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

FORM 10-K

ANNUAL REPORT
PURSUANT TO SECTION 13 OR 15(d)
OF THE SECURITIES EXCHANGE ACT OF 1934

For the fiscal year ended
December 31, 2022

Commission file number: 1-11302

KeyCorp

Exact name of registrant as specified in its charter:

Ohio	**34-6542451**
State or other jurisdiction of incorporation or organization:	**I.R.S. Employer Identification Number:**
127 Public Square, Cleveland, Ohio	**44114-1306**
Address of principal executive offices:	**Zip Code:**

(216) 689-3000
Registrant's telephone number, including area code:

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 Shares, $1 par value	KEY	New York Stock Exchange
Depositary Shares (each representing a 1/40th interest in a share of Fixed-to-Floating Rate Perpetual Non-Cumulative Preferred Stock, Series E)	KEY PrI	New York Stock Exchange
Depositary Shares (each representing a 1/40th interest in a share of Fixed Rate Perpetual Non-Cumulative Preferred Stock, Series F)	KEY PrJ	New York Stock Exchange
Depositary Shares (each representing a 1/40th interest in a share of Fixed Rate Perpetual Non-Cumulative Preferred Stock, Series G)	KEY PrK	New York Stock Exchange
Depositary Shares (each representing a 1/40th interest in a share of Fixed Rate Reset Perpetual Non-Cumulative Preferred Stock, Series H)	KEY PrL	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 previous 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 Exchange Act). Yes ☐ No ☒

The aggregate market value of voting and non-voting common stock held by nonaffiliates of the Registrant was $16,069,430,913 (based on the June 30, 2022, closing price of KeyCorp Common Shares of $17.23 as reported on the New York Stock Exchange). As of February 20, 2023, there were 931,825,509 Common Shares outstanding.

Certain specifically designated portions of KeyCorp's definitive Proxy Statement for its 2023 Annual Meeting of Shareholders are incorporated by reference into Part III of this Form 10-K.

Forward-looking Statements

From time to time, we have made or will make forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. These statements do not relate strictly to historical or current facts. Forward-looking statements usually can be identified by the use of words such as “goal,” “objective,” “plan,” “expect,” “assume,” “anticipate,” “intend,” “project,” “believe,” “estimate,” “will,” “would,” “should,” “could,” or other words of similar meaning. Forward-looking statements provide our current expectations or forecasts of future events, circumstances, results or aspirations. Our disclosures in this report contain forward-looking statements. We may also make forward-looking statements in other documents filed with or furnished to the SEC. In addition, we may make forward-looking statements orally to analysts, investors, representatives of the media and others.

Forward-looking statements, by their nature, are subject to assumptions, risks, and uncertainties, many of which are outside of our control. Our actual results may differ materially from those set forth in our forward-looking statements. There is no assurance that any list of risks and uncertainties or risk factors is complete. In addition, no assurance can be given that any plan, initiative, projection, goal, commitment, expectation, or prospect set forth in this report can or will be achieved. Factors that could cause our actual results to differ from those described in forward-looking statements include, but are not limited to:

- our concentrated credit exposure in commercial and industrial loans;
- deterioration of commercial real estate market fundamentals;
- defaults by our loan clients or counterparties;
- adverse changes in credit quality trends;
- declining asset prices;
- deterioration of asset quality and an increase in credit losses;
- labor shortages and supply chain constraints, as well as the impact of inflation;
- the extensive regulation of the U.S. financial services industry;
- changes in accounting policies, standards, and interpretations;
- operational or risk management failures by us or critical third parties;
- breaches of security or failures of our technology systems due to technological or other factors and cybersecurity threats;
- negative outcomes from claims or litigation;
- failure or circumvention of our controls and procedures;
- the occurrence of natural disasters, which may be exacerbated by climate change;
- societal responses to climate change;
- increased operational risks resulting from remote work;
- evolving capital and liquidity standards under applicable regulatory rules;
- disruption of the U.S. financial system, including the impact of inflation and a potential global economic downturn or recession;
- the impact of any failure by the U.S. government to increase the debt ceiling or any government shutdown;
- our ability to receive dividends from our subsidiaries, including KeyBank;
- unanticipated changes in our liquidity position, including but not limited to, changes in our access to or the cost of funding and our ability to secure alternative funding sources;
- downgrades in our credit ratings or those of KeyBank;
- a worsening of the U.S. economy due to financial, political or other shocks;
- our ability to anticipate interest rate changes and manage interest rate risk;
- uncertainty surrounding the transition from LIBOR to an alternate reference rate;
- deterioration of economic conditions in the geographic regions where we operate;
- the soundness of other financial institutions;
- our ability to manage our reputational risks;
- our ability to timely and effectively implement our strategic initiatives;
- increased competitive pressure;
- our ability to adapt our products and services to industry standards and consumer preferences;
- our ability to attract and retain talented executives and employees;
- unanticipated adverse effects of strategic partnerships or acquisitions and dispositions of assets or businesses; and
- our ability to develop and effectively use the quantitative models we rely upon in our business planning.

Any forward-looking statements made by us or on our behalf speak only as of the date they are made, and we do not undertake any obligation to update any forward-looking statement to reflect the impact of subsequent events or

circumstances, except as required by applicable securities laws. Before making an investment decision, you should carefully consider all risks and uncertainties disclosed in our SEC filings, including this report on Form 10-K and our subsequent reports on Forms 10-Q and 8-K and our registration statements under the Securities Act of 1933, as amended, all of which are or will upon filing be accessible on the SEC's website at www.sec.gov and on our website at www.key.com/ir.

Terminology

Throughout this discussion, references to "Key," "we," "our," "us," and similar terms refer to the consolidated entity consisting of KeyCorp and its subsidiaries. "KeyCorp" refers solely to the parent holding company, and "KeyBank" refers solely to KeyCorp's subsidiary bank, KeyBank National Association. "KeyBank (consolidated)" refers to the consolidated entity consisting of KeyBank and its subsidiaries.

We want to explain some industry-specific terms at the outset so you can better understand the discussion that follows.

- We use the phrase ***continuing operations*** in this document to mean all of our businesses other than our government-guaranteed and private education lending business, which have been accounted for as ***discontinued operations*** since 2009.
- We engage in ***capital markets activities*** primarily through business conducted by our Commercial Bank segment. These activities encompass a variety of products and services. Among other things, we trade securities as a dealer, enter into derivative contracts (both to accommodate clients' financing needs and to mitigate certain risks), and conduct transactions in foreign currencies (to accommodate clients' needs).
- For regulatory purposes, capital is divided into two classes. Federal regulations currently prescribe that at least one-half of a bank or BHC's ***total risk-based capital*** must qualify as ***Tier 1 capital***. Both total and Tier 1 capital serve as bases for several measures of capital adequacy, which is an important indicator of financial stability and condition. Banking regulators evaluate a component of Tier 1 capital, known as ***Common Equity Tier 1***, under the ***Regulatory Capital Rules***. The "Capital" section of this report under the heading "Capital adequacy" provides more information on total capital, Tier 1 capital, and the Regulatory Capital Rules, including Common Equity Tier 1, and describes how these measures are calculated.

The acronyms and abbreviations identified below are used in the Notes to Consolidated Financial Statements as well as in the Management's Discussion and Analysis of Financial Condition and Results of Operations. You may find it helpful to refer back to this page as you read this report.

ABO: Accumulated benefit obligation.
ALCO: Asset/Liability Management Committee.
ALLL: Allowance for loan and lease losses.
A/LM: Asset/liability management.
AML: Anti-money laundering.
AOCI: Accumulated other comprehensive income (loss).
APBO: Accumulated postretirement benefit obligation.
AQN Strategies: Arbitria Quum Notitia, LLC.
ARRC: Alternative Reference Rates Committee.
ASC: Accounting Standards Codification.
ASR: Accelerated Stock Repurchase.
ASU: Accounting Standards Update.
ATMs: Automated teller machines.
BSA: Bank Secrecy Act.
BHCA: Bank Holding Company Act of 1956, as amended.
BHCs: Bank holding companies.
Board: KeyCorp Board of Directors.
CAPM: Capital Asset Pricing Model.
CARES Act: Coronavirus Aid, Relief, and Economic Security Act.
CCAR: Comprehensive Capital Analysis and Review.
Cain Brothers: Cain Brothers & Company, LLC.
CECL: Current Expected Credit Losses.
CFPB: Consumer Financial Protection Bureau, also known as the Bureau of Consumer Financial Protection.
CFTC: Commodities Futures Trading Commission.
CMBS: Commercial mortgage-backed securities.
CMO: Collateralized mortgage obligation.
Common Shares: KeyCorp common shares, $1 par value.
CVA: Credit Valuation Adjustment.
DCF: Discounted cash flow.
DIF: Deposit Insurance Fund of the FDIC.
Dodd-Frank Act: Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010.
EAD: Exposure at default.
EBITDA: Earnings before interest, taxes, depreciation, and amortization.
EPS: Earnings per share.
ERISA: Employee Retirement Income Security Act of 1974.
ERM: Enterprise risk management.
ESG: Environmental, social, and governance
EVE: Economic value of equity.
FASB: Financial Accounting Standards Board.
FDIA: Federal Deposit Insurance Act, as amended.
FDIC: Federal Deposit Insurance Corporation.
Federal Reserve: Board of Governors of the Federal Reserve System.
FHLB: Federal Home Loan Bank of Cincinnati.
FHLMC: Federal Home Loan Mortgage Corporation.
FICO: Fair Isaac Corporation.
FINRA: Financial Industry Regulatory Authority.
First Niagara: First Niagara Financial Group, Inc.
FNMA: Federal National Mortgage Association.
FSOC: Financial Stability Oversight Council.
FVA: Fair value of employee benefit plan assets.
GAAP: U.S. generally accepted accounting principles.
GNMA: Government National Mortgage Association.
HTC: Historic tax credit.
IRS: Internal Revenue Service.
ISDA: International Swaps and Derivatives Association.
KBCM: KeyBanc Capital Markets, Inc.
KCC: Key Capital Corporation.
KCDC: Key Community Development Corporation.
KCIC: Key Community Investment Capital LLC.
KEF: Key Equipment Finance.
LCR: Liquidity coverage ratio.
LGD: Loss given default.
LIBOR: London Interbank Offered Rate.
LIHTC: Low-income housing tax credit.
LTV: Loan-to-value.
Moody's: Moody's Investor Services, Inc.
MRM: Market Risk Management group.
MRC: Market Risk Committee.
N/A: Not applicable.
NAV: Net asset value.
NFA: National Futures Association.
N/M: Not meaningful.
NMTC: New market tax credit.
NOW: Negotiable Order of Withdrawal.
NPR: Notice of proposed rulemaking.
NYSE: New York Stock Exchange.
OCC: Office of the Comptroller of the Currency.
OCI: Other comprehensive income (loss).
OREO: Other real estate owned.
PBO: Projected benefit obligation.
PCCR: Purchased credit card relationship.
PCD: Purchased credit deteriorated.
PD: Probability of default.
PPP: Paycheck Protection Program.
RMBS: Residential mortgage-backed securities.
S&P: Standard and Poor's Ratings Services, a Division of The McGraw-Hill Companies, Inc.
SEC: U.S. Securities & Exchange Commission.
SIFIs: Systemically important financial institutions, including large, interconnected BHCs and nonbank financial companies designated by FSOC for supervision by the Federal Reserve.
SOFR: Secured Overnight Financing Rate.
TDR: Troubled debt restructuring.
TE: Taxable-equivalent.
U.S. Treasury: United States Department of the Treasury.
VaR: Value at risk.
VEBA: Voluntary Employee Beneficiary Association.
VIE: Variable interest entity.

KEYCORP

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PART I

ITEM 1. BUSINESS

Overview

KeyCorp, organized in 1958 under the laws of the State of Ohio, is headquartered in Cleveland, Ohio. We are a BHC under the BHCA and one of the nation's largest bank-based financial services companies, with consolidated total assets of approximately $189.8 billion at December 31, 2022. KeyCorp is the parent holding company for KeyBank National Association, its principal subsidiary, through which most of our banking services are provided. Through KeyBank and certain other subsidiaries, we provide a wide range of retail and commercial banking, commercial leasing, investment management, consumer finance, student loan refinancing, commercial mortgage servicing and special servicing, and investment banking products and services to individual, corporate, and institutional clients through two major business segments: Consumer Bank and Commercial Bank.

As of December 31, 2022, these services were provided across the country through KeyBank's 972 full-service retail banking branches and a network of 1,265 ATMs in 15 states, as well as additional offices, online and mobile banking capabilities, including our national digital bank, Laurel Road, and a telephone banking call center. Additional information pertaining to our two business segments is included in the "Business Segment Results" section in Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations of this report, and in Note 25 ("Business Segment Reporting") of the Notes to Consolidated Financial Statements presented in Item 8. Financial Statements and Supplementary Data, which are incorporated herein by reference.

In addition to the customary banking services of accepting deposits and making loans, our bank and its trust company subsidiary offer personal and institutional trust custody services, personal financial and planning services, access to mutual funds, treasury services, and international banking services. Through our bank, trust company, and registered investment adviser subsidiaries, we provide investment management services to clients that include large corporate and public retirement plans, foundations and endowments, high-net-worth individuals, and multi-employer trust funds established for providing pension or other benefits to employees.

We provide other financial services — both within and outside of our primary banking markets — through various nonbank subsidiaries. These services include community development financing, securities underwriting, investment banking and capital markets products, and brokerage. We also provide merchant services to businesses.

KeyCorp is a legal entity separate and distinct from its banks and other subsidiaries. Accordingly, the right of KeyCorp, its security holders, and its creditors to participate in any distribution of the assets or earnings of its banks and other subsidiaries is subject to the prior claims of the creditors of such banks and other subsidiaries, except to the extent that KeyCorp's claims in its capacity as a creditor may be recognized.

We derive the majority of our revenues within the United States from customers domiciled in the United States. Revenue from foreign countries and external customers domiciled in foreign countries was immaterial to our consolidated financial statements.

Demographics

Our management structure and basis of presentation is divided into two business segments, Consumer Bank and Commercial Bank. Note 25 ("Business Segment Reporting") describes the products and services offered by each of these business segments and provides more detailed financial information pertaining to the segments, including changes in basis of presentation.

The Consumer Bank serves individuals and small businesses throughout our 15-state branch footprint and through our Laurel Road digital lending business by offering a variety of deposit and investment products, personal finance and financial wellness services, lending, student loan refinancing, mortgage and home equity, credit card, treasury services, and business advisory services. In addition, wealth management and investment services are offered to assist non-profit and high-net-worth clients with their banking, trust, portfolio management, charitable giving, and related needs.

The Commercial Bank consists of the Commercial and Institutional operating segments. The Commercial operating segment is a full-service, commercial banking platform that focuses primarily on serving the borrowing, cash

management, and capital markets needs of middle market clients within Key's 15-state branch footprint. It is also a significant, national, commercial real estate lender and third-party servicer of commercial mortgage loans and special servicer of CMBS. The Institutional operating segment operates nationally in providing lending, equipment financing, and banking products and services to large corporate and institutional clients. The industry coverage and product teams have established expertise in the following sectors: Consumer, Energy, Healthcare, Industrial, Public Sector, Real Estate, and Technology. The operating segment includes the KBCM platform which provides a broad suite of capital markets products and services including syndicated finance, debt and equity capital markets, derivatives, foreign exchange, financial advisory, and public finance. Additionally, KBCM provides fixed income and equity sales and trading services to investor clients.

Additional Information

Our executive offices are located at 127 Public Square, Cleveland, Ohio 44114-1306, and our telephone number is (216) 689-3000. Our website is www.key.com, and the investor relations section of our website may be reached through www.key.com/ir. We make available free of charge, on or through the investor relations section of our website, annual reports on Form 10-K, quarterly reports on Form 10-Q, and 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, as amended (the "Exchange Act"), as well as proxy statements, as soon as reasonably practicable after we electronically file such material with, or furnish it to, the SEC. Also posted on our website, and available in print upon request from any shareholder to our Investor Relations Department, are the charters for our Technology Committee, Audit Committee, Compensation and Organization Committee, Executive Committee, Nominating and Corporate Governance Committee, and Risk Committee; our Corporate Governance Guidelines; the Code of Business Conduct and Ethics for our directors, officers, and employees; our Standards for Determining Independence of Directors; our policy for Review of Transactions Between KeyCorp and Its Directors, Executive Officers and Other Related Persons; our Statement of Political Activity; and our Corporate Responsibility Report. Within the time period required by the SEC and the NYSE, we will post on our website any amendment to the Code of Ethics and any waiver applicable to any senior executive officer or director. We also make available a summary of filings made with the SEC of statements of beneficial ownership of our equity securities filed by our directors and officers under Section 16 of the Exchange Act. The "Regulatory Disclosures & Filings" section under the "Financials" tab of the investor relations section of our website includes public disclosures concerning our historic annual and mid-year stress-testing activities under the Dodd-Frank Act and our quarterly regulatory capital disclosures under the third pillar of Basel III.

Information contained on or accessible through, including any reports available on, our website or any other website referenced in this report is not part of this report. References to websites in this report are intended to be inactive textual references only.

Shareholders may obtain a copy of any of the above-referenced corporate governance documents by writing to our Investor Relations Department at Investor Relations, KeyCorp, 127 Public Square, Mailcode OH-01-27-0737, Cleveland, Ohio 44114-1306; by calling (216) 689-4221; or by sending an e-mail to investor_relations@keybank.com.

Competition

The market for banking and related financial services is highly competitive. Key competes with other providers of financial services, such as BHCs, commercial banks, savings associations, credit unions, mortgage banking companies, finance companies, mutual funds, insurance companies, investment management firms, investment banking firms, broker-dealers, and other local, regional, national, and global institutions that offer financial services. Some of our competitors are larger and may have more financial resources, while some of our competitors enjoy fewer regulatory constraints and may have lower cost structures. The financial services industry has become more competitive as technology advances have lowered barriers to entry, enabling more companies, including nonbank companies, to provide financial services. Technological advances may diminish the importance of depository institutions and other financial institutions. Mergers and acquisitions have also led to increased concentration in the banking industry, placing added competitive pressure on Key's core banking products and services as we see competitors enter some of our markets or offer similar products. We compete by offering quality products and innovative services at competitive prices, and by maintaining our product and service offerings to keep pace with customer preferences and industry standards.

Human Capital

Engaging a diverse and talented team is a top strategic priority for Key. Our human capital management strategy is focused on attracting, developing, and retaining the talent our businesses need to deliver strong returns to our shareholders, which we do by offering a competitive total rewards package, providing opportunities for career development and growth, and fostering a culture that is fair and inclusive.

Competitive Rewards

We make investments to hire the people we need to serve our customers and communities and regularly review our pay practices to reflect changing market and economic conditions. We have steadily increased our starting minimum wage since 2015 and made other adjustments responding to market trends, competitive pressures and a dynamic market for talent.

These investments include a comprehensive and competitive total rewards program, representing our investment in our teammates' collective success and reflecting our commitment to helping them thrive. Key's benefits offerings include employee health and welfare plans, a 401(k) plan with competitive matching contributions, paid parental leave, a Discounted Stock Purchase Plan, wellness incentives and a lifestyle reimbursement account program.

With respect to pay, we design our compensation programs to balance risk and reward and align with the guidance of our regulators, and we regularly monitor these programs to remain within our risk tolerances. We subject all discretionary incentives paid to our employees to a robust risk adjustment process that begins before grant and extends beyond payment.

Career Development and Growth

We invest in our teammates' growth and professional development through a variety of internal networking groups, formal and informal mentoring programs, and a suite of leadership development programs as well as by offering employees the opportunities to develop and enhance their skills through formal learning curricula and the opportunity to obtain collegiate or post-collegiate education and relevant certifications.

Creating a Fair and Inclusive Culture

Key's purpose is to help our clients, colleagues, and communities thrive. We remain committed to attracting a talented and diverse workforce and supplier base that represents the clients and communities we serve. In 2022, we continued to focus on increasing minority representation in management and leadership roles, expanding our overall recruiting focus, developing diverse candidate slates and pipelines, increasing supplier diversity, providing mentorship opportunities, offering implicit bias training, and leveraging our existing employee resource groups to strengthen both engagement and inclusion.

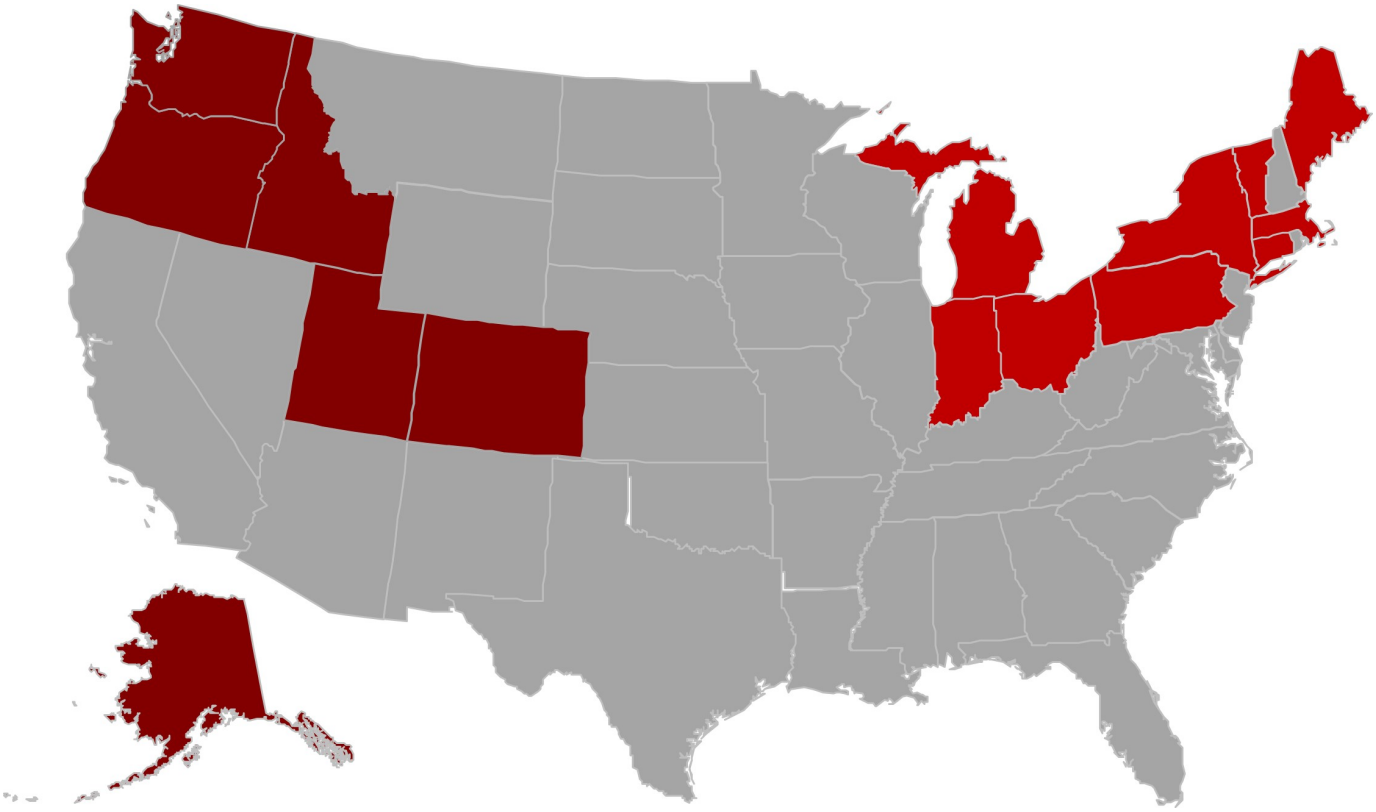
In addition, we are committed to pay equity as a foundational element of our culture. As of February 2022, at KeyBank women earn on average more than 99% of what their male teammates earn, and people of color earn on average more than 99% of what their white teammates earn, after taking into account an employee's job. Our analysis is based on total compensation (base salary and all discretionary incentives) covering all teammates eligible for a discretionary incentive, other than our Executive Leadership Team whose pay is set by our Board of Directors. More information about our commitment to pay equity and our commitment to increasing diversity is available at www.key.com/about/diversity/pay-equity-commitment.jsp.

As of December 31, 2022, our overall workforce was 58.7% female. In addition, as of December 31, 2022, our workforce was also 75.3% White, 9.1% Black/African American, 6.9% Hispanic/Latino, 6.1% Asian and 2.7% other. Our Board of Directors is 46% diverse (six of our 13 total Directors are diverse, with four women, one of whom is also a minority, and two male minorities) and our Executive Leadership Team is 36% diverse (four women and one minority out of 14 total executives).

For more information about our diversity and inclusion efforts, a more detailed breakdown of employee diversity by EEO-1 categories, and information about how we work every day and in every way to help our clients, colleagues, and communities thrive, please see our website and our Corporate Responsibility report at https://investor.key.com/esg-information/corporate-responsibility/.

Key's Workforce

Key had an average of 17,660 full time equivalent employees in 2022. As of December 31, 2022, a total of 18,891 full-time and part-time employees worked in the following regions, which are generally aligned to the regions Key uses for its retail branch banking network:



Region	Employee Count
East	13,775
West	1,974
All Other	3,142

Information About Our Executive Officers

KeyCorp's executive officers are principally responsible for managing the operations of KeyCorp, making policy for KeyCorp, executing on strategic decisions, and managing material risks, subject to the supervision and direction of the Board. All executive officers are subject to annual election at the annual organizational meeting of the Board held each May.

Set forth below are the names and ages of the executive officers of KeyCorp as of December 31, 2022, the positions held by each at KeyCorp during the past five years, and the year each first became an executive officer of KeyCorp. Because James Waters has been employed at KeyCorp for less than five years, information is being provided concerning his prior business experience. There are no family relationships among the directors or the executive officers, and there is no arrangement or understanding between any executive officer and any other person pursuant to which the executive officer was selected.

Victor B. Alexander (43) - Mr. Alexander has been KeyCorp's Head of Consumer Bank and an executive officer of KeyCorp since January 2020. Prior to that time, he served as the Head of Home Lending from October 2018 to January 2020 and Treasurer from July 2017 to October 2018.

Amy G. Brady (56) - Ms. Brady is KeyCorp's Chief Information Officer, serving in that role since May 2012. Ms. Brady has been an executive officer of KeyCorp since she joined in 2012. She has been a director of DuPont de Nemours, Inc., a multi-industry specialty solutions company, since 2019.

Trina M. Evans (58) - Ms. Evans has been the Director of Corporate Center for KeyCorp since August 2012. Prior to this role, Ms. Evans was the Chief Administrative Officer for Key Community Bank and the Director of Client Experience for KeyBank. She became an executive officer of KeyCorp in March 2013.

Brian L. Fishel (57) - Mr. Fishel became the Chief Human Resources Officer and an executive officer of KeyCorp in May 2018. From 2013 to 2018, he served as the Director of Talent Management for KeyCorp.

Kenneth C. Gavrity (46) - Mr. Gavrity has been Head of Enterprise Payments since January 2019 and became an executive officer of KeyCorp in May 2021. Prior to this, Mr. Gavrity served as Head of Commercial Payments from 2016 to 2019.

Christopher M. Gorman (62) - Mr. Gorman has been Chairman, Chief Executive Officer, and President of KeyCorp since May 1, 2020. Mr. Gorman previously served as President and Chief Operating Officer from September 2019 to May 2020 and President of Banking and Vice Chairman from 2017 to September 2019. From 2016 to 2017, he served as Merger Integration Executive responsible for leading the integration efforts related to KeyCorp's merger with First Niagara. Prior to that, Mr. Gorman was the President of Key Corporate Bank from 2010 to 2016. He became an executive officer of KeyCorp in 2010.

Clark H.I. Khayat (51) - Mr. Khayat rejoined KeyCorp as Chief Strategy Officer in January 2018. Mr. Khayat previously served as an Executive Vice President and Head of Key's Enterprise Commercial Payments group from April 2014 to June 2016. He became an executive officer of KeyCorp in September 2018. On November 17, 2022, KeyCorp announced that Mr. Khayat will succeed Donald R. Kimble as Chief Financial Officer of KeyCorp effective upon Mr. Kimble's retirement.

Allyson M. Kidik (43) - Ms. Kidik has been the Chief Risk Review Officer and General Auditor and an executive officer of KeyCorp since July 2022. Ms. Kidik previously served as Senior Deputy General Auditor from 2018 to 2022 and Deputy General Auditor from 2015 to 2018.

Donald R. Kimble (62) - Mr. Kimble has been the Chief Financial Officer of KeyCorp since June 2013. In 2017, Mr. Kimble was also named Vice Chairman. In January 2020, Mr. Kimble was also appointed Chief Administrative Officer. Mr. Kimble became an executive officer upon joining KeyCorp in June 2013. On November 17, 2022, KeyCorp announced that Mr. Kimble will retire from KeyCorp effective May 1, 2023.

Angela G. Mago (57) - Ms. Mago is the Head of Commercial Bank. She previously served as Co-Head of Key Corporate Bank from 2016 to May 2019. She also serves as Head of Real Estate Capital for Key, a role she has held since 2014. She became an executive officer of KeyCorp in 2016.

Mark W. Midkiff (60) - Mr. Midkiff became Chief Risk Officer and an executive officer of KeyCorp in January 2018.

Andrew J. Paine III (53) - Mr. Paine is the Head of Institutional Bank. He previously served as Co-Head of Key Corporate Bank from 2016 to May 2019. He also serves as President of KeyBanc Capital Markets Inc., a role he has held since 2013. He became an executive officer of KeyCorp in 2016.

Douglas M. Schosser (52) - Mr. Schosser has been the Chief Accounting Officer and an executive officer of KeyCorp since May 2015.

Jaime Warder (49) - Mr. Warder has been Head of Digital Banking since January 2019 and became an executive officer of KeyCorp in May 2021. Prior to this, Mr. Warder served as Head of Business Banking and Investment Services from 2017 to 2019.

James L. Waters (56) - Mr. Waters became the General Counsel and Secretary and an executive officer of KeyCorp in July 2021. From 2018 to 2021, he served as General Counsel and Corporate Secretary of Cullen/Frost Bankers, Inc., a financial holding company. Prior to 2018, he was a partner of the law firm Haynes and Boone, LLP.

Supervision and Regulation

The regulatory framework applicable to BHCs and banks is intended primarily to protect consumers, the DIF, taxpayers and the banking system as a whole, rather than to protect the security holders and creditors of financial services companies. Comprehensive reform of the legislative and regulatory environment for financial services companies occurred in 2010 and remains ongoing. We cannot predict changes in applicable laws, regulations or regulatory agency policies, but any such changes may materially affect our business, financial condition, results of operations, or access to liquidity or credit.

Overview

Federal law establishes a system of regulation under which the Federal Reserve is the umbrella regulator for BHCs, while their subsidiaries are principally regulated by prudential or functional regulators: (i) the OCC for national banks and federal savings associations; (ii) the FDIC for state non-member banks and savings associations; (iii) the Federal Reserve for state member banks; (iv) the CFPB for consumer financial products or services; (v) the SEC and FINRA for securities broker/dealer activities; (vi) the SEC, CFTC, and NFA for swaps and other derivatives; and (vii) state insurance regulators for insurance activities. Certain specific activities, including traditional bank trust and fiduciary activities, may be conducted in a bank without the bank being deemed a “broker” or a “dealer” in securities for purposes of securities functional regulation.

Under the BHCA, BHCs generally may not directly or indirectly own or control more than 5% of the voting shares, or substantially all of the assets, of any bank, without prior approval from the Federal Reserve. In addition, BHCs are generally prohibited from engaging in commercial or industrial activities. However, a BHC that satisfies certain requirements regarding management, capital adequacy, and Community Reinvestment Act performance may elect to be treated as a Financial Holding Company (“FHC”) for purposes of federal law, and as a result may engage in a substantially broader scope of activities that are considered to be financial in nature or complementary to those activities. KeyCorp has elected to be treated as a FHC and, as such, is authorized to engage in securities underwriting and dealing, insurance agency and underwriting, and merchant banking activities. In addition, the Federal Reserve has permitted FHCs, like KeyCorp, to engage in the following activities, under the view that such activities are complementary to a financial activity: physical commodities trading activities, energy management services, and energy tolling, among others.

Under federal law, a BHC also must serve as a source of financial strength to its subsidiary depository institution(s) by providing financial assistance in the event of financial distress. This support may be required when the BHC does not have the resources to, or would prefer not to, provide it. Certain loans by a BHC to a subsidiary bank are subordinate in right of payment to deposits in, and certain other indebtedness of, the subsidiary bank. In addition, federal law provides that in the bankruptcy of a BHC, any commitment by the BHC to a federal bank regulatory agency to maintain the capital of a subsidiary bank will be assumed by the bankruptcy trustee and entitled to priority of payment.

The Dodd-Frank Act created the FSOC to overlay the U.S. supervisory framework for BHCs, insured depository institutions, and other financial service providers, by serving as a systemic risk oversight body. Specifically, the FSOC is authorized to: (i) identify risks to U.S. financial stability that could arise from the material financial distress or failure, or ongoing activities, of large, interconnected SIFIs, or that could arise outside the financial services marketplace; (ii) promote market discipline by eliminating expectations that the U.S. government will shield shareholders, creditors, and counterparties from losses in the event of failure; and (iii) respond to emerging threats to the stability of the U.S. financial system. The FSOC is responsible for facilitating regulatory coordination; information collection and sharing; designating nonbank financial companies for consolidated supervision by the Federal Reserve; designating systemic financial market utilities and systemic payment, clearing, and settlement activities requiring prescribed risk management standards and heightened federal regulatory oversight; recommending stricter standards for SIFIs; and, together with the Federal Reserve, determining whether action should be taken to break up firms that pose a grave threat to U.S. financial stability.

As a FHC, KeyCorp is subject to regulation, supervision, and examination by the Federal Reserve under the BHCA. Our national bank subsidiaries and their subsidiaries are subject to regulation, supervision, and examination by the OCC. At December 31, 2022, we operated one full-service, FDIC-insured national bank subsidiary, KeyBank, and one national bank subsidiary that is limited to fiduciary activities. The FDIC also has certain, more limited regulatory, supervisory, and examination authority over KeyBank and KeyCorp under the FDIA and the Dodd-Frank Act.

We have other financial services subsidiaries that are subject to regulation, supervision, and examination by the Federal Reserve, as well as other state and federal regulatory agencies and self-regulatory organizations. Because KeyBank engages in derivative transactions, in 2013 it provisionally registered as a swap dealer with the CFTC and became a member of the NFA, the self-regulatory organization for participants in the U.S. derivatives industry. Our securities brokerage and asset management subsidiaries are subject to supervision and regulation by the SEC, FINRA, and state securities regulators, and our insurance subsidiaries are subject to regulation by the insurance regulatory authorities of the states in which they operate. Our other nonbank subsidiaries are subject to laws and regulations of both the federal government and the various states in which they are authorized to do business.

Regulatory capital requirements

Background

KeyCorp and KeyBank are subject to regulatory capital requirements that are based largely on the work of an international group of supervisors known as the Basel Committee on Banking Supervision ("Basel Committee"). The Basel Committee is responsible for establishing international bank supervisory standards for implementation in member jurisdictions, to enhance and align bank regulation on a global scale, and to promote financial stability.
The regulatory capital framework developed by the Basel Committee and implemented in the United States is a predominately risk-based capital framework that establishes minimum capital requirements based on the amount of regulatory capital a banking organization maintains relative to the amount of its total assets, adjusted to reflect credit risk ("risk-weighted assets"). Each banking organization subject to this regulatory capital framework is required to satisfy certain minimum risk-based capital measures (e.g., a tier 1 risk-based capital ratio requirement of tier 1 capital to total risk-weighted assets), and in the United States, a minimum leverage ratio requirement of tier 1 capital to average total on-balance sheet assets, which serves as a backstop to the risk-based measures.
A capital instrument is assigned to one of two tiers based on the relative strength and ability of that instrument to absorb credit losses on a going concern basis. Capital instruments with relatively robust loss-absorption capacity are assigned to tier 1, while other capital instruments with relatively less loss-absorption capacity are assigned to tier 2. A banking organization's total capital equals the sum of its tier 1 and tier 2 capital.

The Basel Committee also developed a market risk capital framework (that also has been implemented in the United States) to address the substantial exposure to market risk faced by banking organizations with significant trading activity and augment the credit risk-based capital requirements described above. For example, the minimum total risk-based capital ratio requirement for a banking organization subject to the market risk capital rule equals the ratio of the banking organization's total capital to the sum of its credit risk-weighted assets and market risk-weighted assets. Only KeyCorp is subject to the market risk capital rule, as KeyBank does not engage in substantial trading activity.

Basel III

To address deficiencies in the international regulatory capital standards identified during the 2007-2009 global financial crisis, in 2010 the Basel Committee released comprehensive revisions to the international regulatory capital framework, commonly referred to as "Basel III." The Basel III revisions are designed to strengthen the quality and quantity of regulatory capital, in part through the introduction of a Common Equity Tier 1 capital requirement; provide more comprehensive and robust risk coverage, particularly for securitization exposures, equities, and off-balance sheet positions; and address pro-cyclicality concerns through the implementation of capital buffers. The Basel Committee also released a series of revisions to the market risk capital framework to address deficiencies identified during its initial implementation (e.g., arbitrage opportunities between the credit risk-based and market risk capital rules) and in connection with the global financial crisis.

KeyCorp and KeyBank are subject to regulatory capital requirements implemented by the U.S. banking agencies that are based largely on Basel III ("Regulatory Capital Rules"). Consistent with the international framework, the Regulatory Capital Rules further restrict the type of instruments that may be recognized in tier 1 and tier 2 capital; establish a minimum Common Equity Tier 1 capital ratio requirement of 4.5% and capital buffers to absorb losses during periods of financial stress while allowing an institution to provide credit intermediation as it would during a normal economic environment; and refine several of the methodologies used for determining risk-weighted assets. The Regulatory Capital Rules provide additional requirements for large banking organizations with over $250 billion in total consolidated assets or $10 billion in foreign exposure, but those additional requirements do not apply to KeyCorp or KeyBank. Accordingly, for purposes of the Regulatory Capital Rules, KeyCorp and KeyBank are treated as "standardized approach" banking organizations.

Under the Regulatory Capital Rules, standardized approach banking organizations, such as KeyCorp and KeyBank, are required to meet the minimum capital and leverage ratios set forth in the following table. At December 31, 2022, KeyCorp's ratios under the fully phased-in Regulatory Capital Rules are set forth in the following table.

Minimum Capital Ratios and KeyCorp Ratios Under Regulatory Capital Rules

Ratios (including stress capital buffer)	Regulatory Minimum Requirement	Stress Capital Buffer [b]	Regulatory Minimum With Stress Capital Buffer	KeyCorp December 31, 2022 [c]
Common Equity Tier 1	4.50 %	2.50 %	7.00 %	9.10 %
Tier 1 Capital	6.00	2.50	8.50	10.60
Total Capital	8.00	2.50	10.50	12.79
Leverage [a]	4.00	N/A	4.00	8.88

(a) As a standardized approach banking organization, KeyCorp is not subject to the 3% supplemental leverage ratio requirement, which became effective January 1, 2018.
(b) Stress Capital buffer must consist of Common Equity Tier 1 capital. As a standardized approach banking organization, KeyCorp is not subject to the countercyclical capital buffer of up to 2.5% imposed upon an advanced approaches banking organization under the Regulatory Capital Rules.
(c) Ratios reflect the five-year transition of CECL impacts on regulatory ratios.

Revised prompt corrective action framework

The federal prompt corrective action framework established under the FDIA groups FDIC-insured depository institutions into one of five prompt corrective action capital categories: "well capitalized," "adequately capitalized," "undercapitalized," "significantly undercapitalized," and "critically undercapitalized." In addition to implementing the Basel III capital framework in the U.S., the Regulatory Capital Rules also revised the prompt corrective action capital category threshold ratios applicable to FDIC-insured depository institutions such as KeyBank, with an effective date of January 1, 2015. The Revised Prompt Corrective Action Framework table below identifies the capital category threshold ratios for a "well capitalized" and an "adequately capitalized" institution under the Prompt Corrective Action Framework.

"Well Capitalized" and "Adequately Capitalized" Capital Category Ratios under Revised Prompt Corrective Action Framework

Prompt Corrective Action Ratio	Capital Category	
	Well Capitalized [a]	Adequately Capitalized
Common Equity Tier 1 Risk-Based	6.5 %	4.5 %
Tier 1 Risk-Based	8.0	6.0
Total Risk-Based	10.0	8.0
Tier 1 Leverage [b]	5.0	4.0

(a) A "well capitalized" institution also must not be subject to any written agreement, order or directive to meet and maintain a specific capital level for any capital measure.
(b) As a standardized approach banking organization, KeyBank is not subject to the 3% supplemental leverage ratio requirement, which became effective January 1, 2018.

We believe that, as of December 31, 2022, KeyBank (consolidated) satisfied the risk-based and leverage capital requirements necessary to be considered "well capitalized" for purposes of the revised prompt corrective action framework. However, investors should not regard this determination as a representation of the overall financial condition or prospects of KeyBank because the prompt corrective action framework is intended to serve a limited supervisory function. Moreover, it is important to note that the prompt corrective action framework does not apply to BHCs, like KeyCorp.

Recent regulatory capital-related developments

In December 2017, the Basel Committee released its final revisions to Basel III. The revisions seek to restore credibility in the calculation of risk-weighted assets ("RWAs") and improve the comparability of regulatory capital ratios across banking organizations by: (1) enhancing the robustness and risk-sensitivity of the standardized approach for credit risk, credit valuation adjustment, and operational risk; (2) constraining the use of internal models by placing limits on certain inputs used to calculate capital requirements under the internal ratings-based approach for credit risk (used by advanced approaches banking organizations) and removing the ability to use an internal model for purposes of determining the capital charge for credit valuation adjustment ("CVA") risk and operational risk; (3) introducing a leverage ratio buffer to further limit the leverage of global systemically-important banks; and (4) replacing the existing Basel II output floor with a more robust, risk-sensitive floor based on the Basel III standardized approach.

The U.S. federal banking agencies released a statement announcing their support for the Basel Committee's efforts, but cautioned that they will consider how to appropriately incorporate these revisions into the Regulatory Capital

Rules, and that any proposed changes based on the Basel Committee revisions would be subject to notice-and-comment rulemaking. In view of the prohibition under the Dodd-Frank Act on the use of credit ratings in federal regulation, there is some uncertainty as to whether or how the agencies would implement the ratings-based aspects of the Basel Committee revisions to Basel III, as well as any other aspect of the Basel Committee revisions that permit the U.S. agencies to exercise home-country discretion, for example, due to differences in accounting or market practices, and legal requirements.

Subsequently, in December 2018, the Basel Committee released an update to its Pillar 3 disclosure framework, to more appropriately align it to the changes adopted under the Basel Committee's final revisions to Basel III. Before any action is taken by the federal banking agencies with respect to the revised Pillar 3 disclosure framework, the federal agencies must determine whether and to what extent they will implement the final revisions to Basel III released by the Basel Committee in December 2017.

On July 9, 2019, the federal banking agencies issued a final rule to simplify certain aspects of the Regulatory Capital Rules for standardized approach banking organizations, including Key. The final rule simplifies, for these banking organizations, the regulatory capital requirements for mortgage servicing assets, certain deferred tax assets arising from temporary differences, and investments in the capital of unconsolidated financial institutions. The final rule replaces multiple deduction thresholds with a single 25% deduction threshold for each of these categories and requires that a 250% risk weight be applied to mortgage servicing assets and deferred tax assets that are not deducted from capital. The final rule also simplifies the calculation of the amount of capital issued by a consolidated subsidiary of a banking organization and held by third parties that is includable in regulatory capital. In addition, the final rule makes certain technical amendments to the Regulatory Capital Rules that are applicable to standardized approach banking organizations as well as advanced approaches banking organizations. The final rule provided an effective date of October 1, 2019, for the technical amendments and an effective date of April 1, 2020, for the simplification changes. On November 13, 2019, the federal banking agencies published an amendment to the final rule to provide standardized approach banking organizations with the option to implement the simplification changes on either January 1, 2020, or April 1, 2020. We chose to implement the simplification changes on April 1, 2020.

In November 2019, the federal banking agencies adopted a final rule to amend the Regulatory Capital Rules by revising the definition of a high volatility commercial real estate ("HVCRE") exposure. HVCRE exposures are subject to a heightened risk weight under the Regulatory Capital Rules. The final rule, which became effective on April 1, 2020, conforms the HVCRE definition to statutory changes enacted in May 2018. The final rule also clarifies the treatment under the revised HVCRE definition of credit facilities that finance one-to-four family residential properties as well as credit facilities that finance the development of land.

A final rule adopted by the federal banking agencies in February 2019 provides banking organizations with the option to phase in, over a three-year period, the adverse day-one regulatory capital effects of the adoption of the CECL accounting standard. On March 27, 2020, the federal banking agencies issued an interim final rule that gives banking organizations that are required under U.S. accounting standards to adopt CECL before the end of 2020 the option to delay for two years CECL's adverse effects on regulatory capital ("CECL Interim Final Rule"). This is in addition to the three-year transition period already in place, resulting in an optional five-year transition. The agencies noted that this relief is being provided in order to allow banking organizations to better focus on lending to creditworthy households and businesses affected by recent strains on the U.S. economy caused by COVID-19.

The CARES Act, enacted on March 27, 2020, provides banking organizations with the option to not comply with CECL until the earlier of (i) the termination date of the national emergency concerning COVID-19 declared by the President under the National Emergencies Act; or (ii) December 31, 2020. The federal banking agencies issued a statement on March 31, 2020, indicating that banking organizations that elect to use the optional, temporary statutory relief will be able to elect the remaining period of regulatory capital relief provided under the CECL Interim Final Rule after the end of the statutory relief period. Alternatively, banking organizations may adopt CECL as planned in 2020 and use the regulatory capital relief provided under the CECL Interim Final Rule starting at the time of their adoption of CECL.

On August 26, 2020, the federal banking agencies issued a final rule that is substantially similar to the CECL Interim Final Rule. Like the CECL Interim Final Rule, the final rule gives eligible banking organizations the option to mitigate the estimated adverse effects on regulatory capital of CECL for two years, followed by a three-year transition period, which results in an optional five-year transition. The final rule expands the group of institutions eligible for this optional five-year transition to include any institution adopting CECL in 2020. The final rule also includes certain minor adjustments to clarify the calculation of the transitional amount. Key elected to adopt CECL as planned in the

first quarter of 2020 and exercise the option to use a five-year transition to measure CECL's effects on regulatory capital.

Liquidity requirements

U.S. banking organizations are subject to regulatory liquidity requirements based on international liquidity standards established by the Basel Committee in 2010, and subsequently revised between 2013 and 2014 (as revised, the "Basel III liquidity framework"). The Basel III liquidity framework establishes quantitative standards designed to ensure that a banking organization is appropriately positioned, from a balance sheet perspective, to satisfy its short- and long-term funding needs.

To address short-term liquidity risk, the Basel III liquidity framework established a liquidity coverage ratio ("Basel III LCR"), calculated as the ratio of a banking organization's high-quality liquid assets to its total net cash outflows over 30 consecutive calendar days. In addition, to address long-term liquidity risk, the Basel III liquidity framework established a net stable funding ratio ("Basel III NSFR"), calculated as the ratio of the amount of stable funding available to a banking organization to its required amount of stable funding.

In October 2014, the federal banking agencies published a final rule to implement the Basel III LCR for U.S. banking organizations (the "Liquidity Coverage Rules"). Consistent with the Basel III LCR, the U.S. Liquidity Coverage Rules established a minimum LCR for certain internationally active bank and nonbank financial companies (excluding KeyCorp), and a modified version of the LCR ("Modified LCR") for BHCs and other depository institution holding companies with over $50 billion in consolidated assets that are not internationally active (including KeyCorp). Under the Liquidity Coverage Rules, KeyCorp was required to calculate a Modified LCR on a monthly basis and was required to satisfy a minimum Modified LCR requirement of 100%. KeyBank was not subject to the LCR or the Modified LCR under the Liquidity Coverage Rules.

In December 2016, the Federal Reserve adopted a final rule to implement public disclosure requirements for the LCR and Modified LCR. Under the final rule, each calendar quarter KeyCorp was required to publicly disclose certain quantitative information regarding its Modified LCR calculation, together with a discussion of the factors that have a significant effect on its Modified LCR. KeyCorp began complying with these disclosure requirements for the calendar quarter beginning October 1, 2018.

Large BHCs, like KeyCorp, are also subject to liquidity requirements contained in regulations adopted pursuant to the Dodd-Frank Act and the Economic Growth, Regulatory Relief, and Consumer Protection Act ("EGRRCPA"). As enacted in 2010, the Dodd-Frank Act required the Federal Reserve to impose enhanced prudential standards and early remediation requirements (collectively, "EPSs"), including enhanced liquidity standards, upon BHCs (like KeyCorp) with at least $50 billion in total consolidated assets.

In March 2014, the Federal Reserve published a final rule to implement certain of the EPSs required under the Dodd-Frank Act, including liquidity requirements relating to cash flow projections, a contingency funding plan, liquidity risk limits, the monitoring of liquidity risks (with respect to collateral, legal entities, currencies, business lines, and intraday exposures), liquidity stress testing, a liquidity buffer, and liquidity risk management requirements, including requirements that apply to the board of directors, the risk committee, senior management, and the independent review function. KeyCorp was required to comply with the final rule starting on January 1, 2015.

EGRRCPA, enacted on May 24, 2018, raised the asset threshold above which the Federal Reserve is required to apply EPSs to BHCs from $50 billion to $250 billion. EGRRCPA gave the Federal Reserve the authority, following notice and comment procedures, to continue to apply EPSs to any BHCs having at least $100 billion but less than $250 billion in total consolidated assets (like KeyCorp) if it determines that the application of the EPS is appropriate to prevent or mitigate risks to financial stability or to promote the safety and soundness of the BHC or BHCs, taking into consideration the BHC's or BHCs' capital structure, riskiness, complexity, financial activities, size, and other relevant factors.

In October 2019, the federal banking agencies issued two final rules related to the implementation of EGRRCPA ("Tailoring Rules"). The final rules established four risk-based categories of banking organizations with $100 billion or more in total consolidated assets and applied tailored regulatory requirements to each respective category. Based on Key's analysis of the Tailoring Rules, KeyCorp falls within the least restrictive of those categories ("Category IV Firms"). The Tailoring Rules became effective on December 31, 2019.

In one of the Tailoring Rules, the federal banking agencies amended various rules, including the rules governing standardized liquidity requirements, thereby applying tailored liquidity requirements to large banking organizations in each of the four risk-based categories of institutions described in the Tailoring Rules. Under this final rule, Category IV Firms with weighted short-term wholesale funding of less than $50 billion will not be subject to a reduced LCR. KeyCorp does not meet the $50 billion threshold and is not subject to the reduced LCR or an LCR public disclosure requirement.

In the other Tailoring Rule, the Federal Reserve amended certain of its rules governing EPSs to apply tailored regulatory standards (including liquidity standards) to large BHCs in each of the four risk-based categories of institutions described in the Tailoring Rules. Under this rule, Category IV Firms (like KeyCorp) are required to conduct internal liquidity stress tests quarterly rather than monthly as was previously the case and are subject to simplified liquidity risk management requirements, including requirements to adopt a set of liquidity risk limits that is more limited than previously required, calculate collateral positions monthly rather than weekly, and monitor fewer elements of intraday liquidity risk exposures. Category IV Firms are still required to maintain a liquidity buffer that is sufficient to meet the projected net stressed cash-flow need over a 30-day planning horizon under the firm's internal liquidity stress test and remain subject to monthly tailored FR 2052a liquidity reporting requirements.

On October 20, 2020, the federal banking agencies adopted a final rule to implement the Basel III NSFR for U.S. banking organizations. The NSFR final rule, which became effective on July 1, 2021, requires certain banking organizations with more than $100 billion in total assets to maintain minimum amounts of stable funding to support their assets, commitments, and derivatives exposures over a one-year time horizon. The final NSFR rule tailors the application of the NSFR requirement to large banking organizations in each of the four risk-based categories of institutions established by the Tailoring Rules. Key is a Category IV firm. Category IV firms with average weighted short-term wholesale funding of less than $50 billion will not be subject to an NSFR requirement. Key does not meet the $50 billion threshold and is not subject to an NSFR requirement.

On December 1, 2021, the Federal Reserve published revisions to the FR 2052a liquidity reporting form in order to accurately reflect the NSFR final rule and to capture other data elements necessary to monitor banking organizations' liquidity positions and compliance with liquidity risk management standards. The revisions were effective on May 1, 2022, for Category I firms and on October 1, 2022, for Category II, III, and IV firms (including KeyCorp).

Capital planning and stress testing

The Federal Reserve's capital plan rule requires each U.S.-domiciled, top-tier BHC with total consolidated assets of at least $100 billion (like KeyCorp) to develop and maintain a written capital plan supported by a robust internal capital adequacy process. The capital plan must be submitted to the Federal Reserve for supervisory review in connection with the BHC's CCAR (described below). The supervisory review includes an assessment of many factors, including KeyCorp's ability to maintain capital above each minimum regulatory capital ratio on a pro forma basis under expected and stressful conditions throughout the planning horizon.

The Federal Reserve's CCAR is an intensive assessment of the capital adequacy of large U.S. BHCs and of the practices these BHCs use to assess their capital needs. The Federal Reserve expects BHCs subject to CCAR to have and maintain regulatory capital in an amount that is sufficient to withstand a severely adverse operating environment and, at the same time, be able to continue operations, maintain ready access to funding, meet obligations to creditors and counterparties, and provide credit intermediation.

The Federal Reserve has conducted a supervisory stress test on KeyCorp, pursuant to which the Federal Reserve projects revenues, expenses, losses, and resulting post-stress capital levels and regulatory capital ratios under conditions that affect the U.S. economy or the financial condition of KeyCorp, including supervisory baseline and severely adverse scenarios (and through 2018, an adverse scenario), that are determined by the Federal Reserve. KeyCorp and KeyBank have also been required to conduct their own company-run stress tests to assess the impact of stress scenarios (including supervisor-provided baseline, adverse, and severely adverse scenarios and, for KeyCorp, one KeyCorp-defined baseline scenario and at least one KeyCorp-defined stress scenario) on their consolidated earnings, losses, and capital over a nine-quarter planning horizon, taking into account their current condition, risks, exposures, strategies, and activities. While KeyBank has only had to conduct an annual stress test, KeyCorp has had to conduct both an annual and a mid-cycle stress test. KeyCorp and KeyBank have been required to report the results of their annual stress tests to the Federal Reserve and the OCC. KeyCorp has been required to report the results of its mid-cycle stress test to the Federal Reserve. Summaries of the results of these company-run

stress tests (through KeyCorp's 2018 mid-cycle stress test results) have been disclosed under the "Regulatory Disclosures & Filings" section of the "Financials" tab of Key's Investor Relations website: http://www.key.com/ir. Such summaries were not disclosed after 2018 because of the rule changes discussed below.

One of the Tailoring Rules issued by the Federal Reserve in October 2019 to implement EGRRCPA changes the stress testing requirements applicable to BHCs that are Category IV Firms (like KeyCorp). Under this rule, Category IV Firms will no longer be required to conduct and publicly disclose the results of company-run stress tests and will be subject to a supervisory stress test conducted by the Federal Reserve every other year rather than every year as has been the case. In 2020 and again in 2022, KeyCorp was required to participate in the Federal Reserve's CCAR process and was subject to a supervisory stress test conducted by the Federal Reserve.

A separate rule was issued by the federal banking agencies in October 2019 to implement a provision in EGRRCPA that raised the asset threshold that triggers the requirement for federally-regulated banks to conduct company-run stress tests on an annual basis from $10 billion to $250 billion in total consolidated assets. Under this final rule, federally-regulated banks with total assets of less than $250 billion (like KeyBank) will no longer be required to conduct annual company-run stress tests. Also, this final rule removes the "adverse" scenario as a required scenario for all stress testing requirements applicable to BHCs and federally-regulated banks so that such stress tests will be required to include only "baseline" and "severely adverse" scenarios.

On March 4, 2020, the Federal Reserve adopted a final rule integrating certain aspects of the Federal Reserve's Regulatory Capital Rules with CCAR and the stress test rules in order to simplify the overall capital framework that is currently applicable to BHCs that have $100 billion or more in total consolidated assets (including KeyCorp). Under the final rule, the Federal Reserve amended the capital conservation buffer requirement under the Regulatory Capital Rules by replacing the static risk-weighted assets component of the buffer with a new measure, the stress capital buffer, which will be based on the results of an individual BHC's supervisory stress test and cannot be less than 2.5 percent of risk-weighted assets. A firm will be subject to limitations on capital distributions and discretionary bonus payments if it does not satisfy all minimum capital requirements and its stress capital buffer requirement. A firm's stress capital buffer requirement will become effective on October 1 of each year and will remain in effect until September 30 of the following year unless the firm receives an updated stress capital buffer requirement from the Federal Reserve.

On March 20, 2020, the federal banking agencies published an interim final rule that revises the definition of eligible retained income as that term is used in the agencies' Regulatory Capital Rules. The revised definition applies to all buffer requirements applicable to a banking organization, including the stress capital buffer requirement adopted by the Federal Reserve on March 4, 2020. The revised definition of eligible retained income will make any automatic limitations on capital distributions that could apply under the agencies' capital rules more gradual with the objective of promoting continued lending during a period of stress, including the period of stress resulting from the COVID-19 pandemic. On August 26, 2020, the federal banking agencies issued a final rule that adopts, without change, the interim final rule issued in March 2020 that revises the definition of eligible retained income as that term is used in the agencies' Regulatory Capital Rules.

On June 25, 2020, the Federal Reserve publicly announced the results of its CCAR process and the supervisory stress test that it conducted of 33 BHCs having more than $100 billion in total consolidated assets (including KeyCorp). The Federal Reserve indicated that it planned to use the results of this stress test to set the new stress capital buffer requirement for these firms, which would take effect in the fourth quarter of 2020. The Federal Reserve also announced the results of a sensitivity analysis it conducted to assess the resiliency of these firms under three hypothetical downside scenarios which could result from the COVID-19 disruptions.

As a result of its sensitivity analysis, the Federal Reserve decided to take certain actions to require large banking organizations to preserve capital and re-evaluate their capital plans. Specifically, the Federal Reserve stated that it was requiring each firm subject to its capital plan rule to update and resubmit its capital plan to the appropriate Reserve Bank. The Federal Reserve further indicated that for the third quarter of 2020, these firms were prohibited from (i) making share repurchases (other than share repurchases relating to issuances of common stock for employee stock ownership plans); and (ii) paying common stock dividends that exceed the amount paid in the second quarter of 2020 or exceed an amount equal to the average of the firm's net income for the four preceding calendar quarters unless otherwise specified by the Federal Reserve. The Federal Reserve extended these restrictions (with some modifications) into the fourth quarter of 2020 and the first two quarters of 2021.

On June 30, 2020, KeyCorp announced that its preliminary stress capital requirement, provided by the Federal Reserve as part of the 2020 Federal Reserve capital stress testing exercise, is 2.5%, which represents the minimum

buffer required for banking organizations the size of Key. In August 2020, the Federal Reserve confirmed that KeyCorp's required stress capital buffer, based on its June 2020 stress test is 2.5%.

On December 18, 2020, the Federal Reserve announced the results of the second round of stress tests for 2020 that it conducted on large banking organizations (including KeyCorp). The Federal Reserve indicated that, in the aggregate, capital ratios for the 33 firms subject to the stress tests remained well above their required minimum levels throughout the projection horizon under both the severely adverse and alternative severe scenarios.

On March 25, 2021, the Federal Reserve said that the temporary additional restrictions on dividends and share repurchases that it had imposed on large BHCs would end after June 30, 2021. Beginning on July 1, 2021, these firms (including KeyCorp) are allowed to make capital distributions that are consistent with the Regulatory Capital Rules, inclusive of the stress capital buffer requirement. In August 2021, the Federal Reserve re-confirmed that KeyCorp's required stress capital buffer is 2.5%, which is the minimum buffer requirement for firms the size of KeyCorp.

On January 19, 2021, the Federal Reserve issued a final rule to make conforming changes to the capital planning, regulatory reporting, and stress capital buffer requirements for firms subject to Category IV standards (including KeyCorp) to make these requirements consistent with the tailored regulatory framework for large banking organizations that the Federal Reserve adopted in an October 2019 rulemaking. The final rule revises the elements of the capital plan that Category IV firms are required to submit to the Federal Reserve and makes related changes to regulatory reporting requirements. Also, the final rule updates the frequency for calculating the stress capital buffer for these firms. In addition, the final rule makes certain clarifying changes to the stress testing rules applicable to all large banking organizations.

On June 23, 2022, the Federal Reserve announced the results of the supervisory stress test that it conducted of 34 BHCs having more than $100 billion in total consolidated assets (including KeyCorp). The Federal Reserve indicated that all BHCs subject to the stress test maintained capital ratios above the minimum required levels under the severely adverse scenario. The stress test results for individual BHCs will be used to determine a BHC's stress capital buffer requirement, which became effective on October 1, 2022, and will remain in effect until September 30, 2023, unless the firm later receives an updated stress capital buffer requirement from the Federal Reserve. On August 4, 2022, the Federal Reserve confirmed that KeyCorp's required stress capital buffer, based on its June 2022 stress test, is 2.5%, which is the minimum buffer required for banking organizations the size of KeyCorp.

Dividend restrictions

Federal law and regulation impose limitations on the payment of dividends by our national bank subsidiaries, like KeyBank. Historically, dividends paid by KeyBank have been an important source of cash flow for KeyCorp to pay dividends on its equity securities and interest on its debt. Dividends by our national bank subsidiaries are limited to the lesser of the amounts calculated under an earnings retention test and an undivided profits test. Under the earnings retention test, without the prior approval of the OCC, a dividend may not be paid if the total of all dividends declared by a bank in any calendar year is in excess of the current year's net income combined with the retained net income of the two preceding years. Under the undivided profits test, a dividend may not be paid in excess of a bank's undivided profits. Moreover, under the FDIA, an insured depository institution may not pay a dividend if the payment would cause it to be less than "adequately capitalized" under the prompt corrective action framework or if the institution is in default in the payment of an assessment due to the FDIC. Similarly, under the Regulatory Capital Rules, a banking organization that fails to satisfy the minimum capital conservation buffer requirement will be subject to certain limitations, which include restrictions on capital distributions. For more information about the payment of dividends by KeyBank to KeyCorp, please see Note 3 ("Restrictions on Cash, Dividends, and Lending Activities") in this report.

FDIA, Resolution Authority and Financial Stability

Deposit insurance and assessments

The DIF provides insurance coverage for domestic deposits funded through assessments on insured depository institutions like KeyBank. The amount of deposit insurance coverage for each depositor's deposits is $250,000 per depository.

The FDIC must assess the premium based on an insured depository institution's assessment base, calculated as its average consolidated total assets minus its average tangible equity. KeyBank's current annualized premium assessments can range from $.025 to $.45 for each $100 of its assessment base. The rate charged depends on KeyBank's performance on the FDIC's "large and highly complex institution" risk-assessment scorecard, which includes factors such as KeyBank's regulatory rating, its ability to withstand asset and funding-related stress, and the relative magnitude of potential losses to the FDIC in the event of KeyBank's failure.

In December 2016, the FDIC issued a final rule that imposes recordkeeping requirements on insured depository institutions with two million or more deposit accounts (including KeyBank), to facilitate rapid payment of insured deposits to customers if such an institution were to fail. The rule requires those insured depository institutions to: (i) maintain complete and accurate data on each depositor's ownership interest by right and capacity for all of the institution's deposit accounts; and (ii) develop the capability to calculate the insured and uninsured amounts for each deposit owner within 24 hours of failure. The FDIC will conduct periodic testing of compliance with these requirements, and institutions subject to the rule must submit to the FDIC a certification of compliance, signed by the bank's CEO, and deposit insurance coverage summary report on or before the mandatory compliance date and annually thereafter. The final rule became effective on April 1, 2017, with a mandatory compliance date of April 1, 2020. On July 16, 2019, the FDIC approved amendments that revise certain aspects of this rule. Among other things, the amendments to this rule (i) provide covered institutions with the option to extend the compliance date to no later than April 1, 2021, upon notification to the FDIC; (ii) clarify the certification requirement; (iii) revise the actions that must be taken for deposit accounts insured on a pass-through basis (where the bank's account holder is holding funds on behalf of the beneficial owners of the funds); and (iv) streamline the process for submitting exception requests to the FDIC.

On October 18, 2022, the FDIC adopted a final rule, applicable to all insured depository institutions, to increase the initial base deposit insurance assessment rate schedules uniformly by two basis points consistent with the Amended Restoration Plan approved by the FDIC on June 21, 2022. The FDIC indicated that it was taking this action in order to restore the DIF reserve ratio to the required statutory minimum of 1.35% by the statutory deadline of September 30, 2028. The FDIC said that the reserve ratio had declined below this level because of the increase in insured deposits since the start of the pandemic and other factors that affect the level of the DIF. Under the final rule, the increase in rates will begin with the first quarterly assessment period of 2023 and will remain in effect unless and until the reserve ratio meets or exceeds 2% in order to support growth in the DIF in progressing toward the FDIC's long-term goal of a 2% reserve ratio. The increase in assessment rates will apply to KeyBank.

Conservatorship and receivership of insured depository institutions

Upon the insolvency of an insured depository institution, the FDIC will be appointed as receiver or, in rare circumstances, conservator for the insolvent institution under the FDIA. In an insolvency, the FDIC may repudiate or disaffirm any contract to which the institution is a party if the FDIC determines that performance of the contract would be burdensome and that disaffirming or repudiating the contract would promote orderly administration of the institution's affairs. If the contractual counterparty made a claim against the receivership (or conservatorship) for breach of contract, the amount paid to the counterparty would depend upon, among other factors, the receivership (or conservatorship) assets available to pay the claim and the priority of the claim relative to others. In addition, the FDIC may enforce most contracts entered into by the insolvent institution, notwithstanding any provision that would terminate, cause a default, accelerate or give other rights under the contract solely because of the insolvency, the appointment of the receiver (or conservator), or the exercise of rights or powers by the receiver (or conservator). The FDIC may also transfer any asset or liability of the insolvent institution without obtaining approval or consent from the institution's shareholders or creditors. These provisions would apply to obligations and liabilities of KeyCorp's insured depository institution subsidiaries, such as KeyBank, including obligations under senior or subordinated debt issued to public investors.

Receivership of certain SIFIs

The Dodd-Frank Act created a new resolution regime, as an alternative to bankruptcy, known as the "orderly liquidation authority" ("OLA") for certain SIFIs, including BHCs and their affiliates. Under the OLA, the FDIC would generally be appointed as receiver to liquidate and wind down a failing SIFI. The determination that a SIFI should be placed into OLA receivership is made by the U.S. Treasury Secretary, who must conclude that the SIFI is in default or in danger of default and that the SIFI's failure poses a risk to the stability of the U.S. financial system. This determination must come after supermajority recommendations by the Federal Reserve and the FDIC, and consultation between the U.S. Treasury Secretary and the President.

If the FDIC is appointed as receiver under the OLA, its powers and the rights and obligations of creditors and other relevant parties would be determined exclusively under the OLA. The powers of a receiver under the OLA are generally based on the FDIC's powers as receiver for insured depository institutions under the FDIA. Certain provisions of the OLA were modified to reduce disparate treatment of creditors' claims between the U.S. Bankruptcy Code and the OLA. However, substantial differences between the two regimes remain, including the FDIC's right to disregard claim priority in some circumstances, the use of an administrative claims procedure under OLA to determine creditors' claims (rather than a judicial procedure in bankruptcy), the FDIC's right to transfer claims to a bridge entity, and limitations on the ability of creditors to enforce contractual cross-defaults against potentially viable affiliates of the entity in receivership. OLA liquidity would be provided through credit support from the U.S. Treasury and assessments made, first, on claimants against the receivership that received more in the OLA resolution than they would have received in ordinary liquidation (to the full extent of the excess), and second, if necessary, on SIFIs like KeyCorp utilizing a risk-based methodology.

Depositor preference

The FDIA provides that, in the event of the liquidation or other resolution of an insured depository institution, the claims of its depositors (including claims of its depositors that have subrogated to the FDIC) and certain claims for administrative expenses of the FDIC as receiver have priority over other general unsecured claims. If an insured depository institution fails, insured and uninsured depositors, along with the FDIC, will be placed ahead of unsecured, nondeposit creditors, including the institution's parent BHC and subordinated creditors, in order of priority of payment.

Resolution plans

BHCs with at least $50 billion in total consolidated assets, like KeyCorp, have been required to periodically submit to the Federal Reserve and FDIC a plan discussing how the company could be rapidly and orderly resolved if the company failed or experienced material financial distress. Insured depository institutions with at least $50 billion in total consolidated assets, like KeyBank, have also been required to submit a resolution plan to the FDIC. These plans have been due annually unless the requirement to submit the plans was deferred by the regulators. The Federal Reserve and FDIC make available on their websites the public sections of resolution plans for the companies, including KeyCorp and KeyBank, that submitted plans. The public sections of the resolution plans of KeyCorp and KeyBank are available at http://www.federalreserve.gov/supervisionreg/resolution-plans.htm and https://www.fdic.gov/regulations/reform/resplans/. KeyCorp's last resolution plan was submitted in 2017, and KeyBank's last resolution plan was submitted in 2022. KeyCorp is no longer required to submit a resolution plan because of the rule change discussed below while KeyBank remains subject to resolution plan requirements as discussed below.

In October 2019, the Federal Reserve and FDIC adopted a final rule to modify the resolution planning requirements applicable to large BHCs. Under this final rule, BHCs with less than $250 billion in total consolidated assets will no longer be required to submit a resolution plan unless they have $75 billion or more in certain risk-based indicators. Under this final rule, KeyCorp is no longer subject to resolution planning requirements.

On April 16, 2019, the FDIC issued an advance notice of proposed rulemaking ("ANPR") requesting public comment on potential changes to its rule imposing resolution planning requirements on large insured depository institutions, including potential modifications to the rule in the following areas: (i) creation of tiered resolution planning requirements based on institution size, complexity, and other factors; (ii) revisions to the frequency and required content of plan submissions, including elimination of plan submissions for a category of smaller and less complex institutions; (iii) improvements to the process for periodic engagements between the FDIC and institutions on resolution-related matters; and (iv) revision of the $50 billion asset threshold in the current rule. The FDIC indicated that it is considering two alternate approaches with respect to the tiering of resolution plan requirements. Under each of these approaches, institutions would be placed into three groups with the first two groups required to submit resolution plans with streamlined content requirements and the third group not required to submit a resolution plan. The FDIC would engage with institutions in all three groups on a periodic basis on a limited number of items related to resolution planning and would conduct periodic testing of the resolution planning capabilities of these institutions. Comments on this ANPR were due by June 21, 2019. Any changes to this rule will impact KeyBank. The FDIC extended the due date for the next resolution plan submission for all institutions until after the rulemaking is completed.

On January 19, 2021, the FDIC issued a statement announcing that it will resume requiring insured depository institutions with $100 billion or more in assets to submit resolution plans. The FDIC said that it intends to streamline resolution plan content requirements and emphasize periodic engagement with firms regarding resolution planning issues. The FDIC further indicated that no firm will be required to submit a plan without at least twelve months advance notice being provided to the firm.

On June 25, 2021, the FDIC issued a statement describing the modified approach that it plans to take in implementing certain aspects of its resolution plan rule with respect to IDIs with $100 billion or more in total assets (including KeyBank). In this statement, the FDIC (i) indicated that these institutions will be required to submit resolution plans on a three-year cycle; (ii) described the content requirements for these resolution plan submissions; and (iii) specified that there will be greater emphasis in the future on periodic engagement and capabilities testing by the FDIC with individual institutions. A key goal of the FDIC's modified approach is to provide the FDIC with the information that it will need to meet the operational challenges of resolving an institution in a way that best preserves value and minimizes disruptions. The FDIC stated that resolution plans will be submitted in two groups, with the first group consisting of IDIs whose parent company is not a U.S. global systemically important bank ("GSIB") or a Category II banking organization and the second group consisting of all other IDIs with $100 billion or more in total assets. KeyBank is in the first group.

On October 14, 2022, and October 18, 2022, the Federal Reserve and the FDIC issued an ANPR requesting public comment on the potential adoption of new resolution-related resource requirements for large banking organizations that are not GSIBs. The new requirements would potentially include a long-term debt requirement that would provide an extra layer of loss-absorbing capacity, a clean-holding company requirement (prohibiting certain financial arrangements such as short-term borrowings or derivatives), and a requirement for the identification of separability options in the context of recovery or resolution. The Federal Reserve and the FDIC stated that large banking organizations for this purpose are those banking organizations that have $100 billion or more in total consolidated assets and are not GSIBs but indicated that the focus of this ANPR was on Category II and Category III banking organizations, which are banking organizations with $250 billion or more in total consolidated assets or that meet certain risk-based criteria. KeyCorp is a Category IV banking organization and would not be subject to the potential new requirements unless they are extended to Category IV banking organizations. Comments on the ANPR were due by December 23, 2022. The Federal Reserve and the FDIC extended the due date for comments to January 23, 2023.

Other Regulatory Developments

The Bank Secrecy Act

The BSA requires all financial institutions (including banks and securities broker-dealers) to, among other things, maintain a risk-based system of internal controls reasonably designed to prevent money laundering and the financing of terrorism. It includes a variety of recordkeeping and reporting requirements (such as cash and suspicious activity reporting) as well as due diligence and know-your-customer documentation requirements. Key has established and maintains an AML program to comply with the BSA's requirements.

Consumer Financial Protection Bureau

Title X of the Dodd-Frank Act created the CFPB, a consumer financial services regulator with supervisory authority over banks and their affiliates with assets of more than $10 billion, like Key, to carry out federal consumer protection laws. The CFPB also regulates financial products and services sold to consumers and has rulemaking authority with respect to federal consumer financial laws. Any new regulatory requirements promulgated by the CFPB or modifications in the interpretations of existing regulations could require changes to Key's consumer-facing businesses. The Dodd-Frank Act also gives the CFPB broad data collecting powers for fair lending for both small business and mortgage loans, as well as extensive authority to prevent unfair, deceptive and abusive practices.

Volcker Rule

The Volcker Rule implements Section 619 of the Dodd-Frank Act, which prohibits "banking entities," such as KeyCorp, KeyBank and their affiliates and subsidiaries, from owning, sponsoring, or having certain relationships with hedge funds and private equity funds (referred to as "covered funds") and engaging in short-term proprietary trading of financial instruments, including securities, derivatives, commodity futures and options on these instruments.

The Volcker Rule excepts certain transactions from the general prohibition against proprietary trading, including transactions in government securities (e.g., U.S. Treasuries or any instruments issued by the GNMA, FNMA, FHLMC, a Federal Home Loan Bank, or any state or a political division of any state, among others); transactions in connection with underwriting or market-making activities; and transactions as a fiduciary on behalf of customers. A banking entity may also engage in risk-mitigating hedging activity if it can demonstrate that the hedge reduces or mitigates a specific, identifiable risk or aggregate risk position of the entity. The banking entity is required to conduct an analysis supporting its hedging strategy and the effectiveness of the hedges must be monitored and, if necessary, adjusted on an ongoing basis.

Although the Volcker Rule became effective on April 1, 2014, the Federal Reserve exercised its unilateral authority to extend the compliance deadline until July 21, 2017, with respect to covered funds. In addition, on December 12, 2016, the Federal Reserve released additional guidelines regarding how banking entities may seek an extension of the conformance period for certain legacy covered fund investments. Under the Dodd-Frank Act, the Federal Reserve is authorized to provide a banking entity up to an additional five years to conform legacy investments (i.e., contractual commitments of a banking organization on or before May 1, 2010, to make an investment) in “illiquid” covered funds.

Key does not anticipate that the proprietary trading restrictions in the Volcker Rule will have a material impact on its business, but it may be required to divest certain fund investments as discussed in more detail in Note 6 (“Fair Value Measurements”) in Item 8 of this report. On January 13, 2017, Key filed for an additional extension for illiquid funds, to retain certain indirect investments until the earlier of the date on which the investments are conformed or are expected to mature or July 21, 2022. The application for an extension was approved on February 14, 2017. This time period was subsequently extended to July 21, 2023. As of December 31, 2022, we have not committed to sell these investments. Therefore, these investments continue to be valued using the net asset value per share methodology.

On October 8, 2019, five federal agencies announced their adoption of a final rule to simplify and tailor requirements relating to the Volcker Rule. Among other things, the final rule (i) revises the definition of certain terms relevant in determining the scope of the Volcker Rule; (ii) modifies the eligibility criteria for a banking entity to be able to rely on certain exemptions and exclusions from the proprietary trading and covered fund prohibitions; (iii) adds additional proprietary trading exclusions; and (iv) tailors the rule’s compliance requirements based on the size of a firm’s trading assets and liabilities. Under the final rule, a banking entity is subject to the most stringent compliance requirements if it has “significant” trading assets and liabilities, that is, total consolidated trading assets and liabilities of at least $20 billion. A banking entity with total consolidated trading assets and liabilities between $1 billion and $20 billion is regarded as having “moderate” trading assets and liabilities and is subject to a requirement to have a simplified compliance program that must be appropriate given that banking entity’s activities, size, scope, and complexity. A presumption of compliance applies to a banking entity with “limited” trading assets and liabilities, that is, total consolidated trading assets and liabilities of less than $1 billion. The final rule rule became effective on January 1, 2020, and the compliance date was January 1, 2021. Key has “moderate” trading assets and liabilities as calculated under the final rule. The final rule did not have a material impact on Key’s operations.

On June 25, 2020, five federal agencies announced their adoption of a final rule to clarify and streamline the covered fund-related provisions of the Volcker Rule. Among other things, the final rule (i) permits certain low-risk transactions (including intraday credit, riskless principal, and payment, clearing, and settlement transactions) between a banking entity and covered funds for which the banking entity serves as the investment adviser, investment manager, or sponsor; (ii) clarifies exclusions from the covered fund definition for foreign public funds, loan securitizations, small business investment companies, and public welfare investment funds; and (iii) permits banking entities to invest in or sponsor certain types of funds that do not raise the concerns that the Volcker Rule was intended to address, such as credit funds, venture capital funds, customer facilitation funds, and family wealth management vehicles. The final rule became effective on October 1, 2020.

Enhanced prudential standards and early remediation requirements

As enacted in 2010, the Dodd-Frank Act required the Federal Reserve to impose EPSs upon BHCs, like KeyCorp, with at least $50 billion in total consolidated assets. Prudential standards were required to include enhanced risk-based capital requirements and leverage limits, liquidity requirements, risk-management and risk committee requirements, resolution plan requirements, credit exposure report requirements, single counterparty credit limits (“SCCL”), supervisory and company-run stress test requirements and, for certain financial companies, a debt-to-

equity limit. Early remediation requirements were required to include limits on capital distributions, acquisitions, and asset growth in early stages of financial decline and capital restoration plans, capital raising requirements, limits on transactions with affiliates, management changes, and asset sales in later stages of financial decline, which would be triggered by forward-looking indicators including regulatory capital and liquidity measures.

The resolution plan requirements were implemented by a joint final rule adopted by the Federal Reserve and FDIC in 2011 and were revised by a joint final rule adopted by the Federal Reserve and FDIC in 2019. In 2011, the Federal Reserve also issued a proposal to implement the stress test, early remediation, and SCCL requirements. However, when that proposal was adopted as a final rule in 2012, it included only the stress test requirements and not the SCCL or early remediation requirements.

In March 2014, the Federal Reserve published a final rule to implement certain of the EPSs required under the Dodd-Frank Act, including: (i) the incorporation of the Regulatory Capital Rules through the Federal Reserve's previously finalized rules on capital planning and stress tests; (ii) liquidity requirements; (iii) the risk management framework, the risk committee, and the chief risk officer as well as the corporate governance requirements as they relate to liquidity risk management; and (iv) a 15-to-1 debt-to-equity limit for companies that the FSOC determines pose a "grave threat" to U.S. financial stability. KeyCorp was required to comply with the final rule starting on January 1, 2015.

EGRRCPA, which was enacted on May 24, 2018, raised, from $50 billion to $250 billion, the asset threshold above which the Federal Reserve is required to apply EPSs to BHCs. EGRRCPA gave the Federal Reserve the authority, following notice and comment procedures, to continue to apply EPSs to any BHCs having at least $100 billion but less than $250 billion in total consolidated assets (like KeyCorp). Also, this statute requires the Federal Reserve to continue to conduct periodic stress tests of BHCs with assets between $100 billion and $250 billion (like KeyCorp), and the requirement for a publicly traded BHC to have a risk committee continues to apply if a BHC has assets of at least $50 billion.

On June 14, 2018, the Federal Reserve issued a final rule establishing SCCL requirements for BHCs with $250 billion or more in total consolidated assets. The final rule does not apply to KeyCorp. The Federal Reserve has taken no further action on the early remediation requirements proposed in 2011.

In one of the Tailoring Rules issued in October 2019 to implement EGRRCPA, the Federal Reserve amended certain of its rules governing EPSs to apply tailored regulatory standards to large BHCs in each of the four risk-based categories of institutions described in the Tailoring Rules. Based on Key's analysis of the Tailoring Rules, KeyCorp believes that it is a Category IV Firm, the least restrictive of these categories. The Tailoring Rules are discussed further under the headings "Regulatory capital requirements - Liquidity requirements" and "Regulatory capital requirements - Capital planning and stress testing."

Bank transactions with affiliates

Federal banking law and regulation imposes qualitative standards and quantitative limitations upon certain transactions by a bank with its affiliates, including the bank's parent BHC and certain companies the parent BHC may be deemed to control for these purposes. Transactions covered by these provisions must be on arm's-length terms, and cannot exceed certain amounts that are determined with reference to the bank's regulatory capital. Moreover, if the transaction is a loan or other extension of credit, it must be secured by collateral in an amount and quality expressly prescribed by statute, and if the affiliate is unable to pledge sufficient collateral, the BHC may be required to provide it. These provisions significantly restrict the ability of KeyBank to fund its affiliates, including KeyCorp, KBCM, and KeyCorp's nonbanking subsidiaries engaged in making merchant banking investments (and certain companies in which these subsidiaries have invested).

Provisions added by the Dodd-Frank Act expanded the scope of: (i) the definition of affiliate to include any investment fund having any bank or BHC-affiliated company as an investment adviser; (ii) credit exposures subject to the prohibition on the acceptance of low-quality assets or securities issued by an affiliate as collateral, the quantitative limits, and the collateralization requirements to now include credit exposures arising out of derivative, repurchase agreement, and securities lending/borrowing transactions; and (iii) transactions subject to quantitative limits to now also include credit collateralized by affiliate-issued debt obligations that are not securities. In addition, these provisions require that a credit extension to an affiliate remain secured in accordance with the collateral requirements at all times that it is outstanding, rather than the previous requirement of only at the inception or upon material modification of the transaction. These provisions also raise significantly the procedural and substantive

hurdles required to obtain a regulatory exemption from the affiliate transaction requirements. While these provisions became effective on July 21, 2012, the Federal Reserve has not yet issued a proposed rule to implement them.

Supervision and governance

On November 2, 2018, the Federal Reserve announced that it is adopting a new supervisory rating system for large financial institutions, including BHCs with total consolidated assets of $100 billion or more (like KeyCorp) ("LFI Rating System"), in order to align the Federal Reserve's rating system with the post-crisis supervisory programs for these firms. The LFI Rating System will provide a supervisory evaluation of whether an institution possesses sufficient operational strength and resilience to maintain safe and sound operations through a range of conditions and will assess an institution's capital planning and positions, liquidity risk management and positions, and governance and controls. Institutions subject to the LFI Rating System will be rated using the following scale: Broadly Meets Expectations, Conditionally Meets Expectations, Deficient-1, and Deficient-2, with the Conditionally Meets Expectations rating intended to be used as a transitory rating to allow an institution time to remediate a concern identified during the supervisory evaluation. The Federal Reserve assigned initial ratings under the LFI Rating System in 2019 to institutions that are subject to the Large Institution Supervision Coordinating Committee framework (excluding KeyCorp) and assigned initial ratings in 2020 for all other large financial institutions subject to this rating system (including KeyCorp).

The governance and controls component of the LFI Rating System was the subject of two separate, but related proposals: (i) proposed guidance regarding supervisory expectations for boards of directors of large financial institutions; and (ii) proposed guidance regarding core principles for effective senior management, business management, and independent risk management and controls for large financial institutions. The proposed guidance regarding supervisory expectations for boards of directors was published by the Federal Reserve on August 3, 2017. The final guidance on this subject was issued by the Federal Reserve on February 26, 2021. The final guidance describes the key attributes of effective boards of directors of large financial institutions, including BHCs with $100 billion or more in total consolidated assets. This guidance adopts a principles-based approach to describe attributes of effective boards of directors and provides illustrative examples of effective practices. The Federal Reserve indicated that it intends to use the board effectiveness guidance in informing its assessment of governance and controls at all firms subject to the LFI Rating System (including KeyCorp).

The Federal Reserve has not finalized the proposed guidance referenced above regarding core principles for effective senior management, business management, and independent risk management and controls for large financial institutions. This guidance, which was proposed by the Federal Reserve on January 4, 2018, would support the supervisory evaluation under the governance and controls component of the LFI Rating System, together with the above-mentioned guidance regarding the effectiveness of a firm's board of directors. In general, the guidance proposes core principles for effective senior management, business line management, and the independent risk management and control function. The guidance encourages firms to establish a governance structure with appropriate levels of independence and stature, by appointing a Chief Risk Officer and a Chief Audit Officer. Finally, the guidance emphasizes the importance of independent risk management, internal controls, and internal audit, and establishes principles that firms should use to establish or augment those management and control frameworks. Comments on this proposal were due by March 15, 2018. We are awaiting the final rulemaking.

Community Reinvestment Act

The Community Reinvestment Act ("CRA") was enacted in 1977 to encourage depository institutions to help meet the credit needs of the communities that they serve, including low- and moderate-income ("LMI") neighborhoods, consistent with the institutions' safe and sound operations. The CRA requires the federal banking agencies to assess the record of each institution that they supervise in meeting the credit needs of its entire community, including LMI neighborhoods.

On May 20, 2020, the OCC issued a final rule (the "2020 Final Rule") to revise the agency's CRA regulation to strengthen and modernize the framework by which the OCC assesses a bank's CRA performance. The OCC stated that it was doing so in order to make the CRA regulatory framework more objective, transparent, consistent in application, and reflective of changes in banking and thereby better achieve the statutory purpose of encouraging banks to serve the needs of their communities, particularly LMI neighborhoods and other communities that have been underserved. The final rule became effective on October 1, 2020. Certain provisions of the rule had compliance dates of January 1, 2023, or January 1, 2024.

On September 21, 2020, the Federal Reserve issued an ANPR requesting public comment on ways to modernize CRA regulations by strengthening, clarifying, and tailoring them to reflect the current banking landscape and better achieve the core purpose of the CRA. The ANPR sought public feedback on ways to evaluate how banks meet the needs of LMI communities and address inequities in credit access. Comments were due by February 16, 2021.

On November 24, 2020, the OCC requested public comment on an NPR setting forth the OCC's proposed approach for determining the benchmarks, thresholds, and minimums that would be used in assessing a bank's performance under the general performance standards contained in the 2020 Final Rule. Comments on the NPR were due by February 2, 2021. On December 15, 2020, the OCC published a notice requesting comment on an information collection survey that the OCC would require banks subject to the CRA general performance standards to complete. Comments on this notice were due by February 16, 2021.

On May 18, 2021, the OCC announced that it will reconsider the 2020 Final Rule. The OCC said that it intends to evaluate issues and questions that have been raised concerning the 2020 Final Rule, consider additional stakeholder input, reassess relevant data, and take additional regulatory action, as appropriate. In addition, the OCC stated that it does not plan to finalize a rule that it proposed in December 2020 to provide an approach for determining the benchmarks, thresholds, and minimums that would be used to assess a bank's performance under the 2020 Final Rule. The OCC further said that it was discontinuing the CRA information collection published in December 2020 that relates to this subject.

On July 20, 2021, the OCC announced that it had completed its review of the 2020 Final Rule and that it planned to (i) propose rescinding the 2020 Final Rule; and (ii) work with the Federal Reserve and the FDIC to develop a joint rulemaking to strengthen and modernize regulations implementing the CRA. Also, on July 20, 2021, the OCC, the Federal Reserve, and the FDIC issued an interagency statement indicating that they are committed to working together to issue a joint rulemaking with respect to CRA modernization.

On December 14, 2021, the OCC issued a final rule to rescind the 2020 Final Rule and replace it with a rule based largely on the CRA rules adopted jointly by the federal banking agencies in 1995. The OCC indicated that the adoption of this final rule creates consistency for all insured depository institutions and facilitates the ongoing interagency work to modernize the CRA regulatory framework. This final rule was effective on January 1, 2022, but the compliance date for the final rule's public file and public notice provisions was April 1, 2022.

On May 5, 2022, the federal banking agencies issued for public comment a proposal to strengthen and modernize their regulations implementing the CRA to better achieve the purposes of the law, adapt to changes in the banking industry, and provide clarity and consistency in the application of their regulations. Among other things, the proposal (1) would revise the community development definitions to clarify eligibility criteria for a broad range of community development activities, (2) would adopt four new tests under which large banks with more than $10 billion in assets (including KeyBank) would be evaluated, (3) would apply a new framework for assigning conclusions and ratings to banks, (4) would require the evaluation of a large bank's performance in retail lending assessment areas in addition to facility-based assessment areas, and (5) would impose new data collection and reporting requirements on large banks. The four new tests under which large banks would be evaluated are a retail lending test, a retail services and products test, a community development financing test, and a community development services test. Various metrics and performance standards would be applied under these tests. Comments on this proposal were due by August 5, 2022. KeyBank will be required to comply with any final rule that might be adopted.

Control standards

On January 30, 2020, the Federal Reserve adopted a final rule setting forth a new, comprehensive framework for determining control under the BHCA and the Home Owners' Loan Act. The final rule simplifies and provides greater transparency regarding the standards used by the Federal Reserve to determine whether one company has control over another company. The final rule codifies existing Federal Reserve precedents on control and makes certain targeted adjustments to these precedents. The final rule provides a tiered framework that looks at the size of an investing company's voting and total equity investment in another company along with a variety of other factors, including board representation, officer and employee interlocks, and the existence of business relationships between the companies. By providing greater clarity regarding the standards that will be applied for control determinations, the final rule may facilitate (i) BHCs making minority investments in nonbank companies; and (ii) nonbank investors taking minority stakes in banking organizations. The final rule became effective September 30, 2020.

Regulatory developments concerning COVID-19

During the COVID-19 crisis, the federal banking agencies issued a number of statements encouraging financial institutions to meet the financial needs of their customers and have taken steps to provide financial institutions with additional flexibility to meet their customers' needs. Certain of these steps are discussed above under the headings "Regulatory capital requirements — Recent regulatory capital-related developments" and "Regulatory capital requirements — Capital planning and stress testing."

The CARES Act, enacted on March 27, 2020, contains a number of provisions that affect banking organizations. One of these provisions concerns the PPP, a program administered by the Small Business Administration (the "SBA") to provide loans to small businesses for payroll and other basic expenses during the COVID-19 crisis. The loans can be made by SBA-certified lenders and are 100% guaranteed by the SBA. The loans are eligible to be forgiven if certain conditions are satisfied, in which event the SBA will make payment to the lender for the forgiven amounts. KeyBank has participated in the PPP as a lender.

On June 22, 2020, the FDIC issued a final rule that mitigates the impact of PPP lending on banks' deposit insurance assessments. Also, in accordance with the CARES Act, a PPP loan will be assigned a risk weight of zero percent under the federal banking agencies' risk-based capital rules.

On June 23, 2020, the federal banking agencies, in conjunction with state bank regulators, issued interagency examiner guidance outlining supervisory principles for assessing the safety and soundness of banks given the ongoing impact of the COVID-19 pandemic. The agencies stated that they will consider the unique, evolving, and potentially long-term nature of the issues that banks are confronting and will exercise appropriate flexibility in their supervisory response. The agencies said that they will continue to assess institutions in accordance with existing agency policies and procedures and will consider whether a bank's management has managed risk appropriately, including taking appropriate actions in response to stresses caused by the COVID-19 pandemic.

On March 31, 2021, the CFPB announced that it was rescinding seven policy statements issued in 2020, which provided financial institutions with temporary regulatory flexibility in complying with various consumer protection laws when they are working with customers affected by the COVID-19 pandemic. The CFPB indicated that, with these rescissions, it intends to exercise the full scope of its supervision and enforcement authority provided by the Dodd-Frank Act.

On November 10, 2021, the federal banking agencies along with state bank regulators issued a joint statement stating that the temporary supervisory and enforcement flexibility that they announced in a joint statement issued on April 3, 2020, with respect to the application of certain requirements under the mortgage servicing rules no longer applies. In their November 10, 2021, joint statement, the agencies indicated that they intend to apply their respective supervisory and enforcement authorities, where appropriate, to address any noncompliance or violations of the mortgage servicing rules that occur after the date of their new statement.

Federal LIBOR transition legislation

On March 15, 2022, President Biden signed into law the Consolidated Appropriations Act, 2022, which contains the Adjustable Interest Rate (LIBOR) Act (the "LIBOR Act"). The LIBOR Act addresses certain issues relating to the transition from the use of LIBOR as a benchmark reference rate in contracts to the use of alternate reference rates. Among other things, the LIBOR Act (i) provides for the replacement, by operation of law, of LIBOR with a SOFR-based reference rate selected by the Federal Reserve for contracts which do not have effective fallback language; (ii) authorizes persons who have discretionary authority for selecting a LIBOR replacement to opt into a statutory safe harbor from liability by selecting the benchmark identified by the Federal Reserve; (iii) states that parties to a contract may opt out of the LIBOR Act; and (iv) provides that no federal supervisory agency may take supervisory action against a bank solely because the bank uses a benchmark rate other than SOFR. The LIBOR Act directs the Federal Reserve to promulgate regulations to implement this legislation by 180 days after the date of enactment.

On December 16, 2022, the Federal Reserve adopted a final rule to implement the LIBOR Act. The final rule establishes Federal Reserve-selected benchmark replacements for contracts governed by federal or state law that use LIBOR as a benchmark reference rate but do not provide for a clearly defined or practicable replacement after June 30, 2023, when LIBOR will no longer be available in its current form. The final rule identifies separate Federal Reserve-selected replacement rates for different categories of LIBOR contracts, including, among others, derivative

transactions, consumer loans, and contracts involving entities regulated by the Federal Housing Finance Agency. Consistent with the LIBOR Act, each replacement rate is based on SOFR and incorporates spread adjustments for each specified tenor of LIBOR. The final rule also defines various terms and clarifies certain matters relating to the implementation, administration, and calculation of the benchmark replacement rate, including clarification of who is considered a "determining person" able to make the decision to use the Federal Reserve-selected rate in a LIBOR contract. In addition, the final rule indicates that this rule preempts any state or local law, regulation, or standard relating to the selection or use of a benchmark replacement for LIBOR or related conforming changes. The final rule ensures that LIBOR contracts adopting a Federal Reserve-selected benchmark will not be interrupted or terminated following LIBOR's replacement. The final rule is effective February 27, 2023.

Developments relating to climate change

On December 16, 2021, the OCC issued draft principles designed to provide a high-level framework for the safe and sound management of exposures to climate-related financial risks by national banks with more than $100 billion in total consolidated assets. The draft principles support efforts by banks to identify, measure, monitor, and mitigate the risks associated with climate change and encourage banks to incorporate consideration of climate-related financial risks into, among other things, strategic planning, credit underwriting, internal reporting, policies, procedures, and limits. The OCC requested public feedback on its draft principles by February 14, 2022, and said that it planned to elaborate on these principles in subsequent guidance that would distinguish roles and responsibilities of boards of directors and management, incorporate the feedback it receives, and consider lessons learned and best practices from the industry and other jurisdictions. Final principles or other guidance from the OCC regarding climate-related risk management would apply to KeyBank.

On March 21, 2022, the SEC issued for public comment a proposal to amend its rules under the Securities Act of 1933 and the Securities Exchange Act of 1934 to require public companies (including KeyCorp) to provide detailed climate-related information in their registration statements and periodic reports. Among other things, the proposal would require public companies to disclose information about (i) climate-related risks that are reasonably likely to have a material impact on the company's business or financial statements over the short-, medium- or long-term; (ii) the actual and potential impacts of such risks on the company's strategy, business model, and outlook; (iii) the role of the board of directors in overseeing climate-related risks and management's role in assessing and managing such risks; (iv) the impact of climate-related events and transitional activities on line items in the company's consolidated financial statements as well as the financial estimates and assumptions used in the financial statements; and (v) the company's direct greenhouse gas emissions, indirect emissions from purchased energy, and, if material, indirect emissions from the company's value chain (which may include financed emissions in a bank's loan portfolio). The financial services industry has not yet adopted a standardized methodology for banks to use to quantitatively measure indirect emissions from a bank's value chain, such as financed emissions. Accordingly, this proposal would require many banks to quantify and disclose financed emissions on a comprehensive scale for the first time. Comments on the SEC's proposal were originally due by May 20, 2022. The comment period was extended to June 17, 2022. On October 7, 2022, the SEC reopened the comment period on this proposal until November 1, 2022, due to a technological error that resulted in a number of public comments submitted through the SEC's comment website not being received by the SEC.

On December 2, 2022, the Federal Reserve issued for public comment proposed principles that would provide a high-level framework for the safe and sound management of exposures to climate-related financial risks for large banking organizations supervised by the Federal Reserve, including BHCs with over $100 billion in total consolidated assets (such as KeyCorp). The proposed principles would cover six areas: governance; policies, procedures, and limits; strategic planning; risk management; data, risk measurement, and reporting; and scenario analysis. The proposed principles would also describe how climate-related financial risks can be addressed by banking organizations in connection with various specific risk categories, including credit risk, liquidity risk, operational risk, and legal/compliance risk. The proposal issued by the OCC, which would apply to national banks (such as KeyBank), is discussed above.The FDIC's proposal, which would apply to insured state nonmember banks, state-licensed insured branches of foreign banks, and state savings associations, was issued on March 30, 2022. The Federal Reserve indicated that it intends to coordinate with the other federal banking agencies in issuing any final guidance on this subject. Comments on this proposal were due by February 6, 2023. We are awaiting the final rulemaking.

Computer-Security Incident Notification Requirements

On November 23, 2021, the federal banking agencies published a final rule that establishes computer-security incident notification requirements for banking organizations (including banks and BHCs) and bank service providers. The final rule requires a banking organization to notify its primary federal regulator as soon as possible and no later than 36 hours after the banking organization determines that a computer-security incident that rises to the level of a notification incident has occurred. A notification incident includes, among other things, a computer-security incident that materially disrupts or degrades, or is reasonable likely to materially disrupt or degrade, a banking organization's operations or activities or its ability to deliver products or services to a material portion of its customer base. The final rule also requires a bank service provider to notify a banking organization of certain material disruptions in services provided to the banking organization. The final rule became effective on April 1, 2022, and has required a compliance date of May 1, 2022. The final rule applies to KeyBank and KeyCorp.

ITEM 1A. RISK FACTORS

As a financial services organization, we are subject to a number of risks inherent in our transactions and present in the business decisions we make. Described below are the material risks and uncertainties that if realized could have a material and adverse effect on our business, financial condition, results of operations or cash flows, and our access to liquidity. The risks and uncertainties described below are not the only risks we face. Disclosures of risks should not be interpreted to imply that the risks have not already materialized.

Our ERM program incorporates risk management throughout our organization to identify, understand, and manage the risks presented by our business activities. Our ERM program identifies Key's major risk categories as: credit risk, compliance risk, operational risk, liquidity risk, market risk, reputation risk, strategic risk, and model risk. These risk factors, and other risks we may face, are discussed in more detail in other sections of this report.

I. Credit Risk

We have concentrated credit exposure in commercial and industrial loans, commercial real estate loans, and commercial leases.

As of December 31, 2022, approximately 69% of our loan portfolio consisted of commercial and industrial loans, commercial real estate loans, including commercial mortgage and construction loans, and commercial leases. These types of loans are typically larger than single family residential real estate loans and other types of consumer loans and have a different risk profile. The deterioration of a larger loan or a group of loans in this category could cause an increase in criticized and nonperforming loans, which could result in lower earnings from these loans, additional provision for loan and lease losses, and ultimately an increase in loan losses.

Should the fundamentals of the commercial real estate market deteriorate, our financial condition and results of operations could be adversely affected.

Recent and ongoing Federal Reserve monetary policy, including shrinkage of its balance sheet and incremental increases in target interest rates, have begun to impact the commercial and residential real estate markets. Capitalization rates are rising, and property value appreciation has slowed or ceased altogether. In many markets within Key's footprint, property values have begun to decrease. Multifamily and industrial properties continue to remain stable, but office, retail, hospitality, and single family detached properties are beginning to show early signs of potential deterioration. Development and construction continue, but at muted levels, and deliveries of additional units into the market have been supported. Oversupply of multifamily housing is a concern in certain urban and gateway markets. However, our exposures in those markets are limited. The most severely impacted commercial real estate segments have been in office and retail. Key's non-owner occupied office and retail exposures are 12% of our total commercial real estate exposure. Substantial deterioration in property market fundamentals could negatively impact our portfolio, with a large portion of our clients active in real estate but in the comparatively better performing multifamily space. A correction in the real estate markets could impact the ability of borrowers to make debt service payments on loans or to refinance the loans at maturity. A relatively small portion of our commercial real estate loans are construction loans. New construction and value-add or rehabilitation construction projects are

not fully leased at loan origination. These properties typically require additional leasing through the life of the loan to provide cash flow to support debt service payments. If property market fundamentals deteriorate sharply, performance under existing leases could deteriorate and the execution of new leases could slow, compromising the borrower's ability to cover debt service payments.

We are subject to the risk of defaults by our loan clients and counterparties.

Many of our routine transactions expose us to credit risk, including the risk of default of our counterparty or client. Our credit risk may be exacerbated when the collateral held cannot be realized upon or is liquidated at prices insufficient to recover the full amount of the loan or derivative exposure due to us. In deciding whether to extend credit or enter into other transactions, we rely on information furnished by or on behalf of counterparties and clients, including financial statements, credit reports and other information. We also rely on representations of those counterparties, clients, or other third parties as to the accuracy and completeness of that information. The inaccuracy of that information or those representations affects our ability to accurately evaluate the default risk of a counterparty or client. Given the Dodd-Frank legislative mandate to centrally clear eligible derivative contracts, we rely on central clearing counterparties to remain open and operationally viable at all times. A large member failure or a cybersecurity breach could result in a counterparty or client disruption.

Various factors may cause our allowance for loan and lease losses to increase.

We maintain an ALLL (a reserve established through a provision for loan and lease losses charged to expense) that represents our estimate of losses based on our evaluation of risks within our existing portfolio of loans. The level of the allowance at December 31, 2022 represents management's estimate of expected credit losses over the contractual life of our existing loan portfolio. The determination of the appropriate level of the ALLL inherently involves a degree of subjectivity and requires that we make significant estimates of current credit risks and current trends and reasonable and supportable forecasts of future economic conditions, all of which may undergo frequent and material changes. Changes in economic conditions affecting borrowers, the softening of certain macroeconomic variables that we are more susceptible to, such as GDP, unemployment, SOFR, producer price index, industrial production, interest rates and real estate values, along with updated information regarding existing loans, identification of additional problem loans and other factors, both within and outside of our control, may indicate the need for an increase in the ALLL.

Declining asset prices could adversely affect us.

During the Great Recession, the volatility and disruption that the capital and credit markets experienced reached extreme levels. This severe market disruption led to the failure of several substantial financial institutions, which caused the credit markets to constrict and caused a widespread liquidation of assets. These asset sales, along with asset sales by other leveraged investors, including some hedge funds, rapidly drove down prices and valuations across a wide variety of traded asset classes. Asset price deterioration has a negative effect on the valuation of certain of the asset categories represented on our balance sheet and reduces our ability to sell assets at prices we deem acceptable.

The most recent recession, resulting from the impact of the COVID-19 pandemic, did not have significant lasting impact on collateral value. However, there are still risks to economic stability that could reverse recent stable trends in asset prices.

These risks include:

- A correction in equity or housing markets;
- Additional surges in COVID-19 cases leading to a decrease in economic activity;
- Further supply chain issues such as closed factories and disrupted port activity as well as the impact of the Russia-Ukraine conflict on transportation and availability of materials;
- Labor-supply constraints could continue longer than anticipated, leading to slowing job growth and boosting wages along with inflation (wage-price spiral); and
- Negative GDP, as a result of, in part, the Federal Reserve's monetary policy efforts to arrest inflationary pressures within the broader economy.

II. Compliance Risk

We are subject to extensive government regulation, supervision, and tax legislation.

As a financial services institution, we are subject to extensive federal and state regulation, supervision, and tax legislation. Banking regulations are primarily intended to protect depositors' funds, the DIF, consumers, taxpayers, and the banking system as a whole, not our debtholders or shareholders. These regulations increase our costs and affect our lending practices, capital structure, investment practices, dividend policy, ability to repurchase our common shares, and growth, among other things.

KeyBank and KeyCorp remain covered institutions under the Dodd-Frank Act's heightened prudential standards and regulations, including its provisions designed to protect consumers from financial abuse. Like similarly situated institutions, Key undergoes routine scrutiny from bank supervisors in the examination process and is subject to enforcement of regulations at the federal and state levels, particularly with respect to consumer banking-related practices, including fair and responsible banking, fair lending, unfair, deceptive or abusive practices, and the Community Reinvestment Act, as well as compliance with AML, BSA and Office of Foreign Assets Control efforts. Federal rulemaking bodies continue to pass new, or modifications to, significant regulations with upcoming effective dates. There has also been an increase in state legislative activity, particularly in areas such as student lending and privacy. As new privacy-related laws and regulations, such as the California Consumer Privacy Act, are implemented in jurisdictions in which KeyBank operates, the time and resources needed for us to comply with such laws and regulations, as well as our potential liability for noncompliance and reporting obligations in the case of data breaches, may significantly increase. Compliance with these laws and regulations has required and may continue to require us to change our policies, procedures, and technology for information security and segregation of data, which could, among other things, make us more vulnerable to operational failures, and subject us to monetary penalties for breach of such laws and regulations. As a result, some uncertainty remains as to the aggregate impact upon Key of significant regulations.

Changes to existing statutes and regulations, and taxes (including industry-specific taxes and surcharges), or their interpretation or implementation, could affect us in substantial and unpredictable ways. Interpretation of consumer banking-related regulations may evolve as the industry and the regulators seek to increase access to banking products and services by consumers. These changes may subject us to additional costs and increase our litigation risk should we fail to appropriately comply. Such changes may also impact consumer behavior, limit the types of financial services and products we may offer, affect the investments we make, and change the manner in which we operate. In addition, changes to laws and regulations may impact our customers by requiring them to adjust their operations or practices or impair their ability to pay fees or outstanding loans or afford new products, which could negatively impact demand for our products and services.

Certain federal regulations have been in existence for decades without modification to account for modern banking practices, such as digital delivery of products and services, which can create challenges in execution and in the examination process. Emerging technologies, such as cryptocurrencies, could limit KeyBank's ability to track the movement of funds. KeyBank's ability to comply with BSA/AML and other regulations is dependent on its ability to improve detection and reporting capabilities and reduce variation in control processes and oversight accountability.

Additionally, federal banking law grants substantial enforcement powers to federal banking regulators. This enforcement authority includes, among other things, the ability to assess civil money penalties, fines, or restitution, to issue cease and desist or removal orders, and to initiate injunctive actions against banking organizations and affiliated parties. These enforcement actions may be initiated for violations of laws and regulations, for practices determined to be unsafe or unsound, or for practices or acts that are determined to be unfair, deceptive, or abusive. Failure to comply with these and other regulations, and supervisory expectations related thereto, may result in fines, penalties, lawsuits, regulatory sanctions, reputational damage, or restrictions on our business. Moreover, different government administrations may have different regulatory priorities, which may impact the level of regulation of financial institutions and the enforcement environment.

For more information, see "Supervision and Regulation" in Item 1 of this report.

Changes in accounting policies, standards, and interpretations could materially affect how we report our financial condition and results of operations.

The FASB periodically changes the financial accounting and reporting standards governing the preparation of Key's financial statements. Additionally, those bodies that establish and/or interpret the financial accounting and reporting standards (such as the FASB, SEC, and banking regulators) may change prior interpretations or positions on how these standards should be applied. These changes can be difficult to predict and can materially affect how Key records and reports its financial condition and results of operations. In some cases, Key could be required to retroactively apply a new or revised standard, resulting in changes to previously reported financial results.

III. Operational Risk

We are subject to a variety of operational risks.

In addition to the other risks discussed in this section, we are subject to operational risk, which represents the risk of loss resulting from human error, inadequate or failed internal processes, internal controls, systems, and external events. Operational risk includes the risk of fraud by employees or others outside of Key, clerical and record-keeping errors, nonperformance by vendors, threats from cyber activity, and computer/telecommunications malfunctions. Fraudulent activity has escalated, become more sophisticated, and is ever evolving as there are more options to access financial services. Operational risk also encompasses compliance and legal risk, which is the risk of loss from violations of, or noncompliance with, laws, rules, regulations, prescribed practices, or ethical standards, as well as the risk of our noncompliance with contractual and other obligations. We are also exposed to operational risk through our outsourcing arrangements, and the effect that changes in circumstances or capabilities of our outsourcing vendors can have on our ability to continue to perform operational functions necessary to our business, such as certain loan processing functions. For example, breakdowns or failures of our vendors' systems or employees could be a source of operational risk to us. Resulting losses from operational risk could take the form of explicit charges, increased operational costs (including remediation costs), harm to our reputation, inability to secure insurance, litigation, regulatory intervention or sanctions, or foregone business opportunities.

We rely on our employees to design, manage, and operate our systems and controls to assure that we properly enter into, record and manage processes, transactions and other relationships with customers, suppliers and other parties with whom we do business. We also depend on employees and the systems and controls for which they are responsible to assure that we identify and mitigate the risks that are inherent in our relationships and activities. These concerns are increased when we change processes or procedures, introduce new products or services, or implement new technologies, as we may fail to adequately identify or manage operational risks resulting from such changes. These concerns may be further exacerbated by employee turnover or labor shortages. As a result of our necessary reliance on employees to perform these tasks and manage resulting risks, we are thus subject to human vulnerabilities. These range from innocent human error to misconduct or malfeasance, potentially leading to operational breakdowns or other failures. Our controls may not be adequate to prevent problems resulting from human involvement in our business, including risks associated with the design, operation and monitoring of automated systems. We may also fail to adequately develop a culture of risk management among our employees.

We and third parties on which we rely (including their downstream service providers) may experience a cyberattack, technology failure, information system or security breach or interruption.

We rely heavily on communications, information systems (both internal and provided by third parties), and the internet to conduct our business. Our business is dependent on our ability to process and monitor large numbers of daily transactions in compliance with legal, regulatory, and internal standards and specifications. In addition, a significant portion of our operations relies heavily on the secure processing, storage, and transmission of personal and confidential information, such as the personal information of our customers and clients. These risks may increase in the future as we continue to increase mobile payments and other internet-based product offerings, expand our internal usage of web/cloud-based products and applications, and maintain and develop new relationships with third party providers, including their downstream service providers. In addition, our ability to extend protections to customers' information to individual customer devices is limited, especially if the customers willingly provide third parties access to their devices or information.

In the event of a failure, interruption, or breach of our information systems or that of a third party that provides services to us or our customers, we may be unable to avoid impact to our customers. Such a failure, interruption, or breach could result in legal liability, remediation costs, regulatory action, or reputational harm. U.S. financial service

institutions and companies have reported breaches in the security of their websites or other systems and several financial institutions, including Key, have had third parties on which they rely experience such breaches. In addition, several financial institutions, including Key, have experienced significant distributed denial-of-service attacks, some of which involved sophisticated and targeted attacks intended to disrupt, disable, or degrade services, or sabotage systems or data. Other attacks have attempted to obtain unauthorized access to confidential, proprietary, or personal information or intellectual property, to extort money through the use of "ransomware" or other extortion tactics, or to alter or destroy data or systems, often through various attack vectors and methods, including the introduction of computer viruses or malicious code (commonly referred to as "malware"), phishing, cyberattacks, account takeovers, credential stuffing, and other means. To the extent that we use third parties to provide services to our clients, we cannot control all of the risks at these third parties or third parties' downstream service providers. Hardware, software, or applications developed by Key or received from third parties may contain exploitable vulnerabilities, bugs, or defects in design, maintenance or manufacture or other issues that could unpredictably compromise information and cybersecurity. Should an adverse event affecting another company's systems occur, we may not have indemnification or other protection from the other company sufficient to fully compensate us or otherwise protect us or our clients from the consequences. To date, our losses and costs related to these breaches have not been material, but other similar events in the future could have a significant impact on us.

In addition, our customers routinely use Key-issued credit and debit cards to pay for transactions conducted with businesses in person and over the internet. If the business's systems that process or store debit or credit card information experience a security breach, our card holders may experience fraud on their card accounts. We may suffer losses associated with such fraudulent transactions, as well as for other costs, such as replacing impacted cards. Key also provides card transaction processing services to some merchant customers under agreements we have with payment networks such as Mastercard. Under these agreements, we may be responsible for certain losses and penalties if one of our merchant customers suffers a data breach.

We also face risks related to the increasing interdependence and interconnectivity of financial entities and technology systems. A technology failure, cyberattack or other security breach that significantly compromises the systems of one or more financial parties or service providers in the financial system could have a material impact on counterparties or market participants, including us. Any third-party technology failure, cyberattack, or security breach could adversely affect our ability to effect transactions, service clients, or otherwise operate our business and could result in legal liability, remediation costs, regulatory action, or reputational harm. Additionally, the increasing use of third-party financial data aggregators and emerging technologies, including the use of automation, artificial intelligence and robotics, introduces new information security risks and exposure.

Such security attacks can originate from a wide variety of sources/malicious actors, including, but not limited to, persons who constitute an insider threat, who are involved with organized crime, or who may be linked to terrorist organizations or hostile foreign governments. Those same parties may also attempt to fraudulently induce employees, customers, or other users of our systems to disclose sensitive information in order to gain access to our data or that of our customers or clients through social engineering, phishing, mobile phone malware and SIM card swapping, and other methods. Our security systems, and those of the third-party service providers on which we rely, may not be able to protect our information systems or data from similar attacks due to the rapid evolution and creation of sophisticated cyberattacks. We are also subject to the risk that a malicious actor or our employees may intercept and/or transmit or otherwise misuse unauthorized personal, confidential, or proprietary information or intellectual property. An interception, misuse, or mishandling of personal, confidential, or proprietary information or intellectual property being sent to or received from a customer or third party could result in legal liability, remediation costs, regulatory action, and reputational harm. Over the last few years, several large companies have disclosed that they or their service providers suffered substantial data security breaches, compromising millions of user accounts and credentials.

The risk of cyberattacks has also increased and will continue to increase in connection with Russia's invasion of Ukraine. In light of the Ukraine war and other geopolitical events and dynamics, including ongoing tensions with North Korea, Iran and other countries, state-sponsored parties or their supporters may launch retaliatory cyberattacks, and may attempt to cause supply chain disruptions, or carry out other geopolitically motivated retaliatory actions that may adversely disrupt or degrade our operations and may result in data compromise. State-sponsored parties have, and will continue, to conduct cyberattacks to achieve their goals that may include espionage, monetary gain, disruption, and destruction. To accomplish their goals, state-sponsored parties and other cyber criminals have used, and may continue to use, various attack vectors and methods as discussed above.

We have incurred and will continue to incur significant expense in an effort to improve the reliability and resilience of our systems and their security against external and internal threats. Nonetheless, there remains the risk that one or more adverse events might occur. If one does occur, we might not be able to remediate the event or its consequences timely or adequately. While we do maintain cyber information security and business interruption insurance, losses from a major interruption may exceed our coverage and there can be no assurance that liabilities or losses we may incur will be covered under such policies.

We rely on third parties to perform significant operational services for us.

Third parties perform significant operational services on our behalf. Additionally, some of our third parties outsource aspects of their operations to downstream service providers. These parties are subject to similar risks as Key relating to cybersecurity and breakdowns or failures of their own systems, internal processes and controls, or employees. One or more of these third parties or their downstream service providers may experience a cybersecurity event or operational disruption and, if any such event does occur, it may not be adequately addressed, either operationally or financially, by such third party. Certain of these third parties may have limited indemnification obligations or may not have the financial capacity to satisfy their indemnification obligations. Financial or operational difficulties of a third party could also impair our operations if those difficulties interfere with such third party's ability to serve us. For example, we previously announced that we plan to operate our primary platforms and applications on Google Cloud infrastructure. If this planned transition is delayed or impacts the reliability and availability of our services, we may not realize our financial and strategic objectives. In addition, any unanticipated interruption, delay, or degradation in the performance and delivery of our services could negatively impact our customer relationships. Additionally, some of our outsourcing arrangements are located overseas and, therefore, are subject to risks unique to the regions in which they operate. If a critical third party is unable to meet our needs in a timely manner or if the services or products provided by such third party are terminated or otherwise delayed and if we are not able to identify or develop alternative sources for these services and products quickly and cost-effectively, it could have a material adverse effect on our business. Additionally, regulatory guidance adopted by federal banking regulators related to how banks select, engage, and manage their third parties affects the circumstances and conditions under which we work with third parties and the cost of managing such relationships.

We are subject to claims and litigation, which could result in significant financial liability and/or reputational risk.

From time to time, customers, vendors, or other parties may make claims and take legal action against us. We maintain reserves for certain claims when deemed appropriate based upon our assessment that a loss is probable, estimable, and consistent with applicable accounting guidance. At any given time, we have a variety of legal actions asserted against us in various stages of litigation. Resolution of a legal action can often take years. Whether any particular claims and legal actions are founded or unfounded, if such claims and legal actions are not resolved in our favor, they may result in significant financial liability and adversely affect how the market perceives us and our products and services as well as impact customer demand for those products and services.

We are also involved, from time to time, in other information-gathering requests, reviews, investigations, and proceedings (both formal and informal) by governmental and self-regulatory agencies regarding our business, including, among other things, accounting, compliance, and operational matters, certain of which may result in adverse judgments, settlements, fines, penalties, injunctions, or other relief which, if significant, could adversely affect our business, results of operations and/or financial condition. In recent years, there has been an increase in the number of investigations and proceedings in the financial services industry. A violation of law or regulation by another financial institution may give rise to an inquiry or investigation by regulators or other authorities of the same or similar practices by Key. The outcome of regulatory matters as well as the timing of ultimate resolution are inherently difficult to predict.

Our controls and procedures may fail or be circumvented, and our methods of reducing risk exposure may not be effective.

We regularly review and update our internal controls, disclosure controls and procedures, and corporate governance policies and procedures. We also maintain an ERM program designed to identify, measure, monitor, report, and analyze our risks. Additionally, our internal audit function provides an independent assessment and testing of Key's internal controls, policies, and procedures. Any system of controls and any system to reduce risk exposure, however well designed, operated, and tested, is based in part on certain assumptions and can provide only reasonable, not absolute, assurances that the objectives of the system are met. The systems may not work as

intended or be circumvented by employees, third parties, or others outside of Key. Additionally, instruments, systems, and strategies used to hedge or otherwise manage exposure to various types of market compliance, credit, liquidity, operational, and business risks and enterprise-wide risk could be less effective than anticipated. As a result, we may not be able to effectively or fully mitigate our risk exposures in particular market environments or against particular types of risk.

Our operations and financial performance could be adversely affected by severe weather and natural disasters exacerbated by climate change.

Natural disasters could have a material adverse effect on our financial position and results of operations, and the timing and effects of any natural disaster cannot accurately be predicted. The frequency and severity of some types of natural disasters, including wildfires, tornadoes, severe storms, and hurricanes, have increased as a result of climate change, which further reduces our ability to predict their effects accurately. These and other natural disasters could affect Key directly (for example, by interrupting our systems, damaging our facilities or otherwise preventing us from conducting our business in the ordinary course) or indirectly (for example, by damaging or destroying customer businesses or otherwise impairing customers' ability to repay their loans, or by damaging or destroying property pledged as collateral for loans made by Key).

Societal responses to climate change could adversely affect Key's business and performance, including indirectly through impacts on Key's customers.

Concerns over the long-term impacts of climate change have led and may continue to lead to governmental efforts around the world to mitigate those impacts. New and/or more stringent regulatory requirements could materially affect our results by requiring us to take costly measures to comply with any new laws or regulations related to climate change that may be forthcoming. Consumers and businesses also may change their own behavior as a result of these concerns. Key and its customers will need to respond to new laws and regulations, as well as consumer and business preferences resulting from climate change concerns. Key and its customers may face cost increases, asset value reductions, operating process changes, and the like. The impact on Key's customers will likely vary depending on their specific attributes, including reliance on or role in carbon intensive activities. Changes to regulations or market shifts to low-carbon products could impact the credit worthiness or the value of assets securing loans of some of our customers, which may require us to adjust our lending portfolios and business strategies. Key's efforts to take these risks into account in making lending and other decisions, including by increasing business relationships with climate-friendly companies, may not be effective in protecting Key from the negative impact of new laws and regulations or changes in consumer or business behavior.

The increased use of remote work infrastructure has expanded potential attack vectors and resulted in increased operational risks.

The increase in remote work has resulted in an expanded potential attack surface and heightened operational risks and may negatively impact our ability, and the ability of our third-party service providers (including their downstream service providers), to perform services efficiently, securely, and without interruptions. A large percentage of our workforce works remotely, and our third-party service providers (including their downstream service providers) may utilize personnel who work remotely. Increased levels of remote access create additional cybersecurity risk and opportunities for cybercriminals to exploit vulnerabilities. For example, cybercriminals have increased their attempts to compromise business emails, including an increase of phishing attempts. These fraudulent activities have resulted in increased fraud losses to us and the financial services industry. In addition to enhanced cybersecurity risk, employees and other personnel performing services for us who work remotely may experience disruptions to their home internet or phone connections, decreased efficiency due to delayed network speeds or other interruptions, and/or delays in the dissemination and exchange of information, any of which could negatively impact our operations. We have experienced, and may continue to experience, disruption related to remote work, which disruptions could adversely impact our business, and could result in legal liability, regulatory penalties, litigation expenses, remediation costs, or reputational harm.

IV. Liquidity Risk

Capital and liquidity requirements imposed by banking regulations require banks and BHCs to maintain more and higher quality capital and more and higher quality liquid assets.

Evolving capital standards resulting from the Dodd-Frank Act and the Regulatory Capital Rules adopted by our regulators have had and will continue to have a significant impact on banks and BHCs, including Key. For a detailed explanation of the capital and liquidity rules that became effective for us on a phased-in basis on January 1, 2015, see the section titled "Regulatory capital requirements" under the heading "Supervision and Regulation" in Item 1 of this report.

The Federal Reserve's capital standards require Key to maintain more and higher quality capital and could limit our business activities (including lending) and our ability to expand organically or through acquisitions. They could also result in our taking steps to increase our capital that may be dilutive to shareholders or limit our ability to pay dividends or otherwise return capital to shareholders.

In addition, the liquidity standards require us to hold high-quality liquid assets, may require us to change our future mix of investment alternatives, and may impact future business relationships with certain customers. Additionally, support of liquidity standards may be satisfied through the use of term wholesale borrowings, which tend to have a higher cost than that of traditional core deposits.

Further, the Federal Reserve has detailed the processes that BHCs should maintain to ensure they hold adequate capital under severely adverse conditions and have ready access to funding before engaging in any capital activities. These processes, the severity and other characteristics of which may evolve from year-to-year, are used by the Federal Reserve to, among other things, evaluate our management of capital and the adequacy of our regulatory capital and to determine the stress capital buffer that we must maintain above our minimum regulatory capital requirements. The results of these processes are difficult to predict due, among other things, to the Federal Reserve's use of proprietary stress models that differ from our internal models and may result in the Federal Reserve imposing capital requirements in excess of our expectations which could require us, as applicable, to revise our stress-testing or capital management approaches, resubmit our capital plan or postpone, cancel, or alter or planned capital actions. The results may also lead to limits on Key's ability to make distributions, including paying out dividends or buying back shares. For more information, see the section titled "Regulatory capital requirements" under the heading "Supervision and Regulation" in Item 1 of this report.

In addition, certain regulatory rule changes related to tailoring outlined in EGRRCPA have been finalized. While marginal relief from certain capital and liquidity standards has been afforded to Key (such as relief from LCR disclosure requirements), overall capital and liquidity management practices and expectations will remain unchanged for the foreseeable future. Moreover, Key has not experienced significant changes to its overall liquidity and capital levels or composition as a result of the final rules.

Federal agencies' actions to ensure stability of the U.S. financial system may have disruptive effects on us.

The federal government, in recent years, has taken unprecedented steps to provide stability to and confidence in the financial markets. For example, the Federal Reserve initiated a round of emergency interest rate cuts designed to mitigate some of the economic effects resulting from the pandemic. The discontinuation and, in some cases, reversal of such initiatives have since impacted financial markets and our business. These effects include increased market and interest rate volatility, higher debt yields, an inverted slope to the yield curve, and unanticipated changes to quality spread premiums that may not follow historical relationships or patterns. Additionally, new initiatives or legislation may not be implemented, or, if implemented, may not be adequate to counter any negative effects of discontinuing programs or, in the event of an economic downturn, to support and stabilize the economy.

As market conditions evolve and respond to the influence of these government agency initiatives, or lack thereof, the slope of the yield curve will shift and influence our loan and deposit rates and value of investments. The actions of federal agencies are not fully predictable which contributes to market volatility and changes to the slope of the yield curve.

We rely on dividends by our subsidiaries for most of our funds.

We are a legal entity separate and distinct from our subsidiaries. With the exception of cash that we may raise from debt and equity issuances, we receive substantially all of our funding from dividends by our subsidiaries. Dividends by our subsidiaries are the principal source of funds for the dividends we pay on our common and preferred stock and interest and principal payments on our debt. Federal banking law and regulations limit the amount of dividends that KeyBank (KeyCorp's largest subsidiary) can pay. For further information on the regulatory restrictions on the payment of dividends by KeyBank, see "Supervision and Regulation" in Item 1 of this report.

In the event KeyBank is unable to pay dividends to us, we may not be able to service debt, pay obligations, or pay dividends on our common or preferred stock. Such a situation could result in Key losing access to alternative wholesale funding sources. In addition, our right to participate in a distribution of assets upon a subsidiary's liquidation or reorganization is subject to the prior claims of the subsidiary's creditors.

We are subject to liquidity risk, which could negatively affect our funding levels.

Market conditions or other events could negatively affect our access to or the cost of funding, affecting our ongoing ability to accommodate liability maturities and deposit withdrawals, meet contractual obligations, or fund asset growth and new business initiatives at a reasonable cost, in a timely manner and without adverse consequences.
Although we maintain a liquid asset portfolio and have implemented strategies to maintain sufficient and diverse sources of funding to accommodate planned as well as unanticipated changes in assets, liabilities, and off-balance sheet commitments under various economic conditions (including a reduced level of wholesale funding sources), a substantial, unexpected, or prolonged change in the level or cost of liquidity could have a material adverse effect on us. If the cost effectiveness or the availability of supply in these credit markets is reduced for a prolonged period of time, our funding needs may require us to access funding and manage liquidity by other means. These alternatives may include generating client deposits, securitizing or selling loans, extending the maturity of wholesale borrowings, borrowing under certain secured borrowing arrangements, using relationships developed with a variety of fixed income investors, and further managing loan growth and investment opportunities. These alternative means of funding may result in an increase to the overall cost of funds and may not be available under stressed conditions, which would cause us to liquidate a portion of our liquid asset portfolio to meet any funding needs.

Our credit ratings affect our liquidity position.

The rating agencies regularly evaluate the securities issued by KeyCorp and KeyBank. The ratings of our long-term debt and other securities are based on a number of factors, including our financial strength, ability to generate earnings, and other factors. Some of these factors are not entirely within our control, such as conditions affecting the financial services industry and the economy and changes in rating methodologies. Changes in any of these factors could impact our ability to maintain our current credit ratings. A rating downgrade of the securities of KeyCorp or KeyBank could adversely affect our access to liquidity and could significantly increase our cost of funds, trigger additional collateral or funding requirements, and decrease the number of investors and counterparties willing to lend to us, reducing our ability to generate income.

Any failure by the U.S. federal government to increase the debt ceiling or any government shutdown could adversely affect the U.S. and global economy and our liquidity, financial condition and earnings.

U.S. debt ceiling and budget deficit concerns have increased the possibility of credit-rating downgrades and economic slowdowns, or a recession in the United States or globally. The U.S. federal government hit its borrowing limit, or debt ceiling, on January 19, 2023. If the government fails to increase the debt limit, the U.S. government's sovereign credit rating may be downgraded and the U.S. government could default on its debts, which could adversely affect the U.S. and global financial markets, banking systems, and economic conditions. Absent intervention by the Federal Reserve, these developments could cause interest rates and borrowing costs to further increase, which may negatively impact our ability to access the debt markets, including the corporate bond markets, on favorable terms. In addition, disagreement over the federal budget has previously caused the U.S. federal government to shut down for periods of time. An extended period of shutdown of portions of the U.S. federal government could negatively impact the financial performance of certain customers and could negatively impact customers' future access to certain loan and guaranty programs. Continued adverse political and economic conditions could have a material adverse effect on our business, financial condition and results of operations.

V. Market Risk

A worsening of the U.S. economy and volatile or recessionary conditions in the U.S. or abroad could negatively affect our business or our access to capital markets.

A worsening of economic and market conditions or downside shocks could result in adverse effects on Key and others in the financial services industry. Recent and persistent interest rate increases and a slowing economy have presented a challenge for the industry, including Key, and affects business and financial performance.

In particular, we face the following risks, and other unforeseeable risks, in connection with a downturn in the economic and market environment or in the face of downside shocks or a recession, whether in the United States or internationally:

- A loss of confidence in the financial services industry and the debt and equity markets by investors, placing pressure on the price of Key's common shares or decreasing the credit or liquidity available to Key;
- A decrease in consumer and business confidence levels generally, decreasing credit usage and investment or increasing delinquencies and defaults;
- A decrease in household or corporate incomes, reducing demand for Key's products and services;
- A decrease in the value of collateral securing loans to Key's borrowers or a decrease in the quality of Key's loan portfolio, increasing loan charge-offs and reducing Key's net income;
- A decrease in our ability to liquidate positions at acceptable market prices;
- An increase in competition or consolidation in the financial services industry;
- Increased concern over and scrutiny of the capital and liquidity levels of financial institutions generally, and those of our transaction counterparties specifically;
- A decrease in confidence in the creditworthiness of the United States or other issuers whose securities we hold; and
- An increase in limitations on or the regulation of financial services companies like Key.

We are subject to interest rate risk, which could adversely affect net interest income.

Our earnings are largely dependent upon our net interest income. Net interest income is the difference between interest income earned on interest-earning assets such as loans and securities and interest expense paid on interest-bearing liabilities such as deposits and borrowed funds. Interest rates are highly sensitive to many factors that are beyond our control, including general economic conditions, the competitive environment within our markets, consumer preferences for specific loan and deposit products, and policies of various governmental and regulatory agencies, in particular, the Federal Reserve. Changes in monetary policy, including changes in interest rate controls being applied by the Federal Reserve, could influence the amount of interest we receive on loans and securities, the amount of interest we pay on deposits and borrowings, our ability to originate loans and obtain deposits, and the fair value of our financial assets and liabilities. When the Federal Reserve raises interest rates, the behavior of national money market rate indices, the correlation of consumer deposit rates to financial market interest rates, and the setting of benchmark rates may not follow historical relationships, which could influence net interest income and net interest margin.

Moreover, if the interest we pay on deposits and other borrowings increases at a faster rate than the interest we receive on loans and other investments, net interest income, and therefore our earnings, would be adversely affected. Conversely, earnings could also be adversely affected if the interest we receive on loans and other investments falls more quickly than the interest we pay on deposits and other borrowings.

Uncertainty surrounding the transition from LIBOR to an alternate reference rate may adversely affect our business.

On July 27, 2017, the Chief Executive of the United Kingdom Financial Conduct Authority (the "Authority"), which regulates LIBOR, announced that the Authority intends to stop persuading or compelling banks to submit rates for the calculation of LIBOR to the administrator of LIBOR after 2021. On March 5, 2021, ICE Benchmark Administration ("IBA"), the Authority-regulated and authorized administrator of LIBOR, confirmed, following a consultation process occurring during the end of 2020 and beginning of 2021, its intention to cease one-week and two-month USD LIBOR settings at December 31, 2021, and cease the USD LIBOR panel at June 30, 2023, effectively ceasing all other USD LIBOR tenors. On December 31, 2021, as expected, IBA ceased to publish one-

week and two-month ISD LIBOR. We anticipate that IBA will cease publishing LIBOR as we know it on June 30, 2023.

Key's transition away from the use of LIBOR to alternative rates continues. With respect to new originations, regulators issued guidance indicating that new LIBOR originations should not extend beyond December 31, 2021. In the United States, the ARRC and the Federal Reserve Bank of New York started in May 2018 to publish the SOFR as an alternative to U.S. dollar LIBOR. SOFR is a broad measure of the cost of borrowing cash overnight that is collateralized by U.S. treasury securities. SOFR-based rates are currently used in new loans made by KeyCorp. The uncertainty regarding the transition from LIBOR to another benchmark rate or rates, including SOFR-based rates, could have adverse impacts on floating-rate obligations, loans, deposits, derivatives, and other financial instruments that currently use LIBOR as a benchmark rate and, ultimately, adversely affect KeyCorp's financial condition and results of operations. The adverse impact could take various forms and is dependent upon certain factors outside of our control such as: timing of adoption by market forces of a new widely accepted LIBOR replacement, timing of LIBOR cessation, counterparty acceptance of a new reference rate for both new and existing contracts, and competition presented by non-regulated entities, among others. Additionally, since LIBOR and any replacement reference rate may have significantly different attributes, it is difficult to predict the amount of increased costs associated with implementing the transition to a new reference rate, including costs relative to product changes, systems changes, compliance and operational oversight costs, and legal expenses, among others. While the LIBOR Act will assist in the transition of certain LIBOR contracts to SOFR-based benchmark replacements, there are many LIBOR contracts, including commercial loans, that will not be subject to the core transition mechanisms and safe harbor provided by the LIBOR Act. Absent amendments, such LIBOR contracts could create uncertainties and risks. Also as of December 31, 2022, the Authority has an open consultation as to whether nonrepresentative synthetic USD LIBOR should be published for the one, three, and six-month tenors of USD LIBOR for a finite period of time. This too could create uncertainty regarding how certain LIBOR contracts transition once LIBOR in its current form ceases to be published.

Our profitability depends upon economic conditions in the geographic regions where we have significant operations and in certain market segments in which we conduct significant business.

We have concentrations of loans and other business activities in geographic regions where our bank branches are located — Washington; Oregon/Alaska; Rocky Mountains; Indiana/Northwest Ohio/Michigan; Central/Southwest Ohio; East Ohio/Western Pennsylvania; Atlantic; Western New York; Eastern New York; and New England — and additional exposure to geographic regions outside of our branch footprint. Economic growth in the various regions where we operate has been uneven, and the health of the overall U.S. economy may differ from the economy of any particular geographic region. Adverse conditions in a geographic region such as inflation, unemployment, recession, natural disasters, impact of the COVID-19 pandemic, or other factors beyond our control could impact the ability of borrowers in these regions to repay their loans, decrease the value of collateral securing loans made in these regions, or affect the ability of our customers in these regions to continue conducting business with us.

Additionally, a significant portion of our business activities are concentrated within the commercial real estate, healthcare, finance, and utilities market segments. The profitability of some of these market segments depends upon the health of the overall economy, seasonality, the impact of regulation, and other factors that are beyond our control and may be beyond the control of our customers in these market segments.

An economic downturn or recession in one or more geographic regions where we conduct our business, or any significant or prolonged impact on the profitability of one or more of the market segments with which we conduct significant business activity, could adversely affect the demand for our products and services, the ability of our customers to repay loans, the value of the collateral securing loans, and the stability of our deposit funding sources.

The soundness of other financial institutions could adversely affect us.

Our ability to engage in routine funding transactions could be adversely affected by the actions and commercial soundness of other financial institutions. We have exposure to many different industries and counterparties in the financial services industries, and we routinely execute transactions with such counterparties, including brokers and dealers, commercial banks, investment banks, mutual and hedge funds, insurance companies, and other institutional clients. Financial services institutions are interrelated as a result of trading, clearing, counterparty, or other relationships. Defaults by one or more financial services institutions have led to, and may cause, market-wide liquidity problems and losses. Many of our transactions with other financial institutions expose us to credit risk in the event of default of a counterparty or client. In addition, our credit risk may be affected when the collateral held by us cannot be realized or is liquidated at prices not sufficient to recover the full amount of our loan or derivatives exposure.

Less regulated and poorly capitalized non-bank financial institutions may be particularly vulnerable to asset quality deterioration as their borrower's ability to service their obligations declines amid the pandemic. This could put additional stress on traditional lenders.

VI. Reputation Risk

Damage to our reputation could significantly impact our business and major stakeholders.

Our ability to attract and retain customers, clients, investors, and highly skilled management and employees is affected by our reputation. Damage to our reputation could also adversely impact our credit ratings and access to capital markets.

Significant harm to our reputation can arise from various sources, including inappropriate behavior or misconduct of employees, actual or perceived unethical behavior, litigation or regulatory outcomes, inadequate or ineffective risk management practices, failing to deliver minimum or required standards of service and quality, corporate governance and regulatory compliance failures, disclosure of confidential information, significant or numerous failures, interruptions or breaches of our information systems, failure to meet external commitments and goals, including financial and ESG-related commitments, and the activities of our clients, customers and counterparties, including vendors. Actions by the financial services industry generally or by certain members or individuals in the industry as well as legislative or regulatory actions that target or negatively impact the industry may also have a significant adverse effect on our reputation.

Negative coverage about Key published in traditional media or on social media websites, whether or not factually correct, may affect our reputation and our business prospects and impact our ability to attract and retain highly skilled employees. Social media facilitates the rapid dissemination of information or misinformation, thereby increasing the potential for rapid and widespread dissemination of inaccurate, false, misleading, or other negative information that could damage our reputation. Negative public opinion can also adversely affect our ability to attract and maintain customer relationships and could subject us to litigation and regulatory action.

We are also subject to the risk that disruptions to how our customers access our banking services, such as disruptions to our technology platforms (e.g., online banking websites or mobile applications) or other impacts to our branches, could harm our reputation with customers. In particular, a cyber security event impacting Key or our customers' data could negatively impact our reputation and customer confidence in Key and our data security procedures.

We could also suffer significant reputational harm if we fail to properly identify and manage potential conflicts of interest. Management of potential conflicts of interests is 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 deal with us, which could adversely affect our businesses, and could give rise to litigation or enforcement actions.

Financial services companies, including Key, face increasing criticism from social and environmental activists who target companies, including Key, for engaging in business with clients engaged in industries such activists perceive to be harmful to communities or the environment. Such criticism directed at Key could generate dissatisfaction among our stakeholders. Additionally, however we respond to such criticism, we face the risk that current or potential clients may decline to do business with us or current or potential employees refuse to work with us. This

can be true regardless of whether we are perceived by some as not having done enough to address activist concerns or by others as having inappropriately yielded to activist pressures.

We may also face criticism or a loss of confidence, with accompanying reputational risk, from our perceived action or inaction to deliver on our ESG-related commitments. Investors and other stakeholders, including U.S. institutional investors, are increasingly considering how corporations are incorporating ESG matters, including climate change, into their business strategy when analyzing the expected risk and return of potential investments. The specific ESG factors considered, as well as the approach to incorporating the factors into a broader investment process, vary by investor and can shift over time. These shifts in investing priorities may result in adverse effects on the trading price of KeyCorp's common stock if investors determine that Key has not made sufficient progress on ESG matters or is not aligned with the investors' ESG-related priorities.

VII. Strategic Risk

We may not realize the expected benefits of our strategic initiatives.

Our ability to compete depends on a number of factors, including, among others, our ability to develop and successfully execute our strategic plans and initiatives. Our strategic priorities include growing profitably and maintaining financial strength; effectively managing risk and reward; engaging a high-performing, talented, and diverse workforce; investing in digitalization to drive growth and simplification; embracing the changes required by our clients and the marketplace; and acquiring, expanding, and retaining targeted client relationships. The success of these initiatives can be subject to changes in the macroeconomic environment which is beyond our control. In addition, our inability to execute on or achieve the anticipated outcomes of our strategic priorities, or to do so in the expected timeframe, may affect how the market perceives us and could impede our growth and profitability.

We operate in a highly competitive industry.

We face substantial competition in all areas of our operations from a variety of competitors, some of which are larger and may have more financial resources than us. Our competitors primarily include national and super-regional banks as well as smaller community banks within the various geographic regions in which we operate. We also face competition from many other types of financial institutions, including, without limitation, savings associations, credit unions, mortgage banking companies, finance companies, mutual funds, insurance companies, investment management firms, investment banking firms, broker-dealers and other local, regional, national, and global financial services firms. In addition, technology has lowered barriers to entry and made it possible for nonbanks, including large technology companies, to offer products and services traditionally provided by banks. We expect the competitive landscape of the financial services industry to become even more intense as a result of legislative, regulatory, structural, customer preference, and technological changes.

Our ability to compete successfully depends on a number of factors, including: our ability to develop and execute strategic plans and initiatives; our ability to develop, maintain, and build long-term customer relationships based on quality service and competitive prices; our ability to develop competitive products and technologies demanded by our customers, while maintaining our high ethical standards and an effective compliance program and keeping our assets safe and sound; our ability to attract, retain, and develop a highly competent employee workforce; and industry and general economic trends. Increased competition in the financial services industry, or our failure to perform in any of these areas, could significantly weaken our competitive position, which could adversely affect our growth and profitability.

Strategic risk may also be realized due to events or issues that materialize in other risk factor areas. For example, significant deficiencies in end-to-end operational execution and/or product delivery or failure to comply with applicable laws and regulations may result in unmet client expectations or harm and impact our competitive standing in the industry.

Maintaining or increasing our market share depends upon our ability to adapt our products and services to evolving industry standards and consumer preferences, while maintaining competitive prices.

The continuous, widespread adoption of new technologies requires us to evaluate our product and service offerings to ensure they remain competitive. Our success depends, in part, on our ability to adapt our products and services, as well as our distribution of them, to evolving industry standards and consumer preferences. New technologies have altered consumer behavior by allowing consumers to complete transactions such as paying bills or transferring

funds directly without the assistance of banks. New products allow consumers to maintain funds in brokerage accounts or mutual funds that would have historically been held as bank deposits. The process of eliminating banks as intermediaries, known as “disintermediation,” could result in the loss of fee income, as well as the loss of customer loans and deposits and related income generated from those products.

The increasing pressure from our competitors, both bank and nonbank, to keep pace and adopt new technologies and products and services requires us to incur substantial expense. We may be unsuccessful in developing or introducing new products and services, modifying our existing products and services, adapting to changing consumer preferences and spending and saving habits, achieving market acceptance or regulatory approval, sufficiently developing or maintaining a loyal customer base, or offering products and services at prices equal to or lower than the prices offered by our competitors. These risks may affect our ability to achieve growth in our market share and could reduce both our revenue streams from certain products and services and our revenues from our net interest income.

We may not be able to attract and retain skilled people.

Our success depends on our ability to attract, retain, motivate, and develop a talented and diverse workforce. Competition for talent in our business is strong and requires us to make investments to provide compensation and benefits at market levels. Rising wages, as well as inflation, may cause us to increase these investments. Such investments cause compensation and benefits to represent our greatest expense.

Additionally, we increasingly compete for talent outside of the core financial services industry. Non-financial institutions may be subject to different pay and hiring expectations than us, which may make it more difficult for us to attract qualified teammates. For example, we are required to deliver a substantial portion of the variable compensation of certain teammates in the form of awards tied to our financial performance. A sustained decline in our share price could impact our ability to retain those individuals. Similarly, our pay practices are subject to scrutiny by our regulators who may identify deficiencies in the structure of, or issue additional guidance on our compensation practices, causing us to make changes that may affect our ability to offer competitive pay to these individuals or that place us at a disadvantage to non-financial service industry competitors.

Finally, while remote work opportunities allow us to hire outside of our traditional footprint, it also increases competition. These factors individually, or collectively, may constrain our ability to hire or retain a sufficient number of qualified employees, which could impact our ability to serve our customers and clients.

Acquisitions or strategic partnerships may disrupt our business and dilute shareholder value.

Acquiring other banks, bank branches, or other businesses involves various risks commonly associated with acquisitions or partnerships, including exposure to unknown or contingent liabilities of the acquired company; diversion of our management’s time and attention; significant integration risk with respect to employees, accounting systems, and technology platforms; increased regulatory scrutiny; and the possible loss of key employees and customers of the acquired company. We regularly evaluate merger and acquisition and strategic partnership opportunities and conduct due diligence activities related to possible transactions. As a result, mergers or acquisitions involving cash, debt or equity securities may occur at any time. Acquisitions may involve the payment of a premium over book and market values. Therefore, some dilution of our tangible book value and net income per common share could occur in connection with any future transaction.

VIII. Model Risk

We rely on quantitative models to manage certain accounting, risk management, capital planning, and treasury functions.

We use quantitative models to help provide value input into the management of certain aspects of our business and to assist with certain business decisions, including, but not limited to, estimating CECL, measuring the fair value of financial instruments when reliable market prices are unavailable, estimating the effects of changing interest rates and other market measures on our financial condition and results of operations, managing risk, and for capital planning purposes (including during the capital stress testing process). Models are simplified representations of real-world relationships. Thus, our modeling methodologies rely on many assumptions, historical analyses, correlations, and available data. These assumptions provide only reasonable, not absolute, estimates, particularly in times of market distress when historical correlations on which we rely may no longer be relevant. Additionally, as businesses and markets evolve, our measurements may not accurately reflect this evolution. Models can also produce inadequate estimates due to errors in computer code, use of unsuitable data during development or input into the model during model use, or the use of a model for a purpose outside the scope of the model's design.

If our models fail to produce reliable results on an ongoing basis, we may not make appropriate risk management, capital planning, or other business or financial decisions. Furthermore, strategies that we employ to manage and govern the risks associated with our use of models may not be effective or fully reliable, and as a result, we may realize losses or other lapses.

We have an enterprise-wide model risk management program designed to accurately identify, measure, report, monitor, and manage model risk. The management of model risk includes independent validation and model governance, establishing and monitoring model control standards and model risk metrics, and completeness and accuracy of the inventory of models.

Banking regulators continue to focus on the models used by banks and bank holding companies in their businesses. The failure or inadequacy of a model may result in increased regulatory scrutiny on us or may result in an enforcement action or proceeding against us by one of our regulators.

ITEM 1B. UNRESOLVED STAFF COMMENTS

None.

ITEM 2. PROPERTIES

The headquarters of KeyCorp and KeyBank are located at 127 Public Square, Cleveland, Ohio 44114-1306 in the Key Center. At December 31, 2022, Key leased approximately 418,812 square feet of the complex, encompassing the first floor branch, the 2nd through 9th office floors, the 12th floor, and the 54th through 56th floors of the 57-story Key Center. In addition, Key owned two buildings in Brooklyn, Ohio, with office space that it operated from and totaling 586,616 square feet at December 31, 2022. Our office space is used by all of our segments. As of the same date, KeyBank owned 428 branches and leased 571 branches. The lease terms for applicable branches are not individually material, with terms ranging from month-to-month to 99 years from inception.

ITEM 3. LEGAL PROCEEDINGS

The information presented in the Legal Proceedings section of Note 22 (“Commitments, Contingent Liabilities, and Guarantees”) of the Notes to Consolidated Financial Statements is incorporated herein by reference.

On at least a quarterly basis, we assess our liabilities and contingencies in connection with outstanding legal proceedings utilizing the latest information available. Where it is probable that we will incur a loss and the amount of the loss can be reasonably estimated, we record a liability in our consolidated financial statements. These legal reserves may be increased or decreased to reflect any relevant developments on a quarterly basis. Where a loss is not probable or the amount of the loss is not estimable, we have not accrued legal reserves, consistent with applicable accounting guidance. Based on information currently available to us, advice of counsel, and available insurance coverage, we believe that our established reserves are adequate and the liabilities arising from the legal proceedings will not have a material adverse effect on our consolidated financial condition. We note, however, that in light of the inherent uncertainty in legal proceedings there can be no assurance that the ultimate resolution will not exceed established reserves. As a result, the outcome of a particular matter or a combination of matters may be material to our results of operations for a particular period, depending upon the size of the loss or our income for that particular period.

ITEM 4. MINE SAFETY DISCLOSURES

Not applicable.

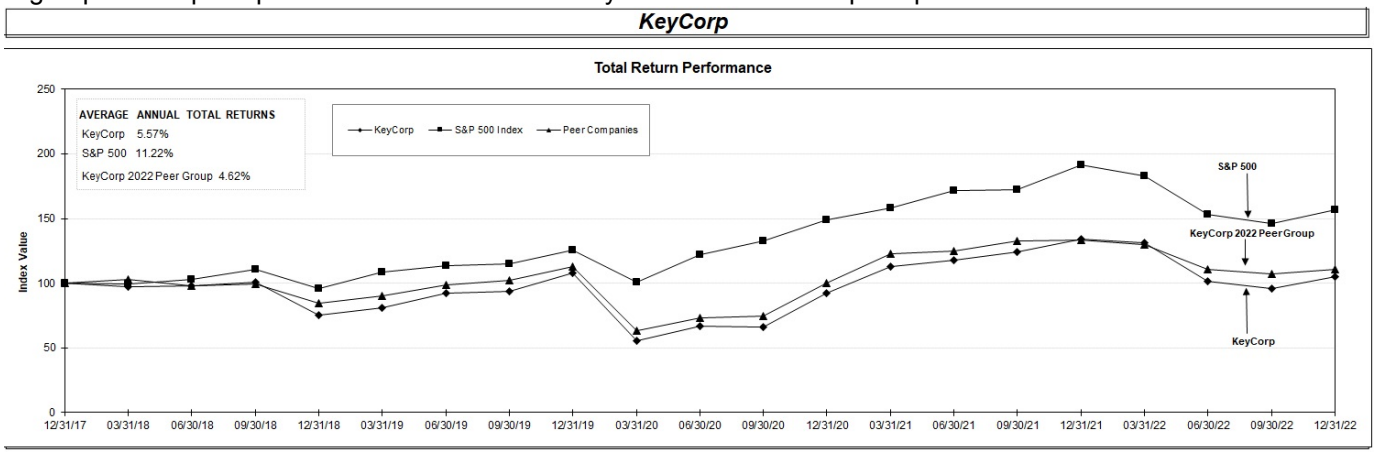
PART II

ITEM 5. MARKET FOR THE REGISTRANT'S COMMON EQUITY, RELATED STOCKHOLDER MATTERS AND ISSUER PURCHASES OF EQUITY SECURITIES

The following disclosures included in Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations are incorporated herein by reference:

	Page(s)
Discussion of dividends in the section captioned "Capital — Dividends"	68
Discussion of our common shares, shareholder information, and repurchase activities in the section captioned "Capital — Common Shares outstanding"	68

The following graph compares the price performance of our Common Shares (based on an initial investment of $100 on December 31, 2017, and assuming reinvestment of dividends) with that of the S&P 500 Index and a group of other banks that constitute our peer group. The peer group consists of the banks that make up the S&P 500 Regional Bank Index and the banks that make up the Standard & Poor's 500 Diversified Bank Index. We are included in the S&P 500 Index and the peer group. Share price performance is not necessarily indicative of future price performance.



From time to time, KeyCorp or its principal subsidiary, KeyBank, may seek to retire, repurchase, or exchange outstanding debt of KeyCorp or KeyBank, and capital securities or preferred stock of KeyCorp, through cash purchase, privately negotiated transactions, or otherwise. Such transactions, if any, depend on prevailing market conditions, our liquidity and capital requirements, contractual restrictions, and other factors. The amounts involved may be material.

As part of our previous 2021 capital plan, which was effective through the third quarter of 2022, the Board had authorized the repurchase of up to $1.5 billion of our Common Shares. In September 2022, the Board approved the extension of the previous authorization through the third quarter of 2023.

The following table summarizes our repurchases of our Common Shares for the three months ended December 31, 2022.

Calendar month	Total number of shares repurchased[(a)]	Average price paid per share	Total number of shares purchased as part of publicly announced plans or programs[(a)]	Dollar value of shares that may yet be purchased as part of publicly announced plans or programs
October 1 - 31	—	$ —	—	$ 745,991,117
November 1 - 30	—	—	—	745,991,117
December 1 - 31	2,401	17.89	2,401	745,948,169
Total	2,401	$ 17.89	2,401	

(a) Includes Common Shares deemed surrendered by employees in connection with our stock compensation and benefit plans to satisfy tax obligations.

ITEM 6. [RESERVED]

ITEM 7. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

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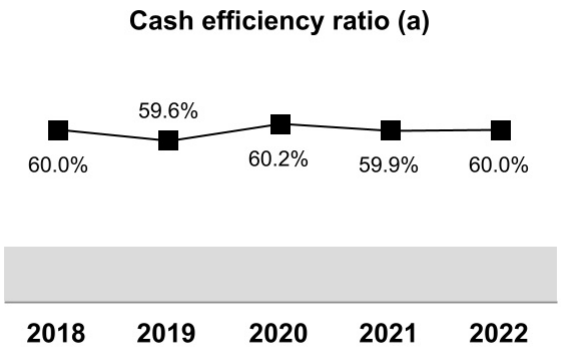
Introduction

This section reviews the financial condition and results of operations of KeyCorp and its subsidiaries for 2022 and 2021. Some tables may include additional periods to comply with disclosure requirements or to illustrate trends in greater depth. When you read this discussion, you should also refer to the consolidated financial statements and related notes in this report. The page locations of specific sections and notes that we refer to are presented in the Table of Contents. To review our financial condition and results of operations for 2020 and a comparison between the 2020 and 2021 results, see Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations of our 2021 Form 10-K filed with the SEC on February 22, 2022, which discussion is incorporated herein by reference.

Long-term financial targets

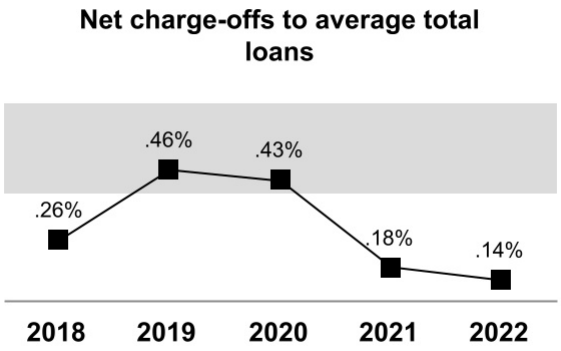


(a) See the section entitled "GAAP to non-GAAP Reconciliations," which presents the computations of certain financial measures related to "cash efficiency." The section includes tables that reconcile the GAAP performance measures to the corresponding non-GAAP measures, which provides a basis for period-to-period comparisons.

Positive Operating Leverage

Generate positive operating leverage and a cash efficiency ratio in the range of 54.0% to 56.0%.

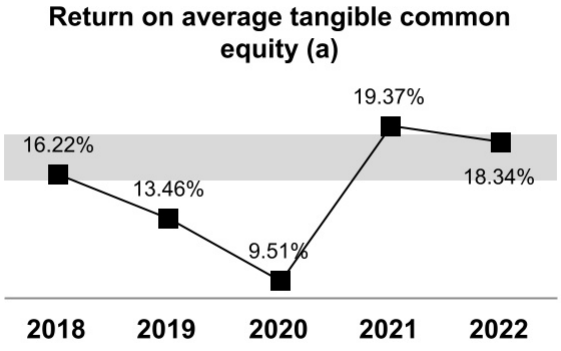
Positive operating leverage was delivered for the 2022 fiscal year, marking the ninth time in the past ten years this was achieved. We expect to again generate positive operating leverage in 2023.



Moderate Risk Profile

Maintain a moderate risk profile by targeting a net loan charge-offs to average loans ratio in the range of .40% to .60% through a credit cycle.

Our net charge-offs to average loans ratio remains at a historically low level. We believe our strong risk management practices will allow us to continue supporting our clients, while maintaining our moderate risk profile, and will position Key to perform well through all business cycles.



(a) See the section entitled "GAAP to non-GAAP Reconciliations," which presents the computations of certain financial measures related to "tangible common equity." The section includes tables that reconcile the GAAP performance measures to the corresponding non-GAAP measures, which provides a basis for period-to-period comparisons.

Financial Return

A return on average tangible common equity in the range of 16.0% to 19.0%.

Our full-year dividend for 2022 was $.79, reflecting a Board approved increase in the fourth quarter. We remain committed to delivering value to all shareholders.

Corporate strategy

We remain committed to enhancing long-term shareholder value by continuing to execute our relationship-based business model, growing our franchise, and being disciplined in our capital management. We intend to pursue this commitment by growing profitably; acquiring and expanding targeted client relationships; effectively managing risk and rewards; maintaining financial strength; and engaging, retaining, and inspiring our diverse and high-performing workforce. These strategic priorities for enhancing long-term shareholder value are described in more detail below.

- ***Grow profitably —*** We intend to continue to focus on generating positive operating leverage by growing revenue and creating a more efficient operating environment. We expect our relationship business model to keep generating organic growth as it helps us expand engagement with existing clients and attract new customers. We plan to leverage our continuous improvement culture to maintain an efficient cost structure that is aligned, sustainable, and consistent with the current operating environment and that supports our relationship business model.
- ***Acquire and expand targeted client relationships —*** We seek to be client-centric in our actions and have taken purposeful steps to enhance our ability to acquire and expand targeted relationships. We seek to provide solutions to serve our clients' needs. We focus on markets and clients where we can be the most relevant. In aligning our businesses and investments against these targeted client segments, we are able to make a meaningful impact for our clients.
- ***Effectively manage risk and rewards —*** Our risk management activities are focused on ensuring we properly identify, measure, and manage risks across the entire company to maintain safety and soundness and maximize profitability.
- ***Maintain financial strength —*** With the foundation of a strong balance sheet, we intend to remain focused on sustaining strong reserves, liquidity, and capital. We plan to work closely with our Board and regulators to manage capital to support our clients' needs and drive long-term shareholder value. Our capital remains a competitive advantage for us.
- ***Engage a high-performing, talented, and diverse workforce —*** Every day our employees provide our clients with great ideas, extraordinary service, and smart solutions. We intend to continue to engage our high-performing, talented, and diverse workforce to create an environment where they can make a difference, own their careers, be respected, and feel a sense of pride.

Strategic developments

We took the following actions during 2022 in support of our corporate strategy:

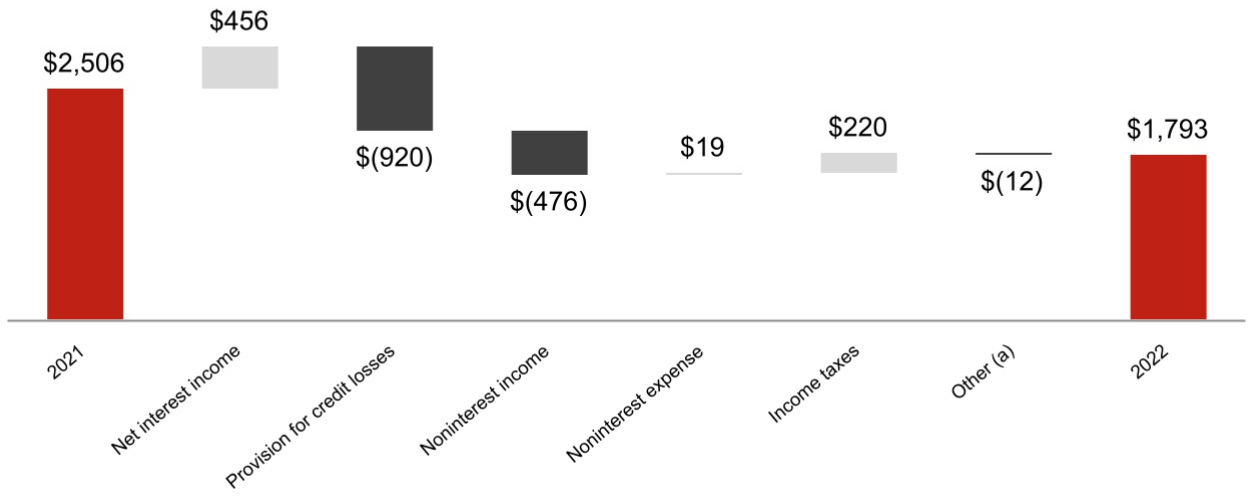
- We ***continued the momentum*** of loan growth across both our consumer and commercial businesses as we continue to add clients and deepen our existing relationships.
- In the third quarter, we implemented new ***client-friendly*** fee terms, eliminating NSF fees and introducing Key Coverage Zone ™ for overdraft fees.
- We continued to ***expand targeted client relationships*** in healthcare, growing relationships with nurses and significant healthcare providers, including healthcare systems and facilities.
- Our ***strong capital position*** allows us to continue to execute against each of our capital priorities of organic growth, dividends, and share repurchases. During the fourth quarter, the Board of Directors announced an increase in the quarterly dividend to $.205 per common share resulting in a full-year dividend of $.79.
- We continued to ***grow profitably*** during 2022. Positive operating leverage was achieved for the year, and we expect to deliver positive operating leverage in 2023.
- During 2022 we completed the acquisition of GradFin, one of the nation's leading Public Service Loan Forgiveness counseling providers. The acquisition furthers Key's commitment to ***accelerate growth through targeted investments*** in digital, niche businesses.
- Overall, credit quality remains strong as our new loan originations in both our commercial and consumer book continue to meet our criteria for high quality loans as we continue to ***effectively manage risk and rewards.*** Our continuous focus on maintaining our risk discipline has and will continue to position us to perform well through all business cycles.
- ***Maintaining financial strength*** while driving long-term shareholder value was again a focus during 2022. At December 31, 2022, our Common Equity Tier 1 and Tier 1 risk-based capital ratios stood at 9.10% and 10.60%, respectively.
- We remained committed to our strategy to ***engage a high-performing, talented, and diverse workforce.*** We have been recognized by multiple organizations for our dedication to creating an environment where employees

are treated with respect and empowered to bring their authentic selves to work. Some of these awards and recognitions included the Human Rights Campaign naming us one of the 2022 Best Places to Work for LGBT Equality, Bloomberg listing us on the Gender-Equality Index, G.I. Jobs and Military Spouse Magazine recognizing us as a Military Friendly® and Military Friendly® Spouse Employer, and receiving the Leading Disability Employer Seal from the National Organization on Disability. We were also named to DiversityInc's 2022 Top 50 Companies for Diversity.

Results of Operations

Earnings Overview

The following chart provides a reconciliation of net income from continuing operations attributable to Key common shareholders for the year ended December 31, 2021, to the year ended December 31, 2022 (dollars in millions):



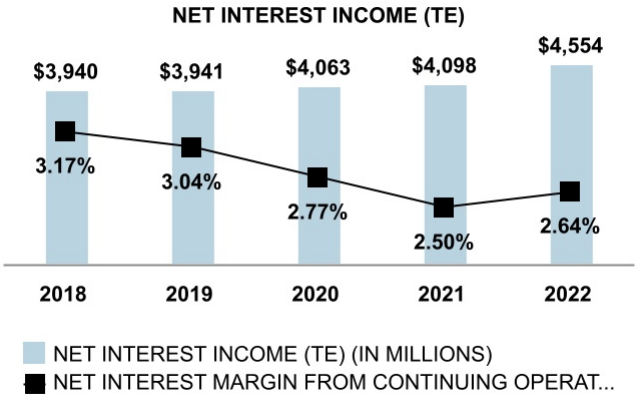
(a) Includes Preferred dividends.

Net interest income

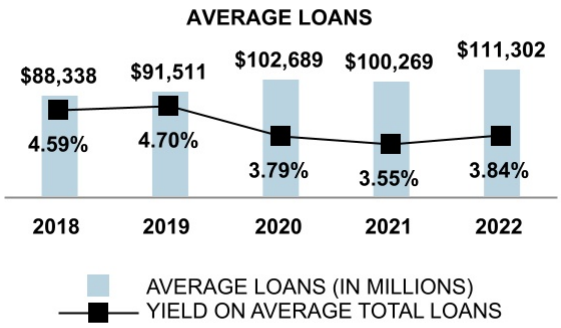
One of our principal sources of revenue is net interest income. Net interest income is the difference between interest income received on earning assets (such as loans and securities) and loan-related fee income, and interest expense paid on deposits and borrowings. There are several factors that affect net interest income, including:

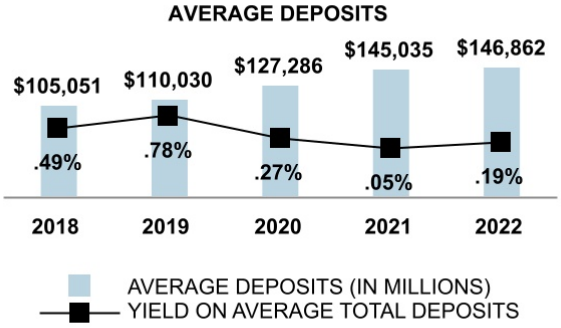
- the volume, pricing, mix, and maturity of earning assets and interest-bearing liabilities;
- the volume and value of net free funds, such as noninterest-bearing deposits and equity capital;
- the use of derivative instruments to manage interest rate risk;
- interest rate fluctuations and competitive conditions within the marketplace;
- asset quality; and
- fair value accounting of acquired earning assets and interest-bearing liabilities.

To make it easier to compare both the results among several periods and the yields on various types of earning assets (some taxable, some not), we present net interest income in this discussion on a "TE basis" (i.e., as if all income were taxable and at the same rate). For example, $100 of tax-exempt income would be presented as $126, an amount that, if taxed at the statutory federal income tax rate of 21%, would yield $100.



Net interest income (TE) for 2022 was $4.6 billion, and the net interest margin was 2.64%. Compared to 2021, net interest income (TE) increased $456 million and the net interest margin increased by 14 basis points. Net interest income (TE) benefited from higher earning asset balances, higher interest rates, and a favorable balance sheet mix. Net interest income (TE) and the net interest margin were negatively impacted by the sale of the indirect auto loan portfolio in the third quarter of 2021, higher interest-bearing deposit costs, and lower loan fees from PPP.





Average loans totaled $111.3 billion for 2022, compared to $100.3 billion in 2021. Commercial loans increased $6.5 billion, reflecting core commercial and industrial loan growth and an increase in commercial mortgage real estate loans, which mitigated the impact of a $4.7 billion decline in PPP balances. Consumer loans increased $4.6 billion driven by Key's consumer mortgage business and student loan originations from Laurel Road, partly offset by the sale of the indirect auto loan portfolio in the third quarter of 2021.

Average deposits totaled $146.9 billion for 2022, an increase of $1.8 billion compared to 2021. The increase reflects growth from consumer and commercial relationships, partially offset by a decline in time deposits and non-operating commercial deposit balances.

Figure 1 shows the various components of our balance sheet that affect interest income and expense and their respective yields or rates over the past five years. This figure also presents a reconciliation of TE net interest income to net interest income reported in accordance with GAAP for each of those years. The net interest margin, which is an indicator of the profitability of our earning assets less the cost of funding, is calculated by dividing taxable-equivalent net interest income by average earning assets.

Figure 1. Consolidated Average Balance Sheets, Net Interest Income, and Yields/Rates from Continuing Operations[h]

Year ended December 31,	2022			2021			2020		
Dollars in millions	Average Balance	Interest [a]	Yield/ Rate [a]	Average Balance	Interest [a]	Yield/ Rate [a]	Average Balance	Interest [a]	Yield/ Rate [a]
ASSETS									
Loans [b], [c]									
Commercial and industrial [d]	$ 54,970	$ 2,148	3.91 %	$ 50,931	$ 1,795	3.52 %	$ 55,145	$ 1,977	3.59 %
Real estate — commercial mortgage	15,572	633	4.07	13,118	472	3.60	13,279	521	3.92
Real estate — construction	2,229	99	4.44	2,113	77	3.61	1,843	74	3.99
Commercial lease financing	3,869	98	2.54	4,019	114	2.84	4,497	139	3.09
Total commercial loans	76,640	2,978	3.89	70,181	2,458	3.50	74,764	2,711	3.63
Real estate — residential mortgage	19,036	559	2.94	12,252	348	2.84	8,094	284	3.50
Home equity loans	8,115	347	4.28	8,967	336	3.74	9,772	392	4.01
Consumer direct loans	6,490	277	4.27	5,105	233	4.56	4,213	221	5.26
Credit cards	959	107	11.23	925	94	10.11	1,001	107	10.65
Consumer indirect loans	62	—	—	2,839	90	3.19	4,845	180	3.72
Total consumer loans	34,662	1,290	3.72	30,088	1,101	3.66	27,925	1,184	4.24
Total loans	111,302	4,268	3.84	100,269	3,559	3.55	102,689	3,895	3.79
Loans held for sale	1,278	56	4.41	1,700	50	2.96	1,972	69	3.49
Securities available for sale [b], [e]	42,325	752	1.62	35,765	546	1.53	23,742	484	2.10
Held-to-maturity securities [b]	7,676	213	2.77	7,035	185	2.63	8,938	222	2.49
Trading account assets	850	31	3.61	820	19	2.35	814	20	2.47
Short-term investments	4,264	97	2.28	17,529	28	.16	9,096	18	.20
Other investments [e]	952	22	2.26	621	7	1.14	635	6	.87
Total earning assets	168,647	5,439	3.15	163,739	4,394	2.69	147,886	4,714	3.20
Allowance for loan and lease losses	(1,101)			(1,340)			(1,481)		
Accrued income and other assets	18,340			16,520			15,650		
Discontinued assets	492			632			775		
Total assets	$ 186,378			$ 179,551			$ 162,830		
LIABILITIES									
NOW and money market deposit accounts	$ 85,673	$ 234	.27 %	$ 84,736	$ 41	.05 %	$ 75,733	$ 206	.27 %
Savings deposits	7,798	1	.01	6,893	1	.02	5,252	2	.04
Certificates of deposit ($100,000 or more)[f]	1,455	8	.56	2,135	16	.72	4,520	83	1.83
Other time deposits	2,892	36	1.25	2,540	9	.37	4,041	56	1.38
Total interest-bearing deposits	97,818	279	.29	96,304	67	.07	89,546	347	.39
Federal funds purchased and securities sold under repurchase agreements	2,107	41	1.93	239	—	.02	670	6	.88
Bank notes and other short-term borrowings	2,963	90	3.02	770	8	1.08	1,452	12	.85
Long-term debt [f], [g]	14,915	475	3.19	12,391	221	1.79	12,578	286	2.36
Total interest-bearing liabilities	117,803	885	.75	109,704	296	.27	104,246	651	.63
Noninterest-bearing deposits	49,044			48,731			37,740		
Accrued expense and other liabilities	4,309			2,819			2,433		
Discontinued liabilities [g]	492			632			775		
Total liabilities	171,648			161,886			145,194		
EQUITY									
Key shareholders' equity	14,730			17,665			17,636		
Noncontrolling interests	—			—			—		
Total equity	14,730			17,665			17,636		
Total liabilities and equity	$ 186,378			$ 179,551			$ 162,830		
Interest rate spread (TE)			2.40 %			2.42 %			2.57 %
Net interest income (TE) and net interest margin (TE)		$ 4,554	2.64 %		$ 4,098	2.50 %		$ 4,063	2.77 %
Less: TE adjustment [b]		27			27			29	
Net interest income, GAAP basis		$ 4,527			$ 4,071			$ 4,034	

(a) Results are from continuing operations. Interest excludes the interest associated with the liabilities referred to in (g) below, calculated using a matched funds transfer pricing methodology.
(b) Interest income on tax-exempt securities and loans has been adjusted to a TE basis using the statutory federal income tax rate in effect that calendar year.
(c) For purposes of these computations, nonaccrual loans are included in average loan balances.
(d) Commercial and industrial average loan balances include $157 million, $134 million, and $130 million of assets from commercial credit cards for the years ended December 31, 2022, December 31, 2021, and December 31, 2020, respectively.
(e) Yield is calculated on the basis of amortized cost.
(f) Rate calculation excludes basis adjustments related to fair value hedges.
(g) A portion of long-term debt and the related interest expense is allocated to discontinued liabilities as a result of applying our matched funds transfer pricing methodology to discontinued operations.
(h) Average balances presented are based on daily average balances over the respective stated period.

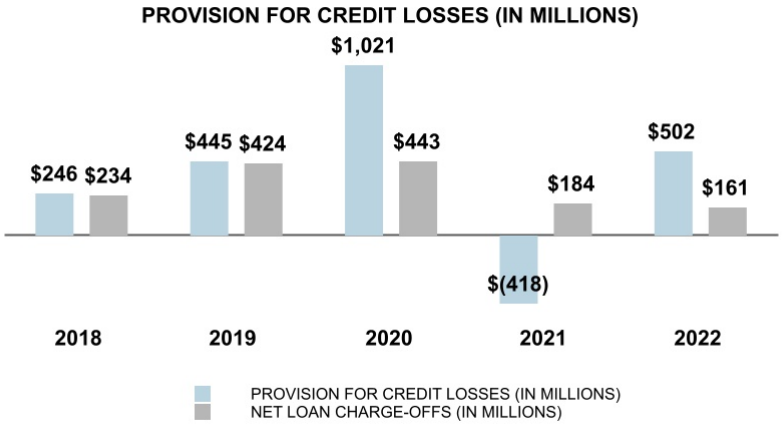
Figure 2 shows how the changes in yields or rates and average balances from the prior year affected net interest income. The section entitled “Financial Condition” contains additional discussion about changes in earning assets and funding sources.

Figure 2. Components of Net Interest Income Changes from Continuing Operations

Dollars in millions	2022 vs. 2021 Average Volume	Yield/ Rate	Net Change[(a)]
INTEREST INCOME			
Loans	$ 428	$ 281	$ 709
Loans held for sale	(14)	20	6
Securities available for sale	109	97	206
Held-to-maturity securities	17	11	28
Trading account assets	1	11	12
Short-term investments	(36)	105	69
Other investments	5	10	15
Total interest income (TE)	509	536	1,045
INTEREST EXPENSE			
NOW and money market deposit accounts	—	193	193
Savings deposits	—	—	—
Certificates of deposit ($100,000 or more)	(4)	(4)	(8)
Other time deposits	1	26	27
Total interest-bearing deposits	(2)	214	212
Federal funds purchased and securities sold under repurchase agreements	—	41	41
Bank notes and other short-term borrowings	49	33	82
Long-term debt	52	202	254
Total interest expense	99	490	589
Net interest income (TE)	$ 410	$ 46	$ 456

(a) The change in interest not due solely to volume or rate has been allocated in proportion to the absolute dollar amounts of the change in each.

Provision for credit losses



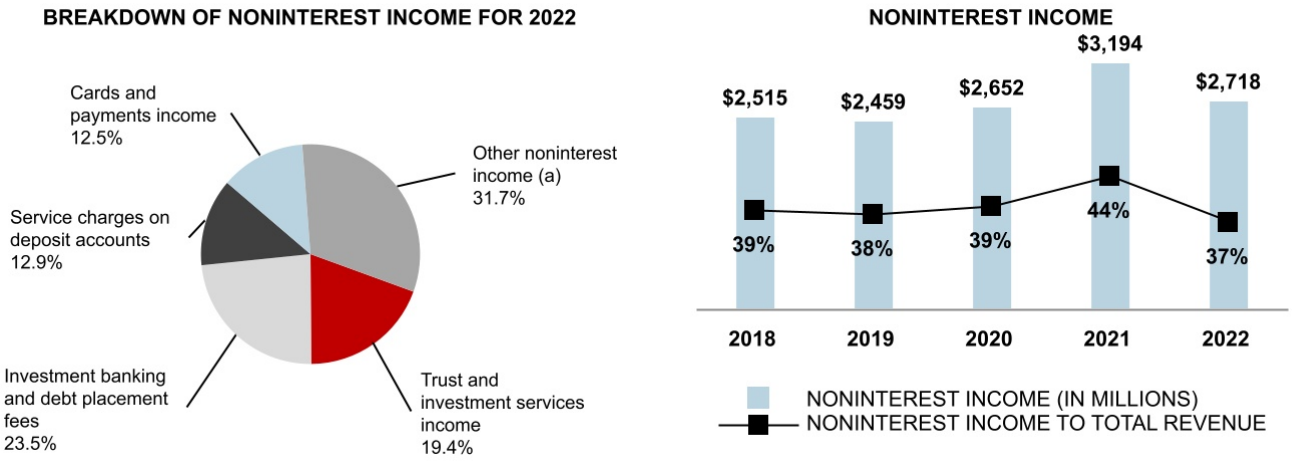
Our provision for credit losses was a net charge of $502 million for 2022, compared to a $418 million net benefit for 2021. The increase in our provision for credit losses was a result of reserve increases largely driven by changes in the economic outlook and loan growth, offset somewhat by lower net charge-offs. In 2021, our provision for credit losses was a net benefit due to reserve releases as the economic stress and uncertainty in the U.S. and globally caused by COVID-19 eased, along with significantly lower net loan charge-offs and improved asset quality. In 2023 we expect net charge-offs to average loans to be in the range of 25 to 30 bps.

Noninterest income

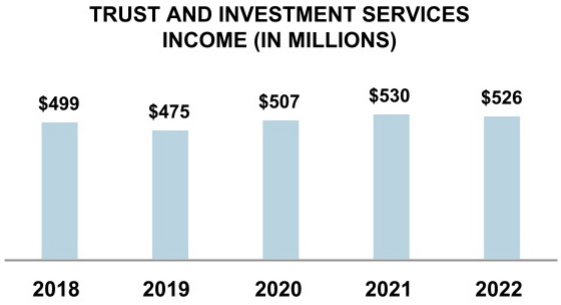
Noninterest income for 2022 was $2.7 billion, compared to $3.2 billion during 2021. Noninterest income represented 37% of total revenue for 2022 and 44% of total revenue for 2021. In 2023, we expect noninterest income to be down 1% to 3% compared to 2022.

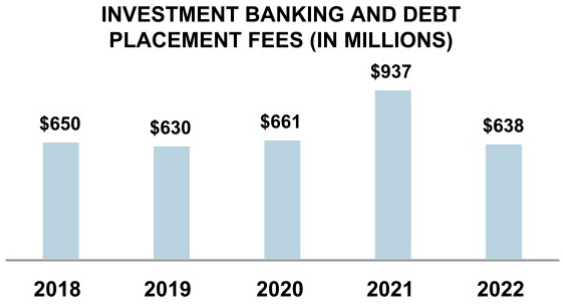
The following discussion explains the composition of certain elements of our noninterest income and the factors that caused those elements to change.

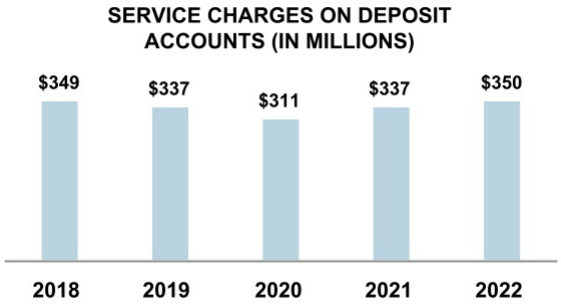
Figure 3. Noninterest Income

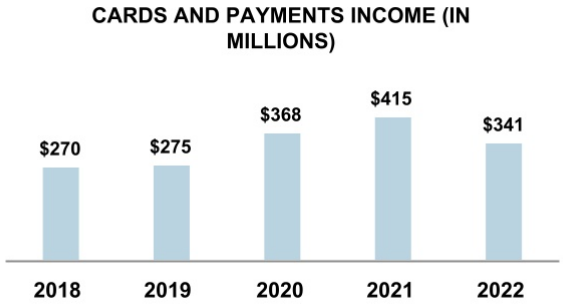


(a) Other noninterest income includes operating lease income and other leasing gains, corporate services income, corporate-owned life insurance income, consumer mortgage income, commercial mortgage servicing fees, and other income. See the "Consolidated Statements of Income" in Part II, Item 8. Financial Statements and Supplementary Data of this report.









Trust and investment services income

Trust and investment services income consists of brokerage commissions, trust and asset management commissions, and insurance income. The assets under management or administration that primarily generate these revenues are shown in Figure 4. For 2022, trust and investment services income decreased $4 million, or 0.8%. This was primarily due to an increase in commissions based revenue offset by decreases in fees associated with lower assets under management.

A significant portion of our trust and investment services income depends on the value and mix of assets under management. At December 31, 2022, our bank, trust, and registered investment advisory subsidiaries had assets under management or administration of $51.3 billion, compared to $55.8 billion at December 31, 2021. The decrease from 2021 to 2022 was primarily attributable to movements in the equity markets.

Figure 4. Assets Under Administration

Year ended December 31,			Change 2022 vs. 2021	
Dollars in millions	2022	2021	Amount	Percent
Discretionary assets under management by investment type:				
Equity	$ **28,313**	$ 33,767	$ (5,454)	(16.2)%
Fixed income	**14,432**	13,851	581	4.2
Money market	**5,238**	4,541	697	15.3
Total discretionary assets under management	$ **47,983**	$ 52,159	$ (4,176)	(8.0)%
Non-discretionary assets under administration	$ **3,299**	$ 3,647	$ (348)	(9.5)%
Total	$ **51,282**	$ 55,806	$ (4,524)	(8.1)%

Investment banking and debt placement fees

Investment banking and debt placement fees consist of syndication fees, debt and equity underwriting fees, merger and acquisition and financial advisor fees, gains on sales of commercial mortgages, and agency origination fees. For 2022, investment banking and debt placement fees decreased $299 million, or 31.9%, from the prior year reflecting the slowdown in capital markets activity.

Service charges on deposit accounts

Service charges on deposit accounts increased $13 million, or 3.9%, in 2022 compared to the prior year. This increase stemmed from account analysis services and overdraft fees, specifically over the first three quarters of the year. Beginning late in the third quarter, Key implemented new fee terms which eliminated NSF fees and introduced Key Coverage Zone™ for overdraft fees resulting in expected reductions in fees in the fourth quarter.

Cards and payments income

Cards and payments income, which consists of debit card, consumer and commercial credit card, and merchant services income, decreased $74 million, or 17.8%, in 2022 compared to 2021. This decrease was primarily due to reduced prepaid card activity as customers rolled off government support programs during the year with a slight offset from an increase in merchant services income.

Other noninterest income

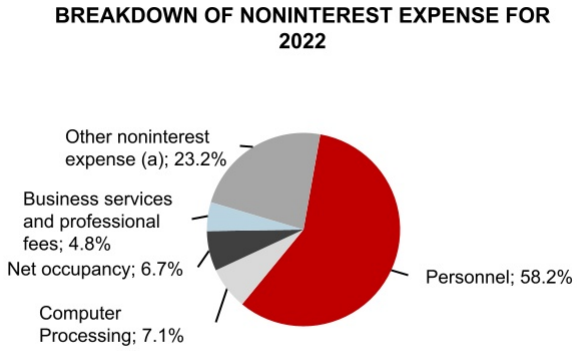
Other noninterest income includes operating lease income and other leasing gains, corporate services income, corporate-owned life insurance income, consumer mortgage income, commercial mortgage servicing fees, and other income. Other noninterest income decreased $112 million, or 11.5%, in 2022 compared to 2021, driven by decreases in consumer mortgage income from lower gain on sale margins and lower saleable volume. Decreases also occurred within operating lease income and other leasing gains from declining operating lease balances. These decreases were slightly offset by an increase in corporate services income from higher derivatives income.

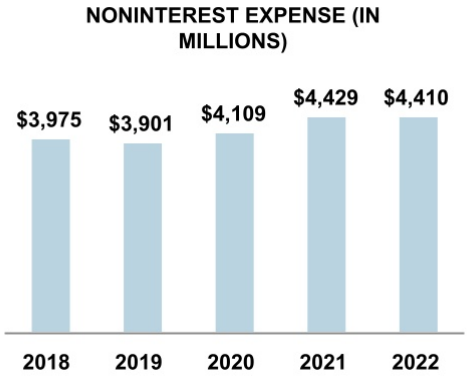
Noninterest expense

Noninterest expense for 2022 was $4.4 billion, compared to $4.4 billion for 2021. Figure 5 gives a breakdown of our major categories of noninterest expense as a percentage of total noninterest expense for the twelve months ended December 31, 2022. In 2023, we expect noninterest expense to be relatively stable compared to 2022.

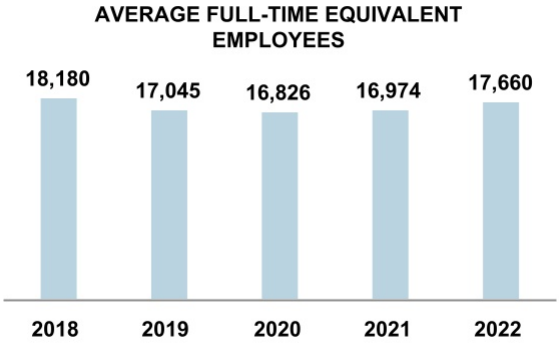
The following discussion explains the composition of certain elements of our noninterest expense and the factors that caused those elements to change.

Figure 5. Noninterest Expense





(a) Other noninterest expense includes equipment, operating lease expense, marketing, intangible asset amortization and other miscellaneous expense. See the "Consolidated Statements of Income" in Part II, Item 8. Financial Statements and Supplementary Data of this report.



Personnel

As shown in Figure 6, personnel expense, the largest category of our noninterest expense, increased by $5 million, or 0.2%, in 2022 compared to 2021. Activity for the year was driven by higher salaries from higher merits and contract tech labor, with an offset from decreased incentive compensation costs from lower revenue generation in our variable expense businesses.

Figure 6. Personnel Expense

Year ended December 31, *Dollars in millions*	2022	2021	Change 2022 vs. 2021 Amount	 Percent
Salaries and contract labor	**$ 1,500**	$ 1,311	$ 189	14.4 %
Incentive and stock-based compensation [(a)]	**693**	861	(168)	(19.5)
Employee benefits	**363**	388	(25)	(6.4)
Severance	**10**	1	9	N/M
Total personnel expense	**$ 2,566**	$ 2,561	$ 5	0.2 %

N/M - Not meaningful

(a) Excludes directors' stock-based compensation of $3 million in 2022 and $2 million in 2021, reported as "other noninterest expense" in Figure 5.

Non-personnel expense

In total, other non-personnel expense decreased $24 million, or 1.3%, in 2022 compared to 2021 stemming from declines in business services and professional fees and operating expense, with a slight offset from an increase in computer processing costs.

Income taxes

We recorded a tax provision from continuing operations of $422 million for 2022, compared to $642 million for 2021. The effective tax rate, which is the provision for income taxes as a percentage of income from continuing operations before income taxes, was 18.1% for 2022 and 19.7% for 2021. In 2023, we expect our GAAP tax rate to be approximately 20%.

In 2022, our federal tax expense and effective tax rate differ from the amount that would be calculated using the federal statutory tax rate primarily due to investments in tax-advantaged assets, such as corporate-owned life insurance, tax credits associated with energy related projects and low-income housing investments, and periodic adjustments to our tax reserves as described in Note 14 (“Income Taxes”).

Business Segment Results

This section summarizes the financial performance of our two major business segments (operating segments): Consumer Bank and Commercial Bank. Note 25 (“Business Segment Reporting”) describes the products and services offered by each of these business segments and provides more detailed financial information pertaining to the segments. Dollars in the charts are presented in millions.

Consumer Bank

Segment imperatives

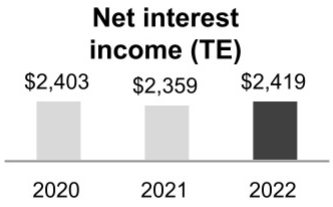
- Simplification and digitalization to drive growth and operating leverage
- Relationship-based strategy with a focus on financial wellness as a differentiator
- Omni-channel approach in delivering products and services

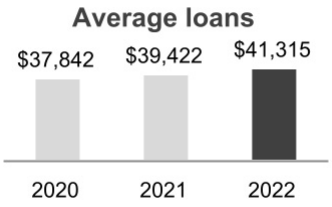
Market and business overview

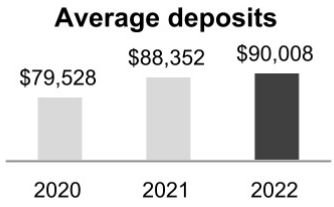
As the banking industry moves forward, so do our clients. Anticipating our clients’ needs not only today, but for tomorrow and into the future, has become one of the biggest challenges for the banking industry. We view these challenges as an opportunity to help our current client base meet their own goals, as well as attract new and diverse clients. In an increasingly digital world focused on specialized convenience, we have made meaningful steps to meet those demands through new digital portals including the rollout of our national digital affinity bank, Laurel Road for Doctors. These platforms place us in a strong position to develop long lasting and meaningful relationships with our current and prospective clients. Financial wellness is a core tenet of our customer relationships and we see it in three different ways: diagnose, enhance, and sustain. Our goal is to get our clients to a place where they can comfortably sustain their current financial position so we can be there for them when they are ready to grow. Clients no longer go to a branch to conduct transactions only, they go to seek advice and gain new perspectives on issues they may be facing.

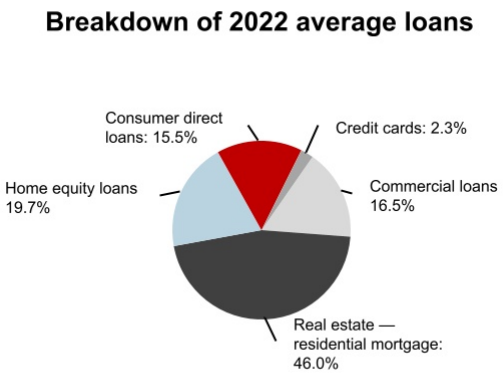
Summary of operations

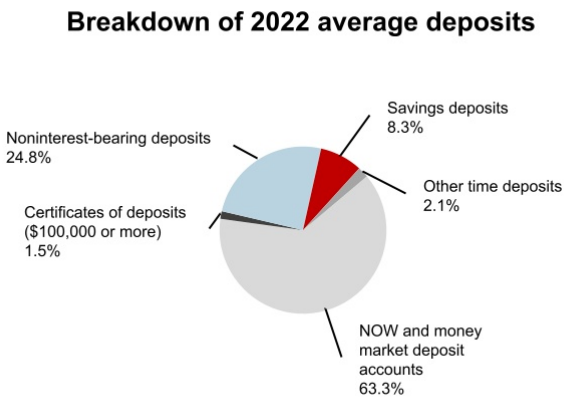
- Net income attributable to Key of $392 million in 2022, compared to $876 million in 2021, a decrease of 55.3%, largely driven by reserve increases
- Taxable equivalent net interest income increased in 2022 by $60 million, or 2.5%, from the prior year, driven by higher earning assets and interest rates
- Average loans and leases increased in 2022 by $1.9 billion, or 4.8%, from the prior year, driven by loan growth in consumer mortgage and Laurel Road, partly offset by a decline in home equity loans
- Average deposits increased in 2022 by $1.7 billion, or 1.9%, from the prior year, driven by higher retail deposits



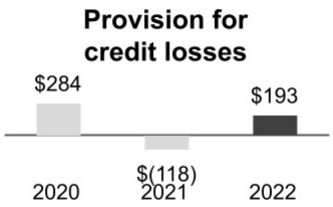


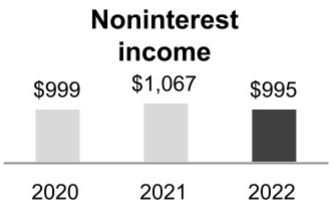


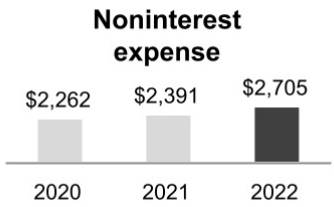




- Provision for credit losses increased $311 million in 2022 compared to the prior year, resulting from reserve increases driven by changes in the economic outlook, loan growth, offset slightly by lower net charge-offs. In 2021, our provision for credit losses was a net benefit of $118 million due to reserve releases as the economic stress and uncertainty in the U.S. and globally caused by COVID-19 eased
- Noninterest income decreased in 2022 by $72 million, or 6.7%,driven by decreases in consumer mortgage income from lower gain on sale margins and lower saleable volume, and a decline in trust and investment services, reflecting lower equity markets
- Noninterest expense increased in 2022 by $314 million, or 13.1%, primarily driven by higher salaries, increased deposit insurance assessments, and increased technology and other business support costs.







Commercial Bank

Segment imperatives

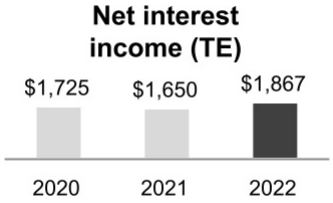
- Solve complex client needs through a differentiated product set of banking and capital markets capabilities
- Drive targeted scale through distinct product capabilities delivered to a broad set of clients
- Utilize industry expertise and broad capabilities to build relationships with narrowly targeted client sets

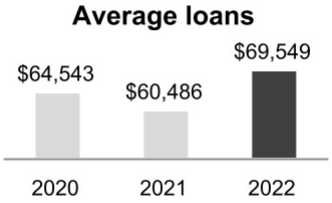
Market and business overview

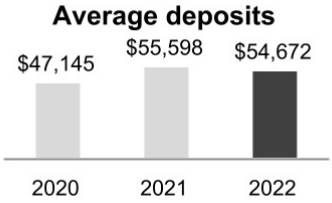
Building relationships and delivering complex solutions for middle market clients requires a distinctive operating model that understands their business and can provide a broad set of product capabilities. As competition for these clients intensifies, we have positioned the business to maintain and grow our competitive advantage by building targeted scale in businesses and client segments. Strong market share in businesses such as real estate loan servicing and equipment finance highlights our ability to successfully meet customer needs through targeted scale in distinct product capabilities. Clients expect us to understand every aspect of their business. Our seven industry verticals are aligned to drive targeted scale in segments where we have a breadth of industry expertise. Our business model is positioned to meet our client needs because our focus is not on being a universal bank, but rather being the right bank for our clients.

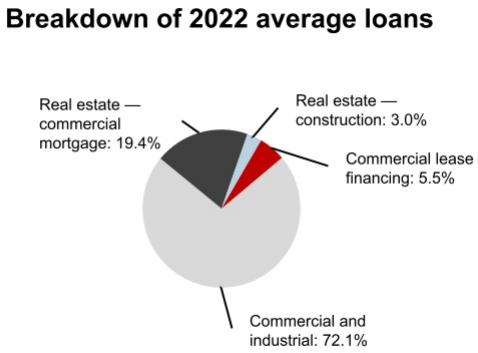
Summary of operations

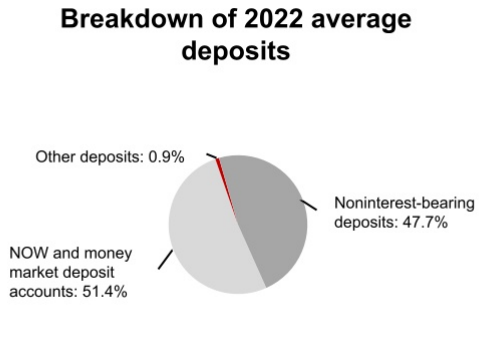
- Net income attributable to Key of $1.1 billion in 2022, compared to $1.6 billion in 2021, a decrease of 30.2%, largely driven by an increase in reserves and lower investment banking and debt placement fees
- Taxable equivalent net interest income increased in 2022 by $217 million, or 13.2%, from the prior year, reflecting growth in commercial and industrial loans and commercial real estate loans, as well as higher interest rates
- Average loan and lease balances increased $9.1 billion in 2022, or 15.0%, due to growth in commercial and industrial loans and commercial mortgage real estate loans
- Average deposit balances decreased $926 million in 2022, or 1.7%, driven by a decline in non-operating deposits



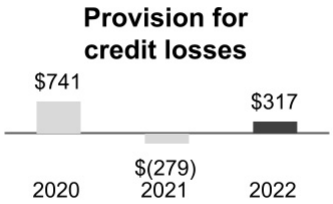


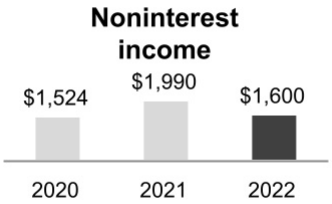


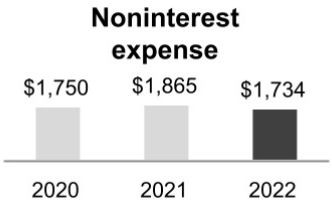




- Provision for credit losses increased $596 million in 2022 compared to the prior year, resulting from reserve increases driven by changes in the economic outlook and loan growth. In 2021, our provision for credit losses was a net benefit of $279 million due to reserve releases as the economic stress and uncertainty in the U.S. and globally caused by COVID-19 eased
- Noninterest income decreased $390 million in 2022, or 19.6%, from the prior year, driven by lower investment banking and debt placement fees, partially offset by an increase in corporate services income primarily reflecting higher derivatives income
- Noninterest expense decreased by $131 million in 2022, or 7.0%, from the prior year, driven by lower incentive compensation and lower operating lease expense, as well as a decrease in other business segment support costs



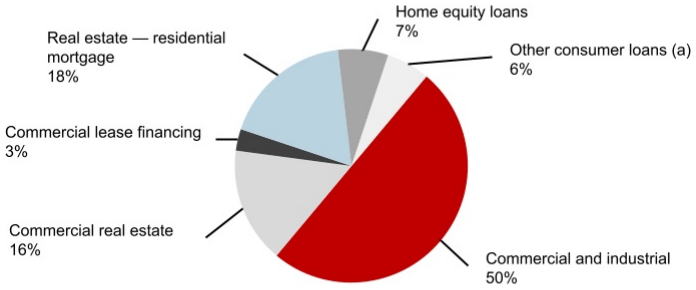


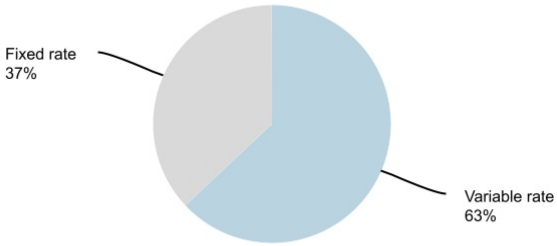


Financial Condition

Loans and loans held for sale

Figure 7. Breakdown of Loans





(a) Other consumer loans include Consumer direct loans, Credit cards, and Consumer indirect loans. See Note 4 (“Loan Portfolio”) Item 8. Financial Statements of this report.

Figure 8 shows the composition of our loan portfolio at December 31 for each of the past two years.

Figure 8. Composition of Loans

December 31, *Dollars in millions*	2022 Amount	2022 Percent of Total	2021 Amount	2021 Percent of Total
COMMERCIAL				
Commercial and industrial [a]	**$ 59,647**	**50.0 %**	$ 50,525	49.6 %
Commercial real estate:				
Commercial mortgage	**16,352**	**13.7**	14,244	13.9
Construction	**2,530**	**2.1**	1,996	2.0
Total commercial real estate loans	**18,882**	**15.8**	16,240	15.9
Commercial lease financing [b]	**3,936**	**3.3**	4,071	4.0
Total commercial loans	**82,465**	**69.1**	70,836	69.5
CONSUMER				
Real estate — residential mortgage	**21,401**	**17.9**	15,756	15.5
Home equity loans	**7,951**	**6.6**	8,467	8.3
Consumer direct loans	**6,508**	**5.4**	5,753	5.6
Credit cards	**1,026**	**0.9**	972	1.0
Consumer indirect loans	**43**	**0.1**	70	0.1
Total consumer loans	**36,929**	**30.9**	31,018	30.5
Total loans [c]	**$ 119,394**	**100.0 %**	$ 101,854	100.0 %

(a) Loan balances include $172 million and $139 million, of commercial credit card balances at December 31, 2022, and December 31, 2021, respectively.
(b) Commercial lease financing includes receivables held as collateral for a secured borrowing of $8 million and $16 million at December 31, 2022, and December 31, 2021, respectively. Principal reductions are based on the cash payments received from these related receivables. Additional information pertaining to this secured borrowing is included in Note 20 (“Long-Term Debt”).
(c) Total loans exclude loans of $434 million at December 31, 2022, and $567 million at December 31, 2021, related to the discontinued operations of the education lending business.

At December 31, 2022, total loans outstanding from continuing operations were $119.4 billion, compared to $101.9 billion at the end of 2021. For more information on balance sheet carrying value, see Note 1 (“Summary of Significant Accounting Policies”) under the headings “Loans” and “Loans Held for Sale.”

Commercial loan portfolio

Commercial loans outstanding were $82.5 billion at December 31, 2022, an increase of $11.6 billion, or 16.4%, compared to December 31, 2021. The increase reflects core commercial and industrial loan growth and an increase in commercial real estate loans, which mitigated the impact of a $1.5 billion decline in PPP balances.

Figure 9 provides our commercial loan portfolio by industry classification as of December 31, 2022, and December 31, 2021.

Figure 9. Commercial Loans by Industry

December 31, 2022 *Dollars in millions*	Commercial and industrial	Commercial real estate	Commercial lease financing	Total commercial loans	Percent of total
Industry classification:					
Agriculture	$ 907	$ 171	$ 96	$ 1,174	1.4 %
Automotive	1,660	741	12	2,413	2.9
Business products	2,332	176	37	2,545	3.1
Business services	3,497	249	167	3,913	4.7
Chemicals	934	31	45	1,010	1.2
Construction materials and contractors	2,351	327	309	2,987	3.7
Consumer goods	4,312	544	286	5,142	6.2
Consumer services	4,963	873	346	6,182	7.5
Equipment	1,988	111	113	2,212	2.7
Finance	8,784	111	462	9,357	11.3
Healthcare	3,379	1,348	310	5,037	6.1
Metals and mining	1,453	86	94	1,633	2.0
Oil and gas	2,385	32	20	2,437	3.0
Public exposure	2,526	9	582	3,117	3.8
Commercial real estate	8,862	13,897	7	22,766	27.6
Technology	914	12	89	1,015	1.2
Transportation	1,139	159	497	1,795	2.2
Utilities	6,725	5	450	7,180	8.7
Other	536	—	14	550	.7
Total	$ 59,647	$ 18,882	$ 3,936	$ 82,465	100.0 %

December 31, 2021 *Dollars in millions*	Commercial and industrial	Commercial real estate	Commercial lease financing	Total commercial loans	Percent of total
Industry classification:					
Agriculture	$ 872	$ 161	$ 84	$ 1,117	1.6 %
Automotive	1,253	609	18	1,880	2.7
Business products	1,732	131	39	1,902	2.7
Business services	3,202	235	177	3,614	5.1
Chemicals	786	25	22	833	1.2
Construction materials and contractors	2,248	338	264	2,850	4.0
Consumer goods	3,760	555	276	4,591	6.5
Consumer services	4,998	889	424	6,311	8.9
Equipment	1,650	97	138	1,885	2.7
Finance	6,676	98	380	7,154	10.1
Healthcare	3,138	1,302	245	4,685	6.6
Metals and mining	1,219	71	55	1,345	1.9
Oil and gas	1,758	26	35	1,819	2.6
Public exposure	2,768	15	720	3,503	4.9
Commercial real estate	6,494	11,456	9	17,959	25.3
Technology	649	9	149	807	1.1
Transportation	1,288	134	551	1,973	2.8
Utilities	5,491	—	467	5,958	8.4
Other	543	89	18	650	.9
Total	$ 50,525	$ 16,240	$ 4,071	$ 70,836	100.0 %

Commercial and industrial. Commercial and industrial loans are the largest component of our loan portfolio, representing 50% of our total loan portfolio at December 31, 2022, and 51% at December 31, 2021. This portfolio is approximately 86% variable rate and consists of loans primarily to large corporate, middle market, and small business clients.

Commercial and industrial loans totaled $59.6 billion at December 31, 2022, an increase of $9.1 billion, or 18.1%, compared to December 31, 2021. The increase was broad-based and spread across most industry categories and mitigated the impact of a $1.5 billion decline in PPP balances.

Commercial real estate loans. Our commercial real estate lending business includes both mortgage and construction loans, and is conducted through two primary sources: our 15-state banking franchise, and KeyBank Real Estate Capital, a national line of business that cultivates relationships with owners of commercial real estate located both within and beyond the branch system. Nonowner-occupied properties, generally properties for which at least 50% of the debt service is provided by rental income from nonaffiliated third parties, represented 81% of total commercial real estate loans outstanding at December 31, 2022. Construction loans, which provide a stream of funding for properties not fully leased at origination to support debt service payments over the term of the contract or project, represented 13% of commercial real estate loans at year end.

At December 31, 2022, commercial real estate loans totaled $18.9 billion, comprised of $16.4 billion of mortgage loans and $2.5 billion of construction loans. Compared to December 31, 2021, this portfolio increased $2.6 billion driven by growth in multi-family lending, including a focus in affordable housing.

As shown in Figure 10, our commercial real estate loan portfolio includes various property types and geographic locations of the underlying collateral. These loans include commercial mortgage and construction loans in both Consumer Bank and Commercial Bank.

Figure 10. Commercial Real Estate Loans

	Geographic Region										
Dollars in millions	West	Southwest	Central	Midwest	Southeast	Northeast	National	Total	Percent of Total	Construction	Commercial Mortgage
December 31, 2022											
Nonowner-occupied:											
Diversified	$ 9	$ —	$ —	$ 4	$ —	$ 24	$ 231	$ 268	1.4 %	$ —	$ 268
Industrial	75	25	101	135	220	284	52	892	4.7	203	689
Land & Residential	1	3	3	3	3	24	—	37	.2	15	22
Lodging	58	—	10	4	20	72	41	205	1.1	22	183
Medical Office	47	—	43	9	19	98	25	241	1.3	64	177
Multifamily	1,083	533	1,388	1,264	2,813	1,370	438	8,889	47.1	1,705	7,184
Office	189	1	173	113	128	300	95	999	5.3	—	999
Retail	282	35	112	183	69	395	235	1,311	6.9	106	1,205
Self Storage	85	13	50	20	79	37	202	486	2.6	4	482
Senior Housing	150	57	144	76	118	120	235	900	4.8	194	706
Skilled Nursing	—	—	—	52	—	239	143	434	2.3	—	434
Student Housing	—	—	—	53	199	13	—	265	1.4	39	226
Other	24	4	9	79	42	83	195	436	2.3	2	434
Total nonowner-occupied	2,003	671	2,033	1,995	3,710	3,059	1,892	15,363	81.4	2,354	13,009
Owner-occupied	1,149	5	364	580	128	1,293	—	3,519	18.6	176	3,343
Total	$ 3,152	$ 676	$ 2,397	$ 2,575	$ 3,838	$ 4,352	$ 1,892	$ 18,882	100.0 %	$ 2,530	$ 16,352
Nonowner-occupied:											
Nonperforming loans	$ —	$ —	$ —	$ 2	$ —	$ 7	$ 12	$ 21	N/M	$ —	$ 21
Accruing loans past due 90 days or more	—	—	—	—	—	8	—	8	N/M	—	8
Accruing loans past due 30 through 89 days	—	—	1	11	—	6	—	18	N/M	—	18
December 31, 2021											
Nonowner-occupied:											
Diversified	$ 18	$ —	$ —	$ 1	$ —	$ 40	$ 183	$ 242	1.5 %	$ —	$ 242
Industrial	47	25	44	44	218	224	114	716	4.4	90	626
Land & Residential	13	3	4	2	5	29	—	56	.3	33	23
Lodging	75	—	21	4	30	101	28	259	1.6	27	232
Medical Office	46	—	44	5	6	95	—	196	1.2	24	172
Multifamily	855	490	1,166	941	1,651	1,392	239	6,734	41.5	1,249	5,485
Office	213	—	199	122	133	372	46	1,085	6.7	17	1,068
Retail	247	36	131	226	95	409	192	1,336	8.2	87	1,249
Self Storage	44	5	44	13	39	50	74	269	1.7	5	264
Senior Housing	115	32	109	57	107	198	222	840	5.2	114	726
Skilled Nursing	—	39	19	2	13	271	164	508	3.1	—	508
Student Housing	10	—	36	65	124	14	—	249	1.5	86	163
Other	20	—	6	77	33	120	89	345	2.1	2	343
Total nonowner-occupied	1,703	630	1,823	1,559	2,454	3,315	1,351	12,835	79.0	1,734	11,101
Owner-occupied	1,065	—	293	592	124	1,331	—	3,405	21.0	262	3,143
Total	$ 2,768	$ 630	$ 2,116	$ 2,151	$ 2,578	$ 4,646	$ 1,351	$ 16,240	100.0 %	$ 1,996	$ 14,244
Nonperforming loans	$ —	$ —	$ —	$ 2	$ —	$ 17	$ 25	$ 44	N/M	$ —	$ 44
Accruing loans past due 90 days or more	1	—	1	—	—	6	—	8	N/M	1	7
Accruing loans past due 30 through 89 days	—	—	5	1	24	5	—	35	N/M	16	19

West –	Alaska, California, Hawaii, Idaho, Montana, Oregon, Washington, and Wyoming
Southwest –	Arizona, Nevada, and New Mexico
Central –	Arkansas, Colorado, Oklahoma, Texas, and Utah
Midwest –	Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, South Dakota, and Wisconsin
Southeast –	Alabama, Delaware, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, North Carolina, South Carolina, Tennessee, Virginia, Washington, D.C., and West Virginia
Northeast –	Connecticut, Maine, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, and Vermont
National –	Accounts in three or more regions

Consumer loan portfolio

Consumer loans outstanding at December 31, 2022, totaled $36.9 billion, an increase of $5.9 billion, or 19.1%, from one year ago. Consumer loans continue to reflect strength from the consumer mortgage business and Laurel Road.

The residential mortgage portfolio is comprised of loans originated by our Consumer Bank and is the largest segment of our consumer loan portfolio as of December 31, 2022, representing approximately 58% of consumer loans. This is followed by our home equity portfolio comprising approximately 22% of consumer loans outstanding at year end.

We held the first lien position for approximately 66% of the Consumer Bank home equity portfolio at December 31, 2022, and 71% at December 31, 2021. For loans with real estate collateral, we track borrower performance monthly. Regardless of the lien position, credit metrics are refreshed quarterly, including recent FICO scores as well as original and updated loan-to-value ratios. This information is used in establishing the ALLL. Our methodology is described in Note 1 (“Summary of Significant Accounting Policies”) under the heading “Allowance for Loan and Lease Losses.”

Figure 11. Consumer Loans by State

Dollars in millions	Real estate — residential mortgage	Home equity loans	Consumer direct loans	Credit cards	Consumer indirect loans	Total
December 31, 2022						
Washington	**$ 4,621**	**$ 1,100**	**$ 253**	**$ 87**	**$ 2**	**$ 6,063**
Ohio	**2,766**	**1,173**	**347**	**214**	**5**	**4,505**
New York	**840**	**2,256**	**770**	**359**	**1**	**4,226**
Colorado	**3,006**	**301**	**171**	**32**	**—**	**3,510**
California	**2,357**	**16**	**538**	**4**	**6**	**2,921**
Oregon	**1,268**	**630**	**117**	**43**	**—**	**2,058**
Pennsylvania	**459**	**580**	**403**	**61**	**3**	**1,506**
Florida	**851**	**45**	**453**	**14**	**6**	**1,369**
Texas	**336**	**3**	**397**	**4**	**3**	**743**
Illinois	**134**	**3**	**212**	**2**	**1**	**352**
Other	**4,763**	**1,844**	**2,847**	**206**	**16**	**9,676**
Total	**$ 21,401**	**$ 7,951**	**$ 6,508**	**$ 1,026**	**$ 43**	**$ 36,929**
December 31, 2021						
New York	$ 679	$ 2,467	$ 638	$ 345	$ 4	$ 4,133
Ohio	2,631	1,284	485	206	8	4,614
Washington	2,264	1,076	234	81	2	3,657
Pennsylvania	351	634	327	55	4	1,371
California	1,781	14	430	3	10	2,238
Texas	184	5	343	4	4	540
Colorado	2,602	284	156	30	—	3,072
Connecticut	837	319	96	26	2	1,280
Oregon	1,009	670	110	40	1	1,830
Florida	591	46	378	13	10	1,038
Other	2,827	1,668	2,556	169	25	7,245
Total	$ 15,756	$ 8,467	$ 5,753	$ 972	$ 70	$ 31,018

Loan sales

As shown in Figure 12, during 2022, we sold $12.5 billion of our loans. Sales of loans classified as held for sale generated net gains of $151 million during 2022.

Figure 12 summarizes our loan sales during 2022 and 2021.

Figure 12. Loans Sold (Including Loans Held for Sale)

Dollars in millions	Commercial	Commercial Real Estate	Commercial Lease Financing	Residential Real Estate	Consumer Indirect	Total
2022						
Fourth quarter	**$ 33**	**$ 2,774**	**$ 114**	**$ 235**	**$ —**	**$ 3,156**
Third quarter	**211**	**1,882**	**43**	**353**	**—**	**2,489**
Second quarter	**41**	**1,851**	**150**	**496**	**—**	**2,538**
First quarter	**1,469**	**1,909**	**39**	**901**	**—**	**4,318**
Total	**$ 1,754**	**$ 8,416**	**$ 346**	**$ 1,985**	**$ —**	**$ 12,501**
2021						
Fourth quarter	$ 296	$ 3,460	$ 93	$ 987	$ —	$ 4,836
Third quarter	215	1,996	68	901	3,305	6,485
Second quarter	1,085	1,907	75	1,192	—	4,259
First quarter	124	1,930	156	1,129	—	3,339
Total	$ 1,720	$ 9,293	$ 392	$ 4,209	$ 3,305	$ 18,919

Figure 13 shows loans that are either administered or serviced by us but not recorded on the balance sheet; this includes loans that were sold.

Figure 13. Loans Administered or Serviced

December 31, *Dollars in millions*	2022	2021	2020	2019	2018
Commercial real estate loans	**$ 488,478**	$ 444,131	$ 371,016	$ 347,186	$ 291,158
Residential mortgage	**11,026**	10,312	8,311	6,146	5,209
Education loans	**312**	415	516	625	766
Commercial lease financing	**1,646**	1,236	1,359	1,047	916
Commercial loans	**723**	750	684	591	549
Consumer direct	**509**	699	1,711	2,243	—
Consumer indirect	**1,536**	2,714	—	—	—
Total	**$ 504,230**	$ 460,257	$ 383,597	$ 357,838	$ 298,598

In the event of default by a borrower, we are subject to recourse with respect to approximately $6.8 billion of the $504.2 billion of loans administered or serviced at December 31, 2022. Additional information about this recourse arrangement is included in Note 22 (“Commitments, Contingent Liabilities, and Guarantees”) under the heading “Recourse agreement with FNMA.”

We derive income from several sources when retaining the right to administer or service loans that are sold. We earn noninterest income (recorded as “Consumer mortgage income” and “Commercial mortgage servicing fees”) from fees for servicing or administering loans. This fee income is reduced by the amortization of related servicing assets. In addition, we earn interest income from investing funds generated by escrow deposits collected in connection with the servicing loans. Additional information about our mortgage servicing assets is included in Note 9 (“Mortgage Servicing Assets”).

Maturities and sensitivity of certain loans to changes in interest rates

Figure 14 shows the remaining maturities of our loan portfolio and the sensitivity of certain loans to changes in interest rates as of December 31, 2022.

Figure 14. Remaining Maturities and Sensitivity of Certain Loans to Changes in Interest Rates[a]

December 31, 2022 *Dollars in millions*	Within One Year	One - Five Years	Five - Fifteen Years	Over Fifteen Years	Total
Commercial					
Commercial and industrial	$ 10,829	$ 41,764	$ 6,881	$ 173	$ 59,647
Commercial Mortgage	4,020	8,680	3,322	330	16,352
Real estate — construction	1,071	1,057	81	321	2,530
Commercial lease financing	228	2,115	1,565	28	3,936
Total commercial loans	$ 16,148	$ 53,616	$ 11,849	$ 852	$ 82,465
Consumer					
Real estate - residential mortgage	$ 57	$ 26	$ 864	$ 20,454	$ 21,401
Home equity loans	12	267	2,546	5,126	7,951
Consumer direct loans	521	1,074	2,763	2,150	6,508
Credit Cards	1,026	—	—	—	1,026
Consumer indirect loans	1	41	1	—	43
Total consumer loans	1,617	1,408	6,174	27,730	36,929
Total loans	$ 17,765	$ 55,024	$ 18,023	$ 28,582	$ 119,394
Loans with floating or adjustable interest rates [b]		$ 49,234	$ 5,951	$ 13,410	$ 68,595
Loans with predetermined interest rates [c]		5,791	12,071	15,172	33,034
Total		$ 55,025	$ 18,022	$ 28,582	$ 101,629

(a) Accrued interest of $417 million at December 31, 2022, is presented in "Accrued income and other assets" on the Consolidated Balance Sheets and is excluded from the amortized cost basis disclosed in this table.
(b) Floating and adjustable rates vary in relation to other interest rates (such as the base lending rate) or a variable index that may change during the term of the loan.
(c) Predetermined interest rates either are fixed or may change during the term of the loan according to a specific formula or schedule.

Securities

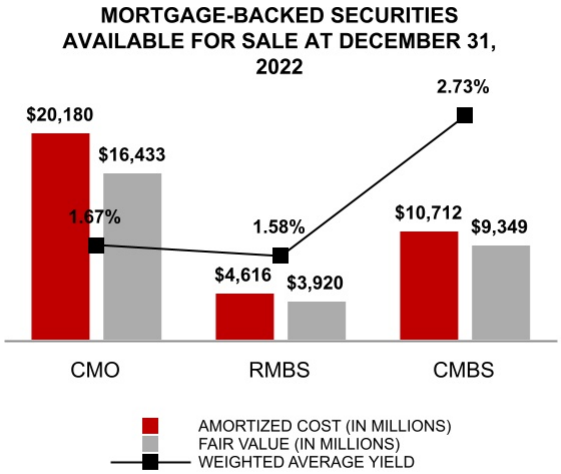
Our securities portfolio totaled $47.8 billion at December 31, 2022, compared to $52.9 billion at December 31, 2021. Available-for-sale securities were $39.1 billion at December 31, 2022, compared to $45.4 billion at December 31, 2021. Held-to-maturity securities were $8.7 billion at December 31, 2022, compared to $7.5 billion at December 31, 2021.

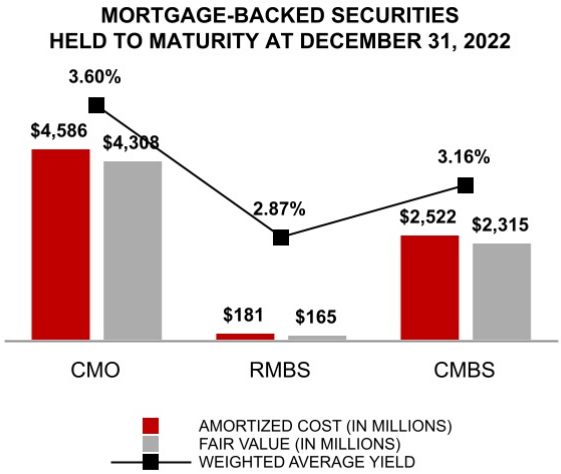
As shown in Figure 15, all of our mortgage-backed securities, which include both securities available-for-sale and held-to-maturity securities, are issued by government-sponsored enterprises or GNMA, and are traded in liquid secondary markets. These securities are recorded on the balance sheet at fair value for the available-for-sale portfolio and at cost for the held-to-maturity portfolio. For more information about these securities, see Note 6 (“Fair Value Measurements”) under the heading “Qualitative Disclosures of Valuation Techniques,” and Note 7 (“Securities”).

Figure 15. Mortgage-Backed Securities by Issuer

December 31, *Dollars in millions*	2022	2021
FHLMC & FNMA	**$ 25,371**	$ 28,461
GNMA	**11,620**	12,469
Total [a]	**$ 36,991**	$ 40,930

(a) Includes securities held in the available-for-sale and held-to-maturity portfolios.





Securities available for sale

The majority of our securities available-for-sale portfolio consists of Federal Agency CMOs and mortgage-backed securities. CMOs are debt securities secured by a pool of mortgages or mortgage-backed securities. These mortgage securities generate interest income, serve as collateral to support certain pledging agreements, and provide liquidity value under regulatory requirements.

We periodically evaluate our securities available-for-sale portfolio in light of established A/LM objectives, changing market conditions that could affect the profitability of the portfolio, the regulatory environment, and the level of interest rate risk to which we are exposed. These evaluations may cause us to take steps to adjust our overall balance sheet positioning.

In addition, the size and composition of our securities available-for-sale portfolio could vary with our needs for liquidity and the extent to which we are required (or elect) to hold these assets as collateral to secure public funds and trust deposits. Although we generally use debt securities for this purpose, other assets, such as securities purchased under resale agreements or letters of credit, are used occasionally when they provide a lower cost of collateral or more favorable risk profiles.

Our investing activities continue to complement other balance sheet developments and provide for our ongoing liquidity management needs. Our actions to not reinvest the monthly security cash flows at various times served to provide the liquidity necessary to address our funding requirements. These funding requirements included ongoing loan growth and occasional debt maturities. At other times, we may make additional investments that go beyond the replacement of maturities or mortgage security cash flows as our liquidity position and/or interest rate risk management strategies may require. Lastly, our focus on investing in high quality liquid assets, including GNMA-related securities, is related to liquidity management strategies to satisfy regulatory requirements.

Figure 16 shows the composition, TE yields, and remaining maturities of our securities available for sale. For more information about these securities, including gross unrealized gains and losses by type of security and securities pledged, see Note 7 (“Securities”).

Figure 16. Securities Available for Sale

Dollars in millions	U.S. Treasury, Agencies, and Corporations	Agency Residential Collateralized Mortgage Obligations[a]	Agency Residential Mortgage-backed Securities[a],[b]	Agency Commercial Mortgage-backed Securities[a]	Other Securities	Total	Weighted-Average Yield[b]
December 31, 2022							
Remaining maturity:							
One year or less	$ 1,133	$ 60	$ 2	$ 20	$ —	$ 1,215	0.48 %
After one through five years	8,020	2,036	2,410	2,314	—	14,780	1.32
After five through ten years	157	10,734	1,271	5,808	—	17,970	1.98
After ten years	105	3,603	237	1,207	—	5,152	1.76
Fair value	$ 9,415	$ 16,433	$ 3,920	$ 9,349	$ —	$ 39,117	—
Amortized cost	10,044	20,180	4,616	10,712	—	45,552	1.67 %
Weighted-average yield [b]	0.59 %	1.67 %	1.58 %	2.73 %	— %	1.67 %	—
Weighted-average maturity	1.9 years	8.1 years	4.9 years	7.5 years	— years	6.3 years	—
December 31, 2021							
Fair value	$ 9,472	$ 21,119	$ 5,122	$ 9,651	$ —	$ 45,364	— %
Amortized cost	9,573	21,430	5,137	9,753	—	45,893	1.43 %

(a) Maturity is based upon expected average lives rather than contractual terms.
(b) Weighted-average yields are calculated based on amortized cost. Such yields have been adjusted to a TE basis using the statutory federal income tax rate in effect that calendar year.

Held-to-maturity securities

The majority of our held-to-maturity portfolio consists of Federal Agency CMOs and mortgage-backed securities. The portfolio is also comprised of asset-backed securities that were acquired as the result of balance sheet optimization strategies, including the indirect auto portfolio transaction in the third quarter of 2021. The remaining balance is comprised of foreign bonds. Figure 17 shows the composition, yields, and remaining maturities of these securities.

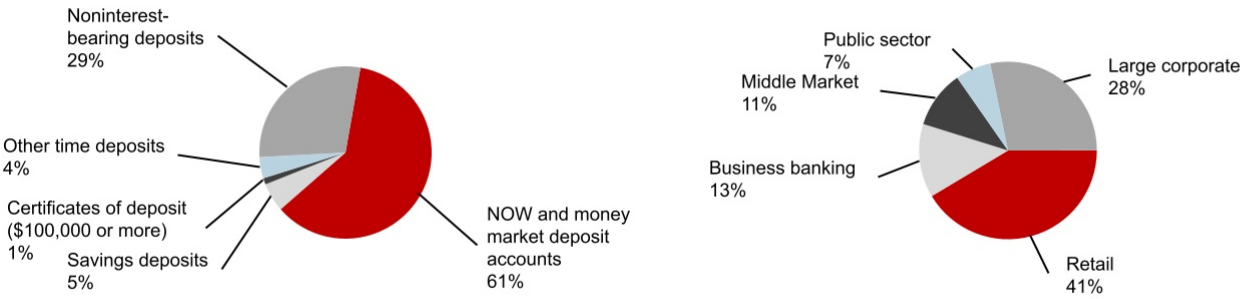
Figure 17. Held-to-Maturity Securities

Dollars in millions	Agency Residential Collateralized Mortgage Obligations[a]	Agency Residential Mortgage-backed Securities[a]	Agency Commercial Mortgage-backed Securities[a]	Asset-backed securities	Other Securities	Total	Weighted-Average Yield[b]
December 31, 2022							
Remaining maturity:							
One year or less	$ 11	$ —	$ 6	$ 2	$ 1	$ 20	2.16 %
After one through five years	1,569	127	1,720	1,405	13	4,834	2.85
After five through ten years	2,189	54	761	—	—	3,004	3.52
After ten years	817	—	35	—	—	852	4.24
Amortized cost	$ 4,586	$ 181	$ 2,522	$ 1,407	$ 14	$ 8,710	3.18 %
Fair value	4,308	165	2,315	1,311	14	8,113	—
Weighted-average yield[b]	3.60 %	2.87 %	3.16 %	2.10 %	2.43 %	3.22 %	—
Weighted-average maturity	7.0 years	5.4 years	4.5 years	1.6 years	2.2 years	5.4 years	—
December 31, 2021							
Amortized cost	$ 2,196	$ 164	$ 2,678	$ 2,485	$ 16	$ 7,539	2.37 %
Fair value	2,229	170	2,796	2,454	16	7,665	—

(a) Maturity is based upon expected average lives rather than contractual terms.
(b) Weighted-average yields are calculated based on amortized cost. Such yields have been adjusted to a TE basis using the statutory federal income tax rate in effect that calendar year.

Deposits and other sources of funds

Figure 18. Breakdown of Deposits at December 31, 2022



Deposits are our primary source of funding. At December 31, 2022, our deposits totaled $142.6 billion, a decrease of $10.0 billion, compared to December 31, 2021. The decrease reflects declines in retail balances and non-operating commercial deposit balances.

Wholesale funds, consisting of short-term borrowings and long-term debt, totaled $28.8 billion at December 31, 2022, compared to $12.8 billion at December 31, 2021. The increase reflects loan growth and a decline in deposit balances.

Uninsured deposits totaled $67.1 billion and $77.6 billion at December 31, 2022 and December 31, 2021, respectively. Uninsured amounts are estimated based on the portion of account balances, including allocated interest payable amounts, in excess of FDIC insurance limits.

Figure 19 shows the maturity distribution of uninsured time deposits.

Figure 19. Maturity Distribution of Uninsured Time Deposit Amounts

December 31, 2022 *Dollars in millions*	**Total**
Remaining maturity:	
Three months or less	$ 32
After three through six months	78
After six through twelve months	82
After twelve months	97
Total	$ 289

Capital

The objective of management of capital is to maintain capital levels consistent with our risk appetite and sufficient in size to operate within a wide range of operating environments. We have identified three primary uses of capital:

1. Investing in our businesses, supporting our clients, and loan growth;
2. Maintaining or increasing our Common Share dividend; and
3. Returning capital in the form of Common Share repurchases to our shareholders.

The following sections discuss certain ways we have deployed our capital. For further information, see the Consolidated Statements of Changes in Equity and Note 24 (“Shareholders' Equity”).

(a) Common Share repurchases were suspended during the second quarter of 2020 in response to the COVID-19 pandemic and resumed in the first quarter of 2021.

Dividends

Consistent with our capital plans, the Board declared a quarterly dividend of $.195 per Common Share for the first three quarters of 2022 and $.205 per Common Share for the fourth quarter of 2022. These quarterly dividend payments brought our annual dividend to $.79 per Common Share for 2022.

Common Shares outstanding

Our Common Shares are traded on the NYSE under the symbol KEY with 29,727 holders of record at December 31, 2022. Our book value per Common Share was $11.79 based on 933.3 million shares outstanding at December 31, 2022, compared to $16.76 based on 928.9 million shares outstanding at December 31, 2021. At December 31, 2022, our tangible book value per Common Share was $8.75, compared to $13.72 at December 31, 2021.

Figure 20 shows activities that caused the change in our outstanding Common Shares over the past two years.

Figure 20. Changes in Common Shares Outstanding

		2022 Quarters				
In thousands	**2022**	**Fourth**	**Third**	**Second**	**First**	**2021**
Shares outstanding at beginning of period	**928,850**	**932,938**	**932,643**	**932,398**	**928,850**	975,773
Open market repurchases, repurchases under an ASR program, and return of shares under employee compensation plans	**(1,736)**	**(2)**	**(3)**	**(24)**	**(1,707)**	(54,986)
Shares issued under employee compensation plans (net of cancellations)	**6,211**	**389**	**298**	**269**	**5,255**	8,063
Shares outstanding at end of period	**933,325**	**933,325**	**932,938**	**932,643**	**932,398**	928,850

During 2022, Common Shares outstanding increased by 4.5 million shares, primarily driven by issuances under employee compensation plans. For more information on share repurchases activity, see Note 24 (“Shareholders' Equity”).

At December 31, 2022, we had 323.4 million treasury shares, compared to 327.9 million treasury shares at December 31, 2021. Going forward, we expect to reissue treasury shares as needed in connection with stock-based compensation awards and for other corporate purposes.

Capital adequacy

Capital adequacy is an important indicator of financial stability and performance. All of our capital ratios remained in excess of regulatory requirements at December 31, 2022. Our capital and liquidity levels are intended to position us to weather an adverse operating environment while continuing to serve our clients’ needs, as well as to meet the Regulatory Capital Rules described in the “Supervision and regulation” section of Item 1 of this report. Our shareholders’ equity to assets ratio was 7.09% at December 31, 2022, compared to 9.36% at December 31, 2021. Our tangible common equity to tangible assets ratio was 4.37% at December 31, 2022, compared to 6.95% at December 31, 2021. The minimum capital and leverage ratios under the Regulatory Capital Rules together with the estimated ratios of KeyCorp at December 31, 2022, calculated on a fully phased-in basis, are set forth under the heading “Basel III” in the “Supervision and Regulation” section in Item 1 of this report.

Figure 21 represents the details of our regulatory capital positions at December 31, 2022, and December 31, 2021, under the Regulatory Capital Rules. Information regarding the regulatory capital ratios of KeyCorp's banking subsidiaries is presented in Note 24 ("Shareholders' Equity").

Figure 21. Capital Components and Risk-Weighted Assets

December 31, *Dollars in millions*	2022	2021
COMMON EQUITY TIER 1		
Key shareholders' equity (GAAP)	$ 13,454	$ 17,423
Less: Preferred Stock [a]	2,446	1,856
Add: CECL phase-in [b]	178	237
Common Equity Tier 1 capital before adjustments and deductions	11,186	15,804
Less: Goodwill, net of deferred taxes	2,612	2,571
Intangible assets, net of deferred taxes	88	125
Deferred tax assets	1	1
Net unrealized gains (losses) on available-for-sale securities, net of deferred taxes	(4,857)	(300)
Accumulated gains (losses) on cash flow hedges, net of deferred taxes	(1,160)	(14)
Amounts in AOCI attributed to pension and postretirement benefit costs, net of deferred taxes	(277)	(272)
Total Common Equity Tier 1 capital	14,779	13,693
TIER 1 CAPITAL		
Common Equity Tier 1	14,779	13,693
Additional Tier 1 capital instruments and related surplus	2,446	1,856
Less: Deductions	—	—
Total Tier 1 capital	17,225	15,549
TIER 2 CAPITAL		
Tier 2 capital instruments and related surplus	2,200	1,540
Allowance for losses on loans and liability for losses on lending-related commitments [c]	1,351	941
Less: Deductions	—	—
Total Tier 2 capital	3,551	2,481
Total risk-based capital	$ 20,776	$ 18,030
RISK-WEIGHTED ASSETS		
Risk-weighted assets on balance sheet	$ 125,900	$ 109,041
Risk-weighted off-balance sheet exposure	35,745	33,853
Market risk-equivalent assets	826	1,500
Gross risk-weighted assets	162,471	144,394
Less: Excess allowance for loan and lease losses	—	—
Net risk-weighted assets	$ 162,471	$ 144,394
AVERAGE QUARTERLY TOTAL ASSETS	$ 193,986	$ 183,604
CAPITAL RATIOS		
Tier 1 risk-based capital	10.60 %	10.77 %
Total risk-based capital	12.79	12.49
Leverage [d]	8.88	8.47
Common Equity Tier 1	9.10	9.48

(a) Net of capital surplus.
(b) Amount reflects our decision to adopt the CECL transitional provision.
(c) The ALLL included in Tier 2 capital is limited by regulation to 1.25% of the institution's standardized total risk-weighted assets (excluding its standardized market risk-weighted assets). The ALLL includes $21 million and $28 million of allowance classified as "discontinued assets" on the balance sheet at December 31, 2022, and December 31, 2021, respectively.
(d) This ratio is Tier 1 capital divided by average quarterly total assets as defined by the Federal Reserve less: (i) goodwill, (ii) the disallowed intangible and deferred tax assets, and (iii) other deductions from assets for leverage capital purposes.

Off-Balance Sheet Arrangements

Off-balance sheet arrangements

We are party to various types of off-balance sheet arrangements, which could lead to contingent liabilities or risks of loss that are not reflected on the balance sheet.

Variable interest entities

In accordance with the applicable accounting guidance for consolidations, we consolidate a VIE if we have: (i) a variable interest in the entity; (ii) the power to direct activities of the VIE that most significantly impact the entity's economic performance; and (iii) the obligation to absorb losses of the entity or the right to receive benefits from the entity that could potentially be significant to the VIE (i.e., we are considered to be the primary beneficiary). Additional information regarding the nature of VIEs and our involvement with them is included in Note 1 ("Summary of Significant Accounting Policies") under the heading "Principles of Consolidation and Basis of Presentation" and in Note 13 ("Variable Interest Entities").

Commitments to extend credit or funding

Loan commitments provide for financing on predetermined terms as long as the client continues to meet specified criteria. These commitments generally carry variable rates of interest and have fixed expiration dates or other termination clauses. We typically charge a fee for our loan commitments. Since a commitment may expire without resulting in a loan or being fully utilized, the total amount of an outstanding commitment may significantly exceed any related cash outlay. Further information about our loan commitments at December 31, 2022, is presented in Note 22 (“Commitments, Contingent Liabilities, and Guarantees”) under the heading “Commitments to Extend Credit or Funding.”

Other off-balance sheet arrangements

Other off-balance sheet arrangements include financial instruments that do not meet the definition of a guarantee in accordance with the applicable accounting guidance, and other relationships, such as liquidity support provided to asset-backed commercial paper conduits, indemnification agreements and intercompany guarantees. Information about such arrangements is provided in Note 22 under the heading “Other Off-Balance Sheet Risk.”

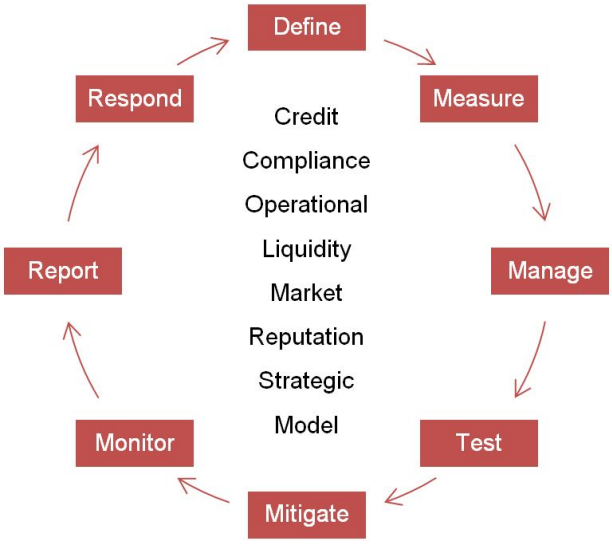
Guarantees

We are a guarantor in various agreements with third parties. As guarantor, we may be contingently liable to make payments to the guaranteed party based on changes in a specified interest rate, foreign exchange rate or other variable (including the occurrence or nonoccurrence of a specified event). These variables, known as underlyings, may be related to an asset or liability, or another entity’s failure to perform under a contract. Additional information regarding these types of arrangements is presented in Note 22 (“Commitments, Contingent Liabilities, and Guarantees”) under the heading “Guarantees.”

Risk Management

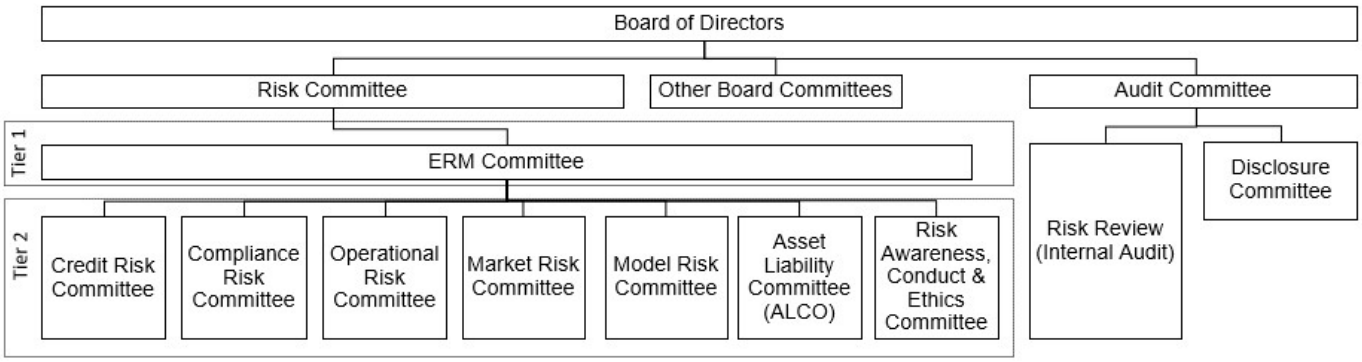
Overview

Like all financial services companies, we engage in business activities and assume the related risks. The most significant risks we face are credit, compliance, operational, liquidity, market, reputation, strategic, and model risks. Our risk management activities are shown in the following chart, and we manage such risks across the entire enterprise to maintain safety and soundness and maximize profitability. Certain of these risks are defined and discussed in greater detail in the remainder of this section.



Federal banking regulators continue to emphasize with financial institutions the importance of relating capital management strategy to the level of risk at each institution. We believe our internal risk management processes help us achieve and maintain capital levels that are commensurate with our business activities and risks, and

conform to regulatory expectations. The table below depicts our risk management hierarchy and associated responsibilities and activities of each group.



Group	Overview and Responsibilities	Activities
Board of Directors	– Oversight capacity – Ensure Key's risks are managed in a manner that is not only effective and balanced, but also has a fiduciary duty to the shareholders	– Understands Key's risk philosophy – Approves the risk appetite – Inquires about risk practices – Reviews the portfolio of risks – Compares the actual risks to the risk appetite – Is apprised of significant risks, both actual and emerging, and determines whether management is responding appropriately – Challenges management and ensures accountability
Board of Directors Audit Committee [(a)]	– Oversight of financial statement integrity, regulatory and legal requirements, independent auditors' qualifications and independence, and the performance of the internal audit function and independent auditors – Financial reporting, legal matters, and fraud risk	– Meets with management and approves significant policies relating to the risk areas overseen by the Audit Committee – Receives reports on enterprise risk – Meets bi-monthly – Convenes to discuss the content of our financial disclosures and quarterly earnings releases
Board of Directors Risk Committee [(a)]	– Assist the Board in oversight of strategies, policies, procedures, and practices relating to the assessment and management of enterprise-wide risk, including credit, market, liquidity, model, operational, compliance, reputation, and strategic risks – Assist the Board in overseeing risks related to capital adequacy, capital planning, and capital actions	– Reviews and provides oversight of management's activities related to the enterprise-wide risk management framework, which includes an annual review of the ERM Policy, including the Risk Appetite Statement, and management and ERM reports – Approves any material changes to the charter of the ERM Committee and significant policies relating to risk management, including corporate risk tolerances for major risk categories
ERM Committee	– Chaired by the Chief Executive Officer and comprising other senior level executives – Manage risk and ensure that the corporate risk profile is managed in a manner consistent with our risk appetite – Oversees the ERM Program, which encompasses our risk philosophy, policy, framework, and governance structure for the management of risks across the entire company	– Approves and manages the risk-adjusted capital framework we use to manage risks
Disclosure Committee	– Includes representatives from each of the Three Lines of Defense – Meets quarterly to review recent internal and external events to determine whether all appropriate disclosures have been made in reports filed with the SEC	– Convenes quarterly to discuss the content of our 10-Q and 10-K
Tier 2 Risk Governance Committees	– Include attendees from each of the Three Lines of Defense – The First Line of Defense is the line of business primarily responsible to accept, own, proactively identify, monitor, and manage risk – The Second Line of Defense comprises Risk Management representatives who provide independent, centralized oversight over all risk categories by aggregating, analyzing, and reporting risk information – Risk Review, our internal audit function, provides the Third Line of Defense. Its role is to provide independent assessment and testing of the effectiveness of, appropriateness of, and adherence to KeyCorp's risk management policies, practices, and controls	– Supports the ERM Committee by identifying early warning events and trends, escalating emerging risks, and discussing forward-looking assessments
Chief Risk Officer	– Ensure that relevant risk information is properly integrated into strategic and business decisions – Ensure appropriate ownership of risks	– Provides input into performance and compensation decisions – Assesses aggregate enterprise risk – Monitors capabilities to manage critical risks – Executes appropriate Board and stakeholder reporting

(a) The Audit and Risk Committees meet jointly, as appropriate, to discuss matters that relate to each committee's responsibilities. Committee chairpersons routinely meet with management during interim months to plan agendas for upcoming meetings and to discuss emerging trends and events that have transpired since the preceding meeting. All members of the Board receive formal reports designed to keep them abreast of significant developments during the interim months.

Market risk management

Market risk is the risk that movements in market risk factors, including interest rates, foreign exchange rates, equity prices, commodity prices, credit spreads, and volatilities will reduce Key's income and the value of its portfolios. These factors influence prospective yields, values, or prices associated with the instrument. We are exposed to market risk both in our trading and nontrading activities, which include asset and liability management activities. Our risk management activities are focused on ensuring that we properly identify, measure, and manage such risks across the entire enterprise to maintain safety and soundness, and to maximize profitability. Information regarding our fair value policies, procedures, and methodologies is provided in Note 1 ("Summary of Significant Accounting Policies") under the heading "Fair Value Measurements" and Note 6 ("Fair Value Measurements") in this report.

Trading market risk

Key incurs market risk as a result of trading activities that are used in support of client facilitation and hedging activities, principally within our investment banking and capital markets businesses. Key has exposures to a wide range of risk factors including interest rates, equity prices, foreign exchange rates, credit spreads, and commodity prices, as well as the associated implied volatilities and spreads. Our primary market risk exposures are a result of trading and hedging activities in the derivative and fixed income markets, including securitization exposures. At December 31, 2022, we did not have any re-securitization positions. We maintain modest trading inventories to facilitate customer flow, make markets in securities, and hedge certain risks including but not limited to credit risk and interest rate risk. The risks associated with these activities are mitigated in accordance with the Market Risk hedging policy. The majority of our positions are traded in active markets.

Management of trading market risks. Market risk management is an integral part of Key's risk culture. The Risk Committee of our Board provides oversight of trading market risks. The ERM Committee and the Market Risk Committee regularly review and discuss market risk reports prepared by our MRM that contain our market risk exposures and results of monitoring activities. Market risk policies and procedures have been defined and take into account our tolerance for risk and consideration for the business environment. The Market Risk Committee approves market risk policies and recommends our significant market risk policy to the ERM Committee, the KeyBank Board, and the Risk Committee of the Board for approval.

The MRM, as the second line of defense, is an independent risk management function that partners with the lines of business to identify, measure, and monitor market risks throughout our company. The MRM is responsible for ensuring transparency of significant market risks, monitoring compliance with established limits, and escalating limit exceptions to appropriate senior management. The various business units and trading desks are responsible for ensuring that market risk exposures are well-managed and prudent. Market risk is monitored through various measures, such as VaR, and through routine stress testing, sensitivity, and scenario analyses. The MRM conducts stress tests for each position using historical worst case and standard shock scenarios. VaR, stressed VaR, and other analyses are prepared daily and distributed to appropriate management.

Covered positions. We monitor the market risk of our covered positions as defined in the Market Risk Rule, which includes all of our trading positions as well as all foreign exchange and commodity positions, regardless of whether the position is in a trading account. Key's covered positions may also include mortgage-backed and asset-backed securities that may be identified as securitization positions or re-securitization positions under the Market Risk Rule. The MRM as well as the LOB that trades securitization positions monitor the positions, the portfolio composition and the risks identified in this section on a daily basis consistent with the Market Risk policies and procedures. At December 31, 2022, covered positions did not include any re-securitization positions. Instruments that are used to hedge nontrading activities, such as bank-issued debt and loan portfolios, equity positions that are not actively traded, and securities financing activities, do not meet the definition of a covered position. The MRM is responsible for identifying our portfolios as either covered or non-covered. The Covered Position Working Group develops the final list of covered positions, and a summary is provided to the Market Risk Committee.

Our significant portfolios of covered positions are detailed below. We analyze market risk by portfolios of covered positions and do not separately measure and monitor our portfolios by risk type. The descriptions below incorporate the respective risk types associated with each of these portfolios.

- Fixed income includes those instruments associated with our capital markets business and the trading of securities as a dealer. These instruments may include positions in municipal bonds, bonds backed by the U.S. government, agency and corporate bonds, certain mortgage-backed and asset-backed securities, securities issued by the U.S. Treasury, money markets, and certain CMOs. The activities and instruments within the fixed income portfolio create exposures to interest rate and credit spread risks.
- Interest rate derivatives include interest rate swaps, caps, and floors, which are transacted primarily to accommodate the needs of commercial loan clients. In addition, we enter into interest rate derivatives to offset or mitigate the interest rate risk related to the client positions. The activities within this portfolio create exposures to interest rate risk.

VaR and stressed VaR. VaR is the estimate of the maximum amount of loss on an instrument or portfolio due to adverse market conditions during a given time interval within a stated confidence level. Stressed VaR is used to assess extreme conditions on market risk within our trading portfolios. The MRM calculates VaR and stressed VaR

on a daily basis, and the results are distributed to appropriate management. VaR and stressed VaR results are also provided to our regulators and utilized in regulatory capital calculations.

We use a historical simulation VaR model to measure the potential adverse effect of changes in interest rates, foreign exchange rates, equity prices, and credit spreads on the fair value of our covered positions and other non-covered positions. We analyze market risk by portfolios and do not separately measure and monitor our portfolios by risk type. Historical scenarios are customized for specific positions, and numerous risk factors are incorporated in the calculation. Additional consideration is given to the risk factors to estimate the exposures that contain optionality features, such as options and cancellable provisions. VaR is calculated using daily observations over a one-year time horizon, and approximates a 95% confidence level. Statistically, this means that we would expect to incur losses greater than VaR, on average, five out of 100 trading days, or three to four times each quarter. We also calculate VaR and stressed VaR at a 99% confidence level.

The VaR model is an effective tool in estimating ranges of possible gains and losses on our positions. However, there are limitations inherent in the VaR model since it uses historical results over a given time interval to estimate future performance. Historical results may not be indicative of future results, and changes in the market or composition of our portfolios could have a significant impact on the accuracy of the VaR model. We regularly review and enhance the modeling techniques, inputs, and assumptions used. Our market risk policy includes the independent validation of our VaR model by Key's internal model validation group on an annual basis. The Model Risk Committee oversees the Model Validation Program, and results of validations are discussed with the ERM Committee.

Actual losses for the total covered positions did not exceed aggregate daily VaR on any day during the quarters ended December 31, 2022, and December 31, 2021. The MRM back tests our VaR model on a daily basis to evaluate its predictive power. The test compares VaR model results at the 99% confidence level to daily held profit and loss. Results of back testing are provided to the Market Risk Committee. Back testing exceptions occur when trading losses exceed VaR. We do not engage in correlation trading or utilize the internal model approach for measuring default and credit migration risk. Our net VaR approach incorporates diversification, but our VaR calculation does not include the impact of counterparty risk and our own credit spreads on derivatives.

The aggregate VaR at the 99% confidence level with a one day holding period for all covered positions was $1.1 million at December 31, 2022, and $1.0 million at December 31, 2021. Figure 22 summarizes our VaR at the 99% confidence level with a one day holding period for significant portfolios of covered positions for the three months ended December 31, 2022, and December 31, 2021.

Figure 22. VaR for Significant Portfolios of Covered Positions

	2022				2021			
	Three months ended December 31,				Three months ended December 31,			
Dollars in millions	High	Low	Mean	December 31,	High	Low	Mean	December 31,
Trading account assets:								
Fixed income	**$ 1.1**	**$ .4**	**$ .7**	**$ .4**	$ 1.5	$ .8	$ 1.2	$ .9
Derivatives:								
Interest rate	**$ .7**	**$ .2**	**$ .3**	**$ .6**	$ .2	$ .1	$ .1	$ .1

Stressed VaR is calculated by running the portfolios through a predetermined stress period which is approved by the Market Risk Committee and is calculated at the 99% confidence level using the same model and assumptions used for general VaR. The aggregate stressed VaR for all covered positions was $1.9 million at December 31, 2022, and $4.3 million at December 31, 2021. Figure 23 summarizes our stressed VaR at the 99% confidence level with a one day holding period for significant portfolios of covered positions for the three months ended December 31, 2022, and December 31, 2021. The decrease in stressed VaR is due to several factors including a change in our VaR modeling and the change in the size and composition of the Fixed Income inventory.

Figure 23. Stressed VaR for Significant Portfolios of Covered Positions

	2022				2021			
	Three months ended December 31,				Three months ended December 31,			
Dollars in millions	High	Low	Mean	December 31,	High	Low	Mean	December 31,
Trading account assets:								
Fixed income	**$ 2.4**	**$ 1.1**	**$ 1.6**	**$ 1.1**	$ 6.5	$ 3.4	$ 5.4	$ 3.6
Derivatives:								
Interest rate	**$ .7**	**$ .2**	**$ .3**	**$ .6**	$ .6	$ .3	$ .3	$ .5

Internal capital adequacy assessment. Market risk is a component of our internal capital adequacy assessment. Our risk-weighted assets include a market risk-equivalent asset amount, which consists of a VaR component, stressed VaR component, a *de minimis* exposure amount, and a specific risk add-on including the securitization positions. The aggregate market value of the securitization positions as defined by the Market Risk Rule was $13 million at December 31, 2022, all of which were mortgage-backed security positions. Specific risk is the price risk of individual financial instruments, which is not accounted for by changes in broad market risk factors and is measured through a standardized approach. Market risk weighted assets, including the specific risk calculations, are run quarterly by the MRM in accordance with the Market Risk Rule, and approved by the Chief Market Risk Officer.

Nontrading market risk

Most of our nontrading market risk is derived from interest rate fluctuations and its impacts on our traditional loan and deposit products, as well as investments, hedging relationships, long-term debt, and certain short-term borrowings. Interest rate risk, which is inherent in the banking industry, is measured by the potential for fluctuations in net interest income and the EVE. Such fluctuations may result from changes in interest rates and differences in the repricing and maturity characteristics of interest-earning assets and interest-bearing liabilities. We manage the exposure to changes in net interest income and the EVE in accordance with our risk appetite and in accordance with the Board approved ERM policy.

Interest rate risk positions are influenced by a number of factors, including the balance sheet positioning that arises out of customer preferences for loan and deposit products, economic conditions, the competitive environment within our markets, changes in market interest rates that affect client activity, and our hedging, investing, funding, and capital positions. The primary components of interest rate risk exposure consist of reprice risk, basis risk, yield curve risk, and option risk.

- ***"Reprice risk"*** is the exposure to changes in the level of interest rates and occurs when the volume of interest-bearing liabilities and the volume of interest-earning assets they fund (e.g., deposits used to fund loans) do not mature or reprice at the same time.
- ***"Basis risk"*** is the exposure to asymmetrical changes in interest rate indexes and occurs when floating-rate assets and floating-rate liabilities reprice at the same time, but in response to different market factors or indexes.
- ***"Yield curve risk"*** is the exposure to non-parallel changes in the slope of the yield curve (where the yield curve depicts the relationship between the yield on a particular type of security and its term to maturity) and occurs when interest-bearing liabilities and the interest-earning assets that they fund do not price or reprice to the same term point on the yield curve.
- ***"Option risk"*** is the exposure to a customer or counterparty's ability to take advantage of the interest rate environment and terminate or reprice one of our assets, liabilities, or off-balance sheet instruments prior to contractual maturity without a penalty. Option risk occurs when exposures to customer and counterparty early withdrawals or prepayments are not mitigated with an offsetting position or appropriate compensation.

The management of nontrading market risk is centralized within Corporate Treasury. The Risk Committee of our Board provides oversight of nontrading market risk. The ERM Committee and the ALCO review reports on the interest rate risk exposures described above. In addition, the ALCO reviews reports on stress tests and sensitivity analyses related to interest rate risk. These committees have various responsibilities related to managing nontrading market risk, including recommending, approving, and monitoring strategies that maintain risk positions within approved tolerance ranges. The A/LM policy provides the framework for the oversight and management of interest rate risk and is administered by the ALCO. The MRM, as the second line of defense, provides additional oversight.

LIBOR Transition

As disclosed in Item 1A. Risk Factors of this report, bank regulators have issued guidance advising against the use of LIBOR in its current form for new contracts. For most financial products, the most common alternative reference rates have been, and are expected to be, SOFR-based benchmarks. This is true for both new originations and legacy LIBOR contracts that are subject to amendment or a transition by their terms. We have established an enterprise-wide program to identify and address all LIBOR transition issues related to legacy LIBOR contracts. We are collaborating closely with regulators and industry groups on the transition and closely monitoring industry practices related to LIBOR alternatives. The goals of our LIBOR transition program include:

- Identifying and analyzing LIBOR-based exposure and developing and executing transition strategies;
- Reviewing and updating near-term strategies and actions for our LIBOR-based business currently being written;
- Assessing financial impacts and risks while planning and executing mitigation actions;
- Understanding and strategically addressing the current market approach to LIBOR relative to transitioning to alternative reference rates, including the impact of the LIBOR Act and the Federal Reserve's regulations as well as the FCA's policy decisions related to so-called synthetic USD LIBOR;
- Determining and executing system and process work to be operationally ready for credit sensitive benchmarks; and
- Remediating remaining LIBOR contracts.

As part of the LIBOR transition program, we completed an initial risk assessment to help us identify the impact and risks associated with various products, systems, processes, and models. This risk assessment has assisted us in making necessary updates to our infrastructure and operational systems and processes to implement a replacement rate, and we are operationally ready for various SOFR-based benchmarks, including but not limited to, Daily Simple SOFR in Arrears, SOFR Compounded in Arrears, SOFR Averages in Advance, and Term SOFR. We are actively quoting alternative indexes other than LIBOR, such as SOFR and Term SOFR, and are originating new loans in those indexes. We have also originated a small number of new loans using credit sensitive rates in a limited and managed fashion.

We have compiled an inventory of existing legal contracts that are impacted by the LIBOR transition. We have assessed the LIBOR fallback language in those contracts, have devised a strategy to address the LIBOR transition for those contracts, and are in the process of remediating such contracts. Our progress is well-paced. We expect to leverage recommendations made by the ARRC and ISDA that are tailored to our specific client segments. We also have evaluated the impact of the LIBOR Act on our transition strategy. The legislation provides a uniform national approach for replacing LIBOR in legacy contracts that do not provide for the use of a clearly defined or practicable replacement benchmark rate.

As of December 31, 2022, Key had the following instruments that were dependent on LIBOR:

Figure 24. Amounts Directly or Indirectly Dependent upon LIBOR

Dollars in millions	Maturity through June 30, 2023	Maturity past June 30, 2023	Total Exposures
Outstanding balance of loans	$ 2,345	$ 15,659	$ 18,004
Notional value of derivative contracts	9,519	67,656	77,175
Investment securities	—	535	535
Debt and equity instruments	—	1,276	1,276

Net interest income simulation analysis. The primary tool we use to measure our interest rate risk is simulation analysis. For purposes of this analysis, we estimate our net interest income based on the current and projected composition of our on- and off-balance sheet positions, accounting for recent and anticipated trends in customer activity. The analysis also incorporates assumptions for the current and projected interest rate environments and balance sheet growth projections based on a most likely macroeconomic view. The modeling incorporates investment portfolio and swap portfolio balances consistent with management's desired interest rate risk positioning. The simulation model estimates the amount of net interest income at risk by simulating the change in net interest income that would occur if rates were to gradually increase or decrease from current levels over the next 12 months (subject to a floor on market interest rates at zero).

Figure 25 presents the results of the simulation analysis at December 31, 2022, and December 31, 2021. At December 31, 2022, our simulated impact to changes in interest rates was moderate. The exposure to declining rates has decreased as a result of the change in balance sheet mix compared to the December 31, 2021 analysis.

Tolerance levels for risk management require the development of remediation plans to maintain residual risk within tolerance if simulation modeling demonstrates that a gradual, parallel 200 basis point increase or 200 basis point decrease in interest rates over the next 12 months would adversely affect net interest income over the same period by more than 5.5%. Current modeled exposure is within Board approved tolerances. If a tolerance level is breached and determined inconsistent with risk appetite, the development of a remediation plan is required to reduce exposure back to within tolerance.

Figure 25. Simulated Change in Net Interest Income

	December 31, 2022		December 31, 2021	
Basis point change assumption	**-200**	**+200**	-200	+200
Assumed floor in market rates (in basis points)	**—**	**N/A**	—	N/A
Rising rate beta	**N/A**	**Mid 40s**	N/A	High 20s
Tolerance level	**(5.50)%**	**(5.50)%**	(5.50)%	(5.50)%
Interest rate risk assessment	**(1.66)%**	**(2.61)%**	(3.86)%	5.15 %

+200 NII at risk beta sensitivity	December 31, 2022			
Beta assumption	**Mid 40s**	**Low 40s**	**Mid 30s**	**Low 30s**
Interest rate risk assessment	**(2.61)%**	**(1.60)%**	**(0.59)%**	**0.42 %**

Simulation analysis produces a sophisticated estimate of interest rate exposure based on assumptions inputs within the model. Assumptions are tailored to the specific interest rate environment and validated on a regular basis. However, actual results may differ from those derived in simulation analyses due to unanticipated changes to the balance sheet composition, customer behavior, product pricing, market interest rates, changes in management's desired interest rate risk positioning, investment, funding and hedging activities or repercussions from exogenous events.

Regular stress tests and sensitivity analyses are performed on the model inputs that could materially change the resulting risk assessments. Assessments are performed using different yield curve shapes, including steepenings or flattenings of the curve, immediate changes in market interest rates, and changes in the relationship of money market interest rates. Assessments are also performed on changes to the following assumptions: loan and deposit balances, the pricing of deposits without contractual maturities, changes in lending spreads, prepayments on loans and securities, investment, funding and hedging activities, and liquidity and capital management strategies.

The results of additional assessments indicate that net interest income could increase or decrease from the base simulation results presented in Figure 25. Net interest income is highly dependent on the timing, magnitude, frequency, and path of interest rate changes and the associated assumptions for deposit repricing relationships, lending spreads, and the balance behavior of transaction accounts. If fixed rate assets increase by $1 billion, or fixed rate liabilities decrease by $1 billion, then the benefit to rising rates would decrease by approximately 25 basis points. If the interest-bearing liquid deposit beta assumption increases or decreases by 5% (e.g., 40% to 45%), then the benefit to rising rates would decrease or increase by approximately 99 basis points.

The current interest rate risk position could fluctuate to higher or lower levels of risk depending on the competitive environment and client behavior that may affect the actual volume, mix, maturity, and repricing characteristics of loan and deposit flows. Corporate Treasury discretionary activities related to funding, investing, and hedging may also change as a result of changes in customer business flows or changes in management's desired interest rate risk positioning. As changes occur to both the configuration of the balance sheet and the outlook for the economy, management proactively evaluates hedging opportunities that may change our interest rate risk profile.

Simulations are also conducted that measure the effect of changes in market interest rates in the second and third years of a three-year horizon. These simulations are conducted in a similar manner to those based on a 12-month horizon. To capture longer-term exposures, changes in the EVE are calculated as discussed in the following section.

Economic value of equity modeling. EVE complements net interest income simulation analysis as it estimates risk exposure beyond 12-, 24-, and 36-month horizons. EVE modeling measures the extent to which the economic values of assets, liabilities, and off-balance sheet instruments may change in response to fluctuations in interest rates. EVE is calculated by subjecting the balance sheet to an immediate increase or decrease in interest rates, measuring the resulting change in the values of assets, liabilities, and off-balance sheet instruments, and comparing those amounts with the base case of the current interest rate environment. EVE policy limits are measured against a +200 basis point/policy decline scenario. The policy decline scenario is equal to the current Fed Target Rate

capped at 200 basis points. As of December 31, 2022, the policy decline scenario is minus 200 basis points. This analysis is highly dependent upon assumptions applied to assets and liabilities with non-contractual maturities. Those assumptions are based on historical behaviors, as well as forward expectations. Remediation plans are similarly developed if this analysis indicates that our EVE will decrease by more than 15% in response to an immediate increase or decrease in interest rates. The position is within these guidelines as of December 31, 2022.

Management of interest rate exposure. The results of the various interest rate risk analyses are used to formulate A/LM strategies to achieve the desired risk profile while managing to objectives for capital adequacy and liquidity risk exposures. Specifically, risk positions are managed by purchasing securities, issuing term debt with floating or fixed interest rates, and using derivatives. Interest rate swaps and options are predominantly used, which modify the interest rate characteristics of certain assets and liabilities.

Figure 26 shows all swap positions held for A/LM purposes. These positions are used to convert the contractual interest rate index of agreed-upon amounts of assets and liabilities (i.e., notional amounts) to another interest rate index. For example, fixed-rate debt is converted to a floating rate through a “receive fixed/pay variable” interest rate swap. The volume, maturity, and mix of portfolio swaps change frequently to reflect broader A/LM objectives and the balance sheet positions to be hedged. For more information about how interest rate swaps are used to manage our risk profile, see Note 8 (“Derivatives and Hedging Activities”).

Figure 26. Portfolio Swaps and Options by Interest Rate Risk Management Strategy

	December 31, 2022					December 31, 2021	
			Weighted-Average				
Dollars in millions	Notional Amount	Fair Value	Maturity (Years)	Receive Rate	Pay Rate	Notional Amount	Fair Value
Receive fixed/pay variable — conventional A/LM [a]	$ 28,450	$ (1,503)	2.2	1.4 %	4.3 %	$ 23,950	$ 9
Receive fixed/pay variable — conventional debt	10,995	(551)	4.1	2.2	4.2	7,432	137
Receive fixed/pay variable — forward A/LM	1,300	(8)	3.9	3.4	4.5	850	(1)
Pay fixed/receive variable — conventional debt	50	1	5.5	3.7	3.6	50	(7)
Pay fixed/receive variable — forward securities	—	—	—	—	—	6,280	135
Pay fixed/receive variable — securities	405	48	4.5	3.4	0.7	—	—
Total portfolio swaps	$ 41,200	$ (2,013) [c]	2.8	1.7 %	4.2 %	$ 38,562	$ 273 [c]

(a) Portfolio swaps designated as A/LM are used to manage interest rate risk tied to both assets and liabilities.
(b) Conventional A/LM floors do not have a stated receive rate or pay rate and are given a strike price on the option.
(c) Excludes accrued interest of $62 million and $108 million at December 31, 2022, and December 31, 2021, respectively.

Liquidity risk management

Liquidity risk, which is inherent in the banking industry, is measured by our ability to accommodate liability maturities and deposit withdrawals, meet contractual obligations, and fund new business opportunities at a reasonable cost, in a timely manner, and without adverse consequences. Liquidity management involves maintaining sufficient and diverse sources of funding to accommodate planned, as well as unanticipated, changes in assets and liabilities under both normal and adverse conditions.

Governance structure

We manage liquidity for all of our affiliates on an integrated basis. This approach considers the unique funding sources available to each entity, as well as each entity’s capacity to manage through adverse conditions. The approach also recognizes that adverse market conditions or other events that could negatively affect the availability or cost of liquidity will affect the access of all affiliates to sufficient wholesale funding.

The management of consolidated liquidity risk is centralized within Corporate Treasury. Oversight and governance is provided by the Board, the ERM Committee, the ALCO, and the Chief Risk Officer. The Asset Liability Management Policy provides the framework for the oversight and management of liquidity risk and is administered by the ALCO. The Corporate Treasury Oversight group within the MRM, as the second line of defense, provides additional oversight. Our current liquidity risk management practices are in compliance with the Federal Reserve Board’s Enhanced Prudential Standards.

These committees regularly review liquidity and funding summaries, liquidity trends, peer comparisons, variance analyses, liquidity projections, internal liquidity stress tests, and goal tracking reports. The reviews generate a discussion of positions, trends, and directives on liquidity risk and shape a number of our decisions. When liquidity

pressure is elevated, positions are monitored more closely and reporting is more intensive. To ensure that emerging issues are identified, we also communicate with individuals inside and outside of the company on a daily basis.

Factors affecting liquidity

Our liquidity could be adversely affected by both direct and indirect events. An example of a direct event would be a downgrade in our public credit ratings by a rating agency. Examples of indirect events (events unrelated to us) that could impair our access to liquidity would be an act of terrorism or war, natural disasters, global pandemics, political events, or the default or bankruptcy of a major corporation, mutual fund or hedge fund. Similarly, market speculation, or rumors about us or the banking industry in general, may adversely affect the cost and availability of normal funding sources.

Our credit ratings at December 31, 2022, are shown in Figure 27. We believe these credit ratings, under normal conditions in the capital markets, will enable KeyCorp or KeyBank to issue fixed income securities to investors.

Figure 27. Credit Ratings

December 31, 2022	Short-Term Borrowings	Long-Term Deposits[a]	Senior Long-Term Debt	Subordinated Long-Term Debt	Capital Securities	Preferred Stock
KEYCORP (THE PARENT COMPANY)						
Standard & Poor's	A-2	N/A	BBB+	BBB	BB+	BB+
Moody's	P-2	N/A	Baa1	Baa1	Baa2	Baa3
Fitch	F1	N/A	A-	N/A	BB+	BB+
DBRS	R-1 (low)	N/A	A	A (low)	A (low)	BBB
KEYBANK						
Standard & Poor's	A-2	N/A	A-	BBB+	N/A	N/A
Moody's	P-2	P-1/A1	A3	Baa1	N/A	N/A
Fitch	F1	F1/A	A-	BBB+	N/A	N/A
DBRS	R-1 (middle)	A (high)	A (high)	A	N/A	N/A

(a) P-1 rating assigned by Moody's is specific to KeyBank's short-term bank deposit ratings. F1 assigned by Fitch Ratings, Inc. is specific to KeyBank's short-term deposit ratings.

Managing liquidity risk

Most of our liquidity risk is derived from our business model, which involves taking in deposits, many of which can be withdrawn at anytime, and lending them out in the form of illiquid loan assets. The assessments of liquidity risk are measured under the assumption of normal operating conditions as well as under a stressed environment. We manage these exposures in accordance with our risk appetite, and within Board-approved policy limits.

We regularly monitor our liquidity position and funding sources and measure our capacity to obtain funds in a variety of hypothetical scenarios in an effort to maintain an appropriate mix of available and affordable funding. In the normal course of business, we perform a monthly internal liquidity stress test for both KeyCorp and KeyBank. In a "heightened monitoring mode," we may conduct internal liquidity stress tests more frequently, and use assumptions to reflect the changed market environment. Our testing incorporates estimates for loan and deposit lives based on our historical studies. Internal liquidity stress tests analyze potential liquidity scenarios under various funding constraints and time periods. Ultimately, they determine the periodic effects that major direct and indirect events would have on our access to funding markets and our ability to fund our normal operations. To compensate for the effect of these assumed liquidity pressures, we consider alternative sources of liquidity and maturities over different time periods to project how funding needs would be managed.

Our primary sources of funding for KeyBank include customer deposits, wholesale funding, and liquid assets. We maintain a Contingency Funding Plan that outlines the process for addressing a liquidity crisis. As part of the plan, we maintain on-balance sheet liquid reserves referred to as our liquid asset portfolio, which consists of high quality liquid assets. During a problem period, that reserve could be used as a source of funding to provide time to develop and execute a longer-term strategy. The liquid asset portfolio at December 31, 2022, totaled $35.5 billion, consisting of $33.2 billion of unpledged securities, $10 million of securities available for secured funding at the FHLB, and $2.4 billion of net balances of federal funds sold and balances in our Federal Reserve account. The liquid asset portfolio can fluctuate due to excess liquidity, heightened risk, changes in market value, or prefunding of expected outflows, such as debt maturities. Additionally, as of December 31, 2022, our unused borrowing capacity secured by loan collateral was $33.8 billion at the Federal Reserve Bank of Cleveland and $6.7 billion at the FHLB of Cincinnati. In 2022, Key's outstanding FHLB of Cincinnati advances increased by $10.7 billion due to an increase in borrowings.

Conversely, excess cash generated by operating, investing, and deposit-gathering activities may be used to repay outstanding debt or invest in liquid assets.

Long-term liquidity strategy

Our long-term liquidity strategy is to be predominantly funded by core deposits. However, we may use wholesale funds to sustain an adequate liquid asset portfolio, meet daily cash demands, and allow management flexibility to execute business initiatives. Key's client-based relationship strategy provides for a strong core deposit base that, in conjunction with intermediate and long-term wholesale funds managed to a diversified maturity structure and investor base, supports our liquidity risk management strategy. We use the loan-to-deposit ratio as a metric to monitor these strategies. Our target loan-to-deposit ratio is 90-100% (at December 31, 2022, our loan-to-deposit ratio was 84.7%), which we calculate as the sum of total loans, loans held for sale, and nonsecuritized discontinued loans divided by deposits.

Liquidity programs

We have several liquidity programs, which are described in Note 20 ("Long-Term Debt"), that are designed to enable KeyCorp and KeyBank to raise funds in the public and private debt markets. The proceeds from most of these programs can be used for general corporate purposes, including acquisitions. These liquidity programs are reviewed from time to time by the Board and are renewed and replaced as necessary. There are no restrictive financial covenants in any of these programs.

On August 8, 2022, KeyBank issued two notes under the bank note program: $1.25 billion of 4.15% Fixed Rate Senior Bank Notes due August 8, 2025, and $750 million of 4.90% Fixed Rate Subordinated Bank Notes due August 8, 2032. On November 15, 2022,under the bank note program, KeyBank issued $1.0 billion of 5.85% Fixed Rate Senior Bank Notes due November 15, 2027. Accordingly, at December 31, 2022, there was $17.0 billion available for issuance under the KeyBank Bank Note Program.

On January 26, 2023, KeyBank issued $500 million of 4.70% Fixed Rate Senior Bank Notes due January 26, 2026 and $1 billion of 5.00% Fixed Rate Senior Bank Notes due January 26, 2033.

Liquidity for KeyCorp

The primary source of liquidity for KeyCorp is from subsidiary dividends, primarily from KeyBank. KeyCorp has sufficient liquidity when it can service its debt; support customary corporate operations and activities (including acquisitions); support occasional guarantees of subsidiaries' obligations in transactions with third parties at a reasonable cost, in a timely manner, and without adverse consequences; and fund capital distributions in the form of dividends and share buybacks.

We use a parent cash coverage months metric as the primary measure to assess parent company liquidity. The parent cash coverage months metric measures the number of months into the future where projected obligations can be met with the current quantity of liquidity. We generally issue term debt to supplement dividends from KeyBank to manage our liquidity position at or above our targeted levels. The parent company generally maintains cash and short-term investments in an amount sufficient to meet projected debt maturities over at least the next 24 months. At December 31, 2022, KeyCorp held $3.2 billion in cash and short-term investments, which we projected to be sufficient to meet our projected obligations, including the repayment of our maturing debt obligations for the periods prescribed by our risk tolerance.

Typically, KeyCorp meets its liquidity requirements through regular dividends from KeyBank, supplemented with term debt. Federal banking law limits the amount of capital distributions that a bank can make to its holding company without prior regulatory approval. A national bank's dividend-paying capacity is affected by several factors, including net profits (as defined by statute) for the two previous calendar years and for the current year, up to the date of dividend declaration. During 2022, KeyBank paid $475 million in cash dividends to KeyCorp, and during the fourth quarter of 2022, KeyBank paid $75 million cash dividends to KeyCorp. At January 1, 2023, KeyBank had regulatory capacity to pay $2.3 billion in dividends to KeyCorp without prior regulatory approval.

On May 23, 2022, KeyCorp issued $600 million of 3.878% Fixed-to-Floating Rate Senior Notes due May 23, 2025 and $750 million of 4.789% Fixed-to-Floating Rate Senior Notes due June 1, 2033. The fixed rate periods for each

issuance are effective through May 23, 2024, and June 1, 2032, respectively. Additionally, on August 24, 2022, KeyCorp issued $600 million of 6.2% fixed rate reset perpetual non-cumulative preferred stock.

Our liquidity position and recent activity

Over the past 12 months, our liquid asset portfolio, which includes overnight and short-term investments, as well as unencumbered, high quality liquid securities held as protection against a range of potential liquidity stress scenarios, has decreased primarily due to a reduction in Key's cash position and unencumbered securities portfolio. The liquid asset portfolio continues to exceed the amount that we estimate would be necessary to manage through an adverse liquidity event by providing sufficient time to develop and execute a longer-term solution.

From time to time, KeyCorp or KeyBank may seek to retire, repurchase, or exchange outstanding debt, capital securities, preferred shares, or Common Shares through cash purchase, privately negotiated transactions or other means. Additional information on repurchases of Common Shares by KeyCorp is included in Part II, Item 5. Market for the Registrant’s Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities of this report. Such transactions depend on prevailing market conditions, our liquidity and capital requirements, contractual restrictions, regulatory requirements, and other factors. The amounts involved may be material, individually or collectively.

The Consolidated Statements of Cash Flows summarize our sources and uses of cash by type of activity for the years ended December 31, 2022, and December 31, 2021.

Credit risk management

Credit risk is the risk of loss arising from an obligor’s inability or failure to meet contractual payment or performance terms. Like other financial services institutions, we make loans, extend credit, distribute credit risk, purchase securities, provide financial and payments products, and enter into financial derivative contracts, all of which have related credit risk.

Credit policy, approval, and evaluation

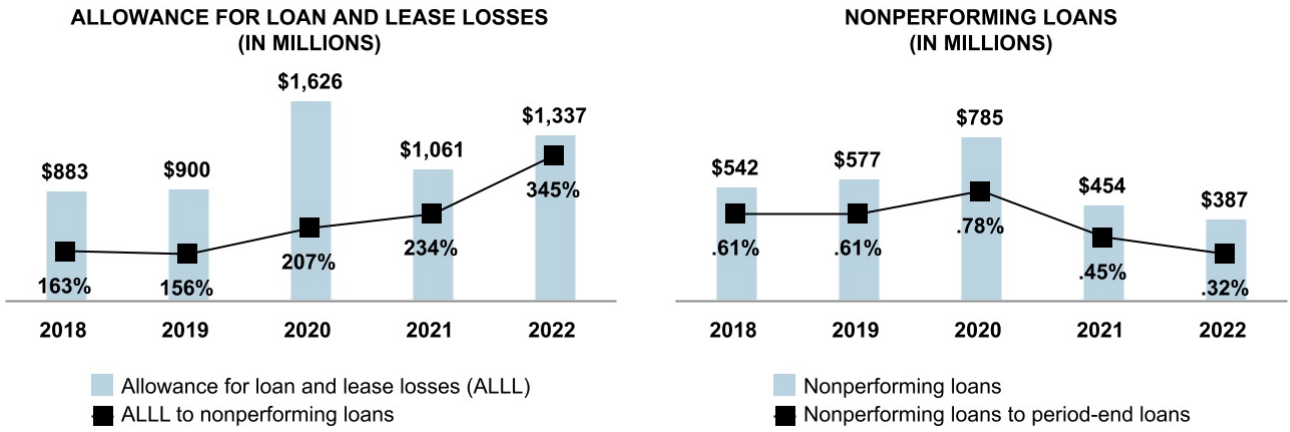
We manage credit risk exposure through a multifaceted program. The Credit Risk Committee approves management credit policies and recommends significant credit policies to the Enterprise Risk Management Committee, the KeyBank Board, and the Risk Committee of the Board for approval. These policies are communicated throughout the organization to foster a consistent approach to granting credit.

Our credit risk management team and certain individuals within our lines of business, to whom credit risk management has delegated limited credit authority, are responsible for credit approval. Individuals with assigned credit authority are authorized to grant exceptions to credit policies. It is not unusual to make exceptions to established policies when mitigating circumstances dictate, however, a corporate level tolerance has been established to keep exceptions at an acceptable level based upon portfolio and economic considerations.

Our credit risk management team uses risk models to evaluate consumer loans. These models, known as scorecards, forecast the probability of serious delinquency and default for an applicant. The scorecards are embedded in the application processing system, which allows for real-time scoring and automated decisions for many of our products. We periodically validate the loan scoring processes.

We maintain an active concentration management program to mitigate concentration risk in our credit portfolios. For individual obligors, we employ a sliding scale of exposure, known as hold limits, which is dictated by the type of loan and strength of the borrower.

Allowance for loan and lease losses



We estimate the appropriate level of the ALLL on at least a quarterly basis. The methodology used is described in Note 1 ("Summary of Significant Accounting Policies") under the heading "Allowance for Loan and Lease Losses." Briefly, the ALLL estimate uses various models and estimation techniques based on our historical loss experience, current borrower characteristics, current conditions, reasonable and supportable forecasts and other relevant factors. On January 1, 2020, we adopted ASC 326, *Financial Instruments — Credit Losses,* and as such, an expected credit loss methodology, specifically current expected credit losses for the remaining life of our loans and leases, will be used to estimate the appropriate level of the ALLL. For more information, see Note 5 ("Asset Quality").

As shown in Figure 28, our ALLL from continuing operations increased by $276 million, or 26.0%, from December 31, 2021. The commercial ALLL increased by $176 million, or 25.6%, from December 31, 2021, driven by changes in the economic outlook as the impact from higher interest rates dampened overall growth expectations, including lower commercial real estate values, combined with strong growth in the portfolio. The consumer ALLL increased $100 million, or 26.8%, from December 31, 2021, driven by changes in the economic forecasts including higher interest rates, lower home price values and growth in the portfolio.

Figure 28. Allocation of the Allowance for Loan and Lease Losses

	2022			2021		
December 31, *Dollars in millions*	Total Allowance	Percent of Allowance to Total Allowance	Percent of Loan Type to Total Loans	Total Allowance	Percent of Allowance to Total Allowance	Percent of Loan Type to Total Loans
Commercial and industrial	$ 601	45.0 %	50.0 %	$ 445	41.9 %	49.6 %
Commercial real estate:						
Commercial mortgage	203	15.2	13.7	182	17.2	13.9
Construction	28	2.1	2.1	29	2.7	2.0
Total commercial real estate loans	231	17.3	15.8	211	19.9	15.9
Commercial lease financing	32	2.4	3.3	32	3.0	4.0
Total commercial loans	864	64.7	69.1	688	64.8	69.5
Real estate — residential mortgage	196	14.7	17.9	95	9.0	15.5
Home equity loans	98	7.3	6.6	110	10.4	8.3
Consumer direct loans	111	8.3	5.4	105	9.9	5.6
Credit cards	66	4.9	.9	61	5.7	1.0
Consumer indirect loans	2	.1	.1	2	.2	.1
Total consumer loans	473	35.3	30.9	373	35.2	30.5
Total loans [a]	$ 1,337	100.0 %	100.0 %	$ 1,061	100.0 %	100.0 %

(a) Excludes allocations of the ALLL related to the discontinued operations of the education lending business in the amount of $21 million at December 31, 2022, and $28 million at December 31, 2021.

Net loan charge-offs

Figure 29 shows the trend in our net loan charge-offs by loan type, while the composition of loan charge-offs and recoveries by type of loan is presented in Figure 31. Figure 30 shows the ratio of net charge-offs by loan category as a percentage of the respective average loan balance.

Over the past 12 months, net loan charge-offs decreased $23 million. In 2023, we expect net loan charge-offs to average loans to be in the range of 25 to 30 basis points.

Figure 29. Net Loan Charge-offs from Continuing Operations

Year ended December 31, *Dollars in millions*	**2022**	**2021**
Commercial and industrial	**$ 103**	$ 91
Real estate — commercial mortgage	**18**	31
Real estate — construction	**(1)**	—
Commercial lease financing[(a)]	**(2)**	(1)
Total commercial loans	**118**	121
Real estate — residential mortgage[(a)]	**(7)**	(5)
Home equity loans	**(2)**	4
Consumer direct loans	**26**	21
Credit cards	**24**	19
Consumer indirect loans	**2**	24
Total consumer loans	**43**	63
Total net loan charge-offs	**$ 161**	$ 184
Net loan charge-offs to average loans	**.14 %**	.18 %
Net loan charge-offs from discontinued operations — education lending business	**$ 4**	$ 2

(a) Credit amounts indicate that recoveries exceeded charge-offs.

Figure 30. Net Loan Charge-offs to Average Loans from Continuing Operations

Year ended December 31,	**2022**	**2021**
Commercial and industrial	**0.19 %**	0.18 %
Real estate — commercial mortgage	**0.12**	0.24
Real estate — construction	**(0.04)**	—
Commercial lease financing[(a)]	**(0.05)**	(0.02)
Total commercial loans	**0.15**	0.17
Real estate — residential mortgage[(a)]	**(0.04)**	(0.04)
Home equity loans	**(0.02)**	0.04
Consumer direct loans	**0.40**	0.41
Credit cards	**2.50**	2.05
Consumer indirect loans	**3.23**	0.85
Total consumer loans	**0.12**	0.21
Total net loan charge-offs	**0.14 %**	0.18 %

(a) Credit amounts indicate that recoveries exceeded charge-offs.

Figure 31. Summary of Loan and Lease Loss Experience from Continuing Operations

Year ended December 31, *Dollars in millions*	2022	2021
Average loans outstanding	$ 111,302	$ 100,269
Allowance for loan and lease losses at beginning of period	$ 1,061	$ 1,626
Loans charged off:		
Commercial and industrial	$ 153	$ 174
Real estate — commercial mortgage	23	40
Real estate — construction	—	—
Total commercial real estate loans [a]	23	40
Commercial lease financing	2	6
Total commercial loans [b]	178	220
Real estate — residential mortgage	(2)	(2)
Home equity loans	1	9
Consumer direct loans	34	29
Credit cards	30	27
Consumer indirect loans	4	39
Total consumer loans	67	102
Total loans charged off	245	322
Recoveries:		
Commercial and industrial	50	83
Real estate — commercial mortgage	5	9
Real estate — construction	1	—
Total commercial real estate loans [a]	6	9
Commercial lease financing	4	7
Total commercial loans [b]	60	99
Real estate — residential mortgage	5	3
Home equity loans	3	5
Consumer direct loans	8	8
Credit cards	6	8
Consumer indirect loans	2	15
Total consumer loans	24	39
Total recoveries	84	138
Net loan charge-offs	(161)	(184)
Provision (credit) for loan and lease losses	437	(381)
Allowance for loan and lease losses at end of year	$ 1,337	$ 1,061
Liability for credit losses on lending-related commitments at beginning of the year	160	197
Provision (credit) for losses on lending-related commitments	65	(37)
Liability for credit losses on lending-related commitments at end of the year [c]	$ 225	$ 160
Total allowance for credit losses at end of the year	$ 1,562	$ 1,221
Net loan charge-offs to average total loans	.14 %	.18 %
Allowance for loan and lease losses to period-end loans	1.12	1.04
Allowance for credit losses to period-end loans	1.31	1.20
Allowance for loan and lease losses to nonperforming loans	345.5	233.7
Allowance for credit losses to nonperforming loans	403.6	268.9
Discontinued operations — education lending business:		
Loans charged off	$ 6	$ 4
Recoveries	2	2
Net loan charge-offs	$ (4)	$ (2)

(a) See Figure 10 and the accompanying discussion in the “Loans and loans held for sale” section for more information related to our commercial real estate loan portfolio.
(b) See Figure 9 and the accompanying discussion in the “Loans and loans held for sale” section for more information related to our commercial loan portfolio.
(c) Included in “accrued expense and other liabilities” on the balance sheet.

Nonperforming assets

Figure 32 shows the composition of our nonperforming assets. As shown in Figure 32, nonperforming assets decreased $69 million during 2022. See Note 1 (“Summary of Significant Accounting Policies”) under the headings “Nonperforming Loans,” “Impaired Loans,” and “Allowance for Loan and Lease Losses” for a summary of our nonaccrual and charge-off policies.

Figure 32. Summary of Nonperforming Assets and Past Due Loans from Continuing Operations

December 31, *Dollars in millions*	2022	2021
Commercial and industrial	$ 174	$ 191
Real estate — commercial mortgage	21	44
Real estate — construction	—	—
Total commercial real estate loans [a]	21	44
Commercial lease financing	1	4
Total commercial loans [b]	196	239
Real estate — residential mortgage	77	72
Home equity loans	107	135
Consumer direct loans	3	4
Credit cards	3	3
Consumer indirect loans	1	1
Total consumer loans	191	215
Total nonperforming loans	387	454
Nonperforming loans held for sale	20	24
OREO	13	8
Other nonperforming assets	—	3
Total nonperforming assets	$ 420	$ 489
Accruing loans past due 90 days or more	$ 60	$ 68
Accruing loans past due 30 through 89 days	180	165
Restructured loans — accruing and nonaccruing [c]	236	220
Restructured loans included in nonperforming loans [c]	118	99
Nonperforming assets from discontinued operations — education lending business	3	4
Nonperforming loans to period-end portfolio loans	.32 %	.45 %
Nonperforming assets to period-end portfolio loans plus OREO and other nonperforming assets [c]	.35	.48

(a) See Figure 10 and the accompanying discussion in the "Loans and loans held for sale" section for more information related to our commercial real estate loan portfolio.
(b) See Figure 9 and the accompanying discussion in the "Loans and loans held for sale" section for more information related to our commercial loan portfolio.
(c) Restructured loans (i.e., TDRs) are those for which Key, for reasons related to a borrower's financial difficulties, grants a concession to the borrower that it would not otherwise consider. See Note 5 ("Asset Quality") for more information on our TDRs. These concessions are made to improve the collectability of the loan and generally take the form of a reduction of the interest rate, extension of the maturity date or reduction in the principal balance.

Figure 33 shows the types of activity that caused the change in our nonperforming loans during each of the last four quarters and the years ended December 31, 2022, and December 31, 2021.

Figure 33. Summary of Changes in Nonperforming Loans from Continuing Operations

		2022 Quarters				
Dollars in millions	2022	Fourth	Third	Second	First	2021
Balance at beginning of period	$ 454	$ 390	$ 429	$ 439	$ 454	$ 785
Loans placed on nonaccrual status	398	113	80	118	87	614
Charge-offs	(244)	(67)	(68)	(59)	(50)	(326)
Loans sold	(15)	(4)	(3)	(8)	—	(78)
Payments	(113)	(22)	(29)	(35)	(27)	(333)
Transfers to OREO	(5)	(1)	(1)	(2)	(1)	(5)
Loans returned to accrual status	(88)	(22)	(18)	(24)	(24)	(203)
Balance at end of period	$ 387	$ 387	$ 390	$ 429	$ 439	$ 454

Operational and compliance risk management

Like all businesses, we are subject to operational risk, which is the risk of loss resulting from human error or malfeasance, inadequate or failed internal processes and systems, and external events. These events include, among other things, threats to our cybersecurity, as we are reliant upon information systems and the Internet to conduct our business activities. Operational risk intersects with compliance risk, which is the risk of loss from violations of, or noncompliance with, laws, rules and regulations, prescribed practices, and ethical standards. Under the Dodd-Frank Act, large financial companies like Key are subject to heightened prudential standards and regulation. This heightened level of regulation has increased our operational risk. While operational and compliance risk are separate risk disciplines in KeyCorp's ERM framework, losses and/or additional regulatory compliance costs are included in operational loss reporting and could take the form of explicit charges, increased operational costs, harm to our reputation, or foregone opportunities.

We seek to mitigate operational risk through identification and measurement of risk, alignment of business strategies with risk appetite and tolerance, and a system of internal controls and reporting. We continuously strive to strengthen our system of internal controls to improve the oversight of our operational risk and to ensure compliance

with laws, rules, and regulations. For example, an operational event database tracks the amounts and sources of operational risk and losses. This tracking mechanism helps to identify weaknesses and to highlight the need to take corrective action. We also rely upon software programs designed to assist in assessing operational risk and monitoring our control processes. This technology has enhanced the reporting of the effectiveness of our controls to senior management and the Board.

The Operational Risk Management Program provides the framework for the structure, governance, roles, and responsibilities, as well as the content, to manage operational risk for Key. The Compliance Risk Management Program serves the same function in managing compliance risk for Key. The Operational Risk Committee and the Compliance Risk Committee support the ERM Committee by identifying early warning events and trends, escalating emerging risks, and discussing forward-looking assessments. Both the Operational Risk Committee and the Compliance Risk Committee include attendees from each of the Three Lines of Defense. Primary responsibility for managing and monitoring internal control mechanisms lies with the managers of our various lines of business. The Operational Risk Committee and Compliance Risk Committee are senior management committees that oversee our level of operational and compliance risk and direct and support our operational and compliance infrastructure and related activities. These committees and the Operational Risk Management and Compliance Risk Management functions are an integral part of our ERM Program. Our Risk Review function regularly assesses the overall effectiveness of our Operational Risk Management and Compliance Risk Management Programs and our system of internal controls. Risk Review reports the results of reviews on internal controls and systems to senior management and the Risk and Audit Committees and independently supports the Risk Committee's oversight of these controls.

Cybersecurity

We maintain comprehensive Cyber Incident Response Plans, and we devote significant time and resources to maintaining and regularly updating our technology systems and processes to protect the security of our computer systems, software, networks, and other technology assets against attempts to obtain unauthorized access to confidential information, destroy data, disrupt or degrade service, sabotage systems, shut down access to systems for ransom, or cause other damage. As the threat landscape continues to evolve, critical infrastructure, including financial services, remains a top target for cyberattacks. The significant increase in remote working by our employees and third-party service providers inherently introduces additional risk. Additionally, we face heightened risk of cyberattacks in the near term because of recent geopolitical events, which may result in increased attacks against U.S. critical infrastructure, including financial institutions. Cyberattacks may include, but are not limited to, attacks that are intended to disrupt or disable banking services and prevent banking transactions, attempts to breach the security of systems and data, and social engineering attempts aimed at tricking employees and clients into providing sensitive information or executing financial transactions.

We also face cyberattack risks related to our third-party service providers. Cyberattacks successfully compromising or circumventing the security of the systems of our third-party service providers have resulted in, and could again in the future result in, negative consequences to us, including interfering with our third-party providers' ability to fulfill their contractual obligations to us, an interruption in our business processes, or the disclosure or misappropriation of confidential information of us or that of our clients. These cyberattacks may result in regulatory consequences, reputational harm or financial loss or liability that could adversely affect our financial condition or results of operations. Recent high-profile cyberattacks have targeted retailers, credit bureaus, and other businesses for the purpose