, as amended (Exchange Act), Bank of America's management, including the Chief Executive Officer and Chief Financial Officer, conducted an evaluation of the effectiveness and design of our disclosure controls and procedures (as that term is defined in Rule 13a-15(e) of the Exchange Act). Based upon that evaluation, Bank of America's Chief Executive Officer and Chief Financial Officer concluded that Bank of America's disclosure controls and procedures were effective, as of the end of the period covered by this report.

Report of Management on Internal Control Over Financial Reporting

The Report of Management on Internal Control Over Financial Reporting is set forth on page 87 and incorporated herein by reference. The Report of Independent Registered Public Accounting Firm with respect to the Corporation's internal control over financial reporting is set forth on pages 88 and 89 and incorporated herein by reference.

Changes in Internal Control Over Financial Reporting

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

Item 9B. Other Information

Trading Arrangements

During the fiscal quarter ended December 31, 2023, none of the Corporation's directors or officers (as defined in Rule 16a-1(f) of the Securities Exchange Act of 1934, as amended) adopted or terminated a Rule 10b5-1 trading arrangement or non-Rule 10b5-1 trading arrangement (in each case, as defined in Item 408 of Regulation S-K) for the purchase or sale of the Corporation's securities.

Disclosure Pursuant to Section 13(r) of the Securities Exchange Act of 1934

Pursuant to Section 13(r) of the Exchange Act, an issuer is required to disclose in its annual or [...] activity, transaction or dealing by any of its affiliates during the quarter ended December 31, 2023 that requires disclosure under Section 13(r) of the Exchange Act.

During the fourth quarter of 2023, Bank of America, National Association (BANA), a U.S. subsidiary of Bank of America Corporation, processed seven authorized wire payments totaling $1,063,846 pursuant to a general license issued by the U.S. Department of the Treasury's Office of Foreign Assets Control regarding Afghanistan or governing institutions in Afghanistan. These payments for BANA clients were processed to Afghan state-owned banks, which are subject to Executive Order 13224. There was no measurable gross revenue or net profit to the Corporation relating to these transactions, except nominal fees received by BANA for processing payments. The Corporation may in the future engage in similar transactions for its clients to the extent permitted by U.S. law.

Item 9C. Disclosure Regarding Foreign Jurisdictions that Prevent Inspections

Not applicable.

Part III

Bank of America Corporation and Subsidiaries

Item 10. Directors, Executive Officers and Corporate Governance

Information about our Executive Officers

The name, age, position and office, and business experience of our current executive officers are:

Dean C. Athanasia (57) President, Regional Banking since October 2021; President, Retail and Preferred & Small Business Banking from January 2019 to October 2021; Co-Head -- Consumer Banking from September 2014 to January 2019; and Preferred and Small Business Banking Executive from April 2011 to September 2014.

Aditya Bhasin (50) Chief Technology & Information Officer since October 2021; Chief Information Officer and Head of Technology for Consumer, Small Business, Wealth Management and Employee Technology from October 2017 to October 2021; CIO, Retail, Preferred & Wealth Management Technology, and Wealth Management Operations from June 2015 to October 2017.

Darrin Steve Boland (55) Chief Administrative Officer since October 2021;

Geoffrey S. Greener (59) Chief Risk Officer since April 2014; Head of Enterprise Capital Management from April 2011 to April 2014.

Lindsay D. Hans (44) President, Co-Head Merrill Wealth Management since April 2023; Head of Private Wealth Management, International and Institutional, Merrill Lynch from February 2023 to March 2023; Division Executive, Merrill Lynch from March 2017 to February 2023; Market Executive, Merrill Lynch from September 2014 to March 2017.

Kathleen A. Knox (60) President, The Private Bank since November 2017; Head of Business Banking from October 2014 to November 2017; and Retail Banking & Distribution Executive from June 2011 to October 2014.

Matthew M. Koder (52) President, Global Corporate & Investment Banking since December 2018; President of APAC from March 2012 to December 2018.

Bernard A. Mensah (55) President, International, CEO of Merrill Lynch International (MLI), BANA London Branch Head since August 2020. President of UK and Central and Eastern Europe, the Middle East, Africa, CEO of MLI, BANA London Branch and Co-Head of Global Fixed Income Currency and Commodities (FICC) Trading from September 2019 to August 2020; Co-Head of Global FICC Trading from March 2015 to September 2019.

Lauren A. Mogensen (61) Global General Counsel since November 2021; Head of Global Compliance & Operational Risk, and Reputational Risk from December 2013 to October 2021.

Brian T. Moynihan (64) Chair of the Board since October 2014, and President, Chief Executive Officer, and member of the Board of Directors since January 2010.

Thong M. Nguyen (65) Vice Chair, Head of Global Strategy & Enterprise Platforms since October 2021; Vice Chairman from January 2019 to October 2021; Co-Head **--** Consumer Banking from September 2014 to January 2019; Retail Banking Executive from April 2014 to September 2014; and Retail Strategy, and Operations & Digital Banking Executive from September 2012 to April 2014.

Eric A. Schimpf (55) President, Co-Head Merrill Wealth Management since April 2023; Pacific Coast Division Executive, Merrill Lynch from July 2022 to March 2023; Head of Advisory Division, Merrill Lynch from September 2020 to July 2022; Southeast Division Executive, Merrill Lynch from April 2017 to September 2020; South Atlantic Division Executive, Merrill Lynch from June 2015 to April 2017; Market Executive, Merrill Lynch from January 2014 to June 2015.

Thomas M. Scrivener (52) Chief Operations Executive since October 2021; Head of Consumer, Small Business & Wealth Management Operations from October 2019 to October 2021; Global Real Estate and Enterprise Initiatives Executive from September 2018 to October 2019; Enterprise Scenario Planning and Execution Executive from May 2016 to September 2018; Enterprise Stress Testing, Recovery & Resolution Planning Executive from June 2014 to March 2016.

Bruce R. Thompson (59) Vice Chair, **Head of Enterprise Credit** since October 2021; Vice Chairman, Head of Institutional Credit Exposure Management (from December 2020) and Wholesale Credit Underwriting and Monitoring (from May 2021) to October 2021; Vice Chairman, President of the EU & Switzerland and CEO of Bank of America Europe DAC from May 2018 to December 2020; Vice Chairman of Bank of America Corporation from March 2016 to May 2018; Managing Director from July 2015 to March 2016; Chief Financial Officer from July 2011 to July 2015.

Information included under the following captions in the Corporation's proxy statement relating to its 2024 annual meeting of shareholders (the 2024 Proxy Statement) is incorporated herein by reference:

- "Proposal 1: Electing directors – Our director nominees;"
- "Corporate governance – Additional corporate governance information;"
- "Corporate governance – Committees and membership;"
- "Corporate governance – Board meetings and attendance;" and
- "Delinquent Section 16(a) Reports."

Item 11. Executive Compensation

Information included under the following captions in the 2024 Proxy Statement is incorporated herein by reference:

- "Compensation discussion and analysis;"
- "Compensation and Human Capital Committee Report;"
- "Executive compensation;"
- "CEO pay ratio;"
- "Corporate governance;" and
- "Director compensation."

Item 12. Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters

Information included under the following caption in the 2024 Proxy Statement is incorporated herein by reference:

- "Stock ownership of directors, executive officers, and certain beneficial owners."

The table below presents information on equity compensation plans at December 31, 2023:

Plan Category [1]	(a) Number of Shares to be Issued Under Outstanding Options, Warrants and Rights [2]	(b) Weighted-average Exercise Price of Outstanding Options, Warrants and Rights [3]	(c) Number of Shares Remaining for Future Issuance Under Equity Compensation Plans (excluding securities reflected in column (a)) [4]
Plans approved by shareholders	237,319,169	—	137,153,480
Plans not approved by shareholders	—	—	—
Total	**237,319,169**	—	**137,153,480**

[1] This table does not include 469,974 vested restricted stock units (RSUs) and stock option gain deferrals at December 31, 2023 that were assumed by the Corporation in connection with prior acquisitions under whose plans the awards were originally granted.

[2] Consists of outstanding RSUs. Includes 3,855,179 vested RSUs subject to a required post-vest holding period.

[3] RSUs do not have an exercise price and are delivered without any payment or consideration.

[4] Amount represents shares of common stock available for future issuance under the Bank of America Corporation Equity Plan.

Item 13. Certain Relationships and Related Transactions, and Director Independence

Information included under the following captions in the 2024 Proxy Statement is incorporated herein by reference:

- "Related person and certain other transactions;" and
- "Corporate governance – Director independence."

Item 14. Principal Accounting Fees and Services

Information included under the following caption in the 2024 Proxy Statement is incorporated herein by reference:

- "Proposal 3: Ratifying the appointment of our independent registered public accounting firm for 2024."

Part IV

Bank of America Corporation and Subsidiaries

Item 15. Exhibits, Financial Statement Schedules

The following documents are filed as part of this report:

(1) Financial Statements:

Report of Independent Registered Public Accounting Firm (PCAOB ID 238)

Consolidated Statement of Income for the years ended December 31, 2023, 2022 and 2021

Consolidated Statement of Comprehensive Income for the years ended December 31, 2023, 2022 and 2021

Consolidated Balance Sheet at December 31, 2023 and 2022

Consolidated Statement of Changes in Shareholders' Equity for the years ended December 31, 2023, 2022 and 2021

Consolidated Statement of Cash Flows for the years ended December 31, 2023, 2022 and 2021

Notes to Consolidated Financial Statements

(2) Schedules:

None

(3) Index to Exhibits

With the exception of the information expressly incorporated herein by reference, the 2024 Proxy Statement shall not be deemed filed as part of this Annual Report on Form 10-K.

Exhibit No.	Description	Notes	Incorporated by Reference Form	Exhibit	Filing Date	File No.
3.1	Restated Certificate of Incorporation, as amended and in effect on the date hereof		10-Q	3.1	04/29/22	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
4.1	Indenture dated as of January 1, 1995 (for senior debt securities) between registrant (successor to NationsBank Corporation) and BankAmerica National Trust Company		S-3	4.1	2/1/95	33-57533
4.2	First Supplemental Indenture dated as of September 18, 1998 between registrant and U.S. Bank Trust National Association (successor to BankAmerica National Trust Company) to the indenture dated as of January 1, 1995 (See Exhibit 4.1)		8-K	4.3	11/18/98	1-6523
4.3	Second Supplemental Indenture dated as of May 7, 2001 between registrant, U.S. Bank Trust National Association, as Prior Trustee, and The Bank of New York, as Successor Trustee to the indenture dated as of January 1, 1995 (See Exhibit 4.1)		8-K	4.4	6/14/01	1-6523
4.4	Third Supplemental Indenture dated as of July 28, 2004 between registrant and The Bank of New York to the indenture dated as of January 1, 1995 (See Exhibit 4.1)		8-K	4.2	8/27/04	1-6523
4.5	Fourth Supplemental Indenture dated as of April 28, 2006 between the registrant and The Bank of New York to the indenture dated as of January 1, 1995 (See Exhibit 4.1)		S-3	4.6	5/5/06	333-133852
4.6	Fifth Supplemental Indenture dated as of December 1, 2008 between registrant and The Bank of New York Mellon Trust Company, N.A. (successor to The Bank of New York) to the indenture dated as of January 1, 1995 (See Exhibit 4.1)		8-K	4.1	12/5/08	1-6523
4.7	Sixth Supplemental Indenture dated as of February 23, 2011 between registrant and The Bank of New York Mellon Trust Company, N.A. to the indenture dated as of January 1, 1995 (See Exhibit 4.1)		10-K	4(ee)	2/25/11	1-6523
4.8	Seventh Supplemental Indenture dated as of January 13, 2017 between registrant and The Bank of New York Mellon Trust Company, N.A. to the indenture dated as of January 1, 1995 (See Exhibit 4.1)		8-K	4.1	1/13/17	1-6523
4.9	Eighth Supplemental Indenture dated as of February 23, 2017 between registrant and the Bank of New York Mellon Trust Company, N.A. to the indenture dated as of January 1, 1995 (See Exhibit 4.1)		10-K	4(a)	2/23/17	1-6523
4.10	Successor Trustee Agreement effective December 15, 1995 between registrant (successor to NationsBank Corporation) and First Trust of New York, National Association, as successor trustee to BankAmerica National Trust Company		S-3	4.2	6/28/96	333-07229
4.11	Agreement of Appointment and Acceptance dated as of December 29, 2006 between registrant and The Bank of New York Trust Company, N.A.		10-K	4(aaa)	2/28/07	1-6523
4.12	Form of Senior Registered Note		S-3	4.12	5/1/15	333-202354
4.13	Form of Registered Global Senior Medium-Term Note, Series L		S-3	4.13	5/1/15	333-202354
4.14	Form of Master Registered Global Senior Medium-Term Note, Series L		S-3	4.14	5/1/15	333-202354
4.15	Form of Registered Global Senior Medium-Term Note, Series M		8-K	4.2	1/13/17	1-6523
4.16	Form of Master Registered Global Senior Medium-Term Note, Series M		8-K	4.3	1/13/17	1-6523
4.17	Indenture dated as of January 1, 1995 (for subordinated debt securities) between registrant (successor to NationsBank Corporation) and The Bank of New York		S-3	4.5	2/1/95	33-57533

Exhibit No.	Description	Notes	Incorporated by Reference Form	Exhibit	Filing Date	File No.
4.19	Second Supplemental Indenture dated as of January 25, 2007 between registrant and The Bank of New York Trust Company, N.A. (successor to The Bank of New York) to the indenture dated as of January 1, 1995 (See Exhibit 4.17)		S-4	4.3	3/16/07	333-141361
4.20	Third Supplemental Indenture dated as of February 23, 2011 between registrant and The Bank of New York Mellon Trust Company, N.A. (formerly The Bank of New York Trust Company, N.A.) to the indenture dated as of January 1, 1995 (See Exhibit 4.17)		10-K	4(ff)	2/25/11	1-6523
4.21	Fourth Supplemental Indenture dated as of February 23, 2017 between registrant and The Bank of New York Mellon Trust Company, N.A. to the indenture dated as of January 1, 1995 (See Exhibit 4.17)		10-K	4(i)	2/23/17	1-6523
4.22	Indenture dated as of June 27, 2018 (for senior debt securities) between the registrant and The Bank of New York Mellon Trust Company, N.A.		S-3	4.3	6/27/18	333-224523
4.23	Form of Registered Global Senior Medium-Term Note, Series N (prior to August 2021)		S-3	4.4	6/27/18	333-224523
4.24	Form of Master Registered Global Senior Medium-Term Note, Series N (prior to August 2021)		S-3	4.5	6/27/18	333-224523
4.25	Form of Registered Global Senior Medium-Term Note, Series N (from August 2021)		S-3	4.4	8/2/21	333-257399
4.26	Form of Master Registered Global Senior Medium-Term Note, Series N (from August 2021)		S-3	4.5	8/2/21	333-257399
4.27	Indenture dated as of June 27, 2018 (for subordinated debt securities) between the registrant and The Bank of New York Mellon Trust Company, N.A.		S-3	4.6	6/27/18	333-224523
4.28	Form of Registered Global Subordinated Medium-Term Note, Series N (prior to August 2021)		S-3	4.7	6/27/18	333-224523
4.29	Form of Registered Global Subordinated Medium-Term Note, Series N (from August 2021)		S-3	4.7	8/2/21	333-257399
	Registrant and its subsidiaries have other long-term debt agreements, but these are omitted pursuant to Item 601(b)(4)(iii) of Regulation S-K. Copies of these agreements will be furnished to the Commission on request					
4.30	Description of the Corporation's Securities	1				
10.1	Bank of America Pension Restoration Plan, as amended and restated effective January 1, 2009 (Pension Restoration Plan)	2	10-K	10(c)	2/27/09	1-6523
10.2	First Amendment to the Pension Restoration Plan dated December 18, 2009	2	10-K	10(c)	2/26/10	1-6523
10.3	Second Amendment to the Pension Restoration Plan dated June 29, 2012	2	10-K	10(a)	2/28/13	1-6523
10.4	Third Amendment to the Pension Restoration Plan dated March 26, 2013	2	10-K	10.4	2/19/20	1-6523
10.5	Fourth Amendment to the Pension Restoration Plan dated August 22, 2013	2	10-K	10.5	2/19/20	1-6523
10.6	Fifth Amendment to the Pension Restoration Plan dated December 5, 2014	2	10-K	10.6	2/19/20	1-6523
10.7	Sixth Amendment to the Pension Restoration Plan dated December 15, 2016	2	10-K	10.7	2/19/20	1-6523
10.8	Bank of America Deferred Compensation Plan (formerly known as the Bank of America 401(k) Restoration Plan) as amended and restated effective January 1, 2015	2	10-K	10(c)	2/25/15	1-6523

Exhibit No.	Description	Notes	Incorporated by Reference Form	Exhibit	Filing Date	File No.
10.23	Form of Time-based Restricted Stock Units Award Agreement (February 2021) under the 2015 KEEP	2	10-Q	10.1	4/29/21	1-6523
10.24	Form of Performance Restricted Stock Units Award Agreement (February 2021) under the 2015 KEEP	2	10-Q	10.2	4/29/21	1-6523
10.25	Form of Cash-settled Restricted Stock Units Award Agreement under the 2021 BACEP	2	10-K	10.32	2/22/22	1-6523
10.26	Form of Time-Based Restricted Stock Units Award Agreement under the 2021 BACEP	2	10-K	10.33	2/22/22	1-6523
10.27	Form of Performance-Based Restricted Stock Units Award Agreement under the 2021 BACEP	2	10-K	10.34	2/22/22	1-6523
10.28	Form of Phantom Restricted Stock Units Award Agreement	2	10-K	10.35	2/22/22	1-6523
10.29	Amendment to various plans in connection with FleetBoston Financial Corporation merger dated October 27, 2003	2	10-K	10(v)	3/1/04	1-6523
10.30	FleetBoston Supplemental Executive Retirement Plan effective December 31, 2004	2	10-K	10(r)	3/1/05	1-6523
10.31	FleetBoston Executive Deferred Compensation Plan No. 2 effective December 16, 2003	2	10-K	10(u)	3/1/05	1-6523
10.32	FleetBoston Executive Supplemental Plan effective December 31, 2004	2	10-K	10(v)	3/1/05	1-6523
10.33	Retirement Income Assurance Plan for Legacy Fleet, as amended and restated effective January 1, 2009	2	10-K	10(p)	2/26/10	1-6523
10.34	First Amendment to the Retirement Income Assurance Plan for Legacy Fleet, as amended and restated effective January 1, 2009	2	10-K	10(l)	2/28/13	1-6523
10.35	Officer's Certificate of Global Compensation, Benefits and Shared Services Executive Regarding Wanger Divestiture	2	10-K	10(c)	2/25/11	1-6523
10.36	FleetBoston Directors Deferred Compensation and Stock Unit Plan effective January 1, 2004	2	10-K	10(aa)	3/1/05	1-6523
10.37	BankBoston Corporation and its Subsidiaries Deferred Compensation Plan dated December 24, 2001	2	10-K	10(cc)	3/1/05	1-6523
10.38	BankBoston Director Stock Award Plan effective July 1, 1998	2	10-K	10(hh)	3/1/05	1-6523
10.39	BankBoston Corporation Directors’ Deferred Compensation Plan effective March 1, 1988	2	10-K	10(ii)	3/1/05	1-6523
10.40	BankBoston, N.A. Directors’ Deferred Compensation Plan effective March 1, 1988	2	10-K	10(jj)	3/1/05	1-6523
10.41	Description of BankBoston Director Retirement Benefits Exchange Program	2	10-K	10(ll)	3/1/05	1-6523
10.42	Global amendment to definition of “change in control” or “change of control,” together with a list of plans affected by such amendment	2	10-K	10(oo)	3/1/05	1-6523
10.43	Employment Agreement dated October 27, 2003 between registrant and Brian T. Moynihan	2	S-4	10(d)	12/4/03	333-110924
10.44	Cancellation Agreement dated October 26, 2005 between registrant and Brian T. Moynihan	2	8-K	10.1	10/26/05	1-6523
10.45	Agreement Regarding Participation in the Fleet Boston Supplemental Executive Retirement Plan dated October 26, 2005 between registrant and Brian T. Moynihan	2	8-K	10.2	10/26/05	1-6523
10.46	Securities Purchase Agreement dated August 25, 2011 between registrant and Berkshire Hathaway Inc. (including forms of the certificate of Designations, Warrant and Registration Rights Agreement)		8-K	1.1	8/25/11	1-6523

Exhibit No.	Description	Notes	Incorporated by Reference Form	Exhibit	Filing Date	File No.
24	Power of Attorney	1				
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	4				
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	4				
97.1	Incentive Compensation Recoupment Policy	1				
99.1	Bank of America Corporation Corporate Policy Regarding Seeking Stockholder Approval of Future Severance Agreements		10-K	99.1	2/22/23	1-6523
101.INS	Inline XBRL Instance Document	5				
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) As permitted by Regulation S-K, Item 601(b)(10)(iv) of the Securities Exchange Act of 1934, as amended, certain portions of this exhibit have been redacted from the publicly filed document.

(4) 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.

(5) The instance document does not appear in the interactive data file because its XBRL tags are embedded within the inline XBRL document.

Item 16. Form 10-K Summary

Not applicable.

Signatures

Pursuant to the requirements of Section 13 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.

Date: February 20, 2024

Bank of America Corporation

By: /s/ Brian T. Moynihan

Brian T. Moynihan

Chief Executive Officer

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below by the following persons on behalf of the registrant and in the capacities and on the dates indicated.

Signature	Title	Date
/s/ Brian T. Moynihan Brian T. Moynihan	Chief Executive Officer, President, Chair and Director (Principal Executive Officer)	February 20, 2024
*/s/ Alastair M. Borthwick Alastair M. Borthwick	Chief Financial Officer (Principal Financial Officer)	February 20, 2024
*/s/ Rudolf A. Bless Rudolf A. Bless	Chief Accounting Officer (Principal Accounting Officer)	February 20, 2024
*/s/ Sharon L. Allen Sharon L. Allen	Director	February 20, 2024
*/s/ José E. Almeida José E. Almeida	Director	February 20, 2024
*/s/ Pierre J.P. de Weck Pierre J.P. de Weck	Director	February 20, 2024
*/s/ Arnold W. Donald Arnold W. Donald	Director	February 20, 2024
*/s/ Linda P. Hudson Linda P. Hudson	Director	February 20, 2024
*/s/ Monica C. Lozano Monica C. Lozano	Director	February 20, 2024
*/s/ Lionel L. Nowell III Lionel L. Nowell III	Director	February 20, 2024
*/s/ Denise L. Ramos Denise L. Ramos	Director	February 20, 2024
*/s/ Clayton S. Rose Clayton S. Rose	Director	February 20, 2024

Signature	Title	Date
*/s/ Michael D. White Michael D. White	Director	February 20, 2024
*/s/ Thomas D. Woods Thomas D. Woods	Director	February 20, 2024
*/s/ Maria T. Zuber Maria T. Zuber	Director	February 20, 2024

*By /s/ Ross E. Jeffries, Jr.

Ross E. Jeffries, Jr.
Attorney-in-Fact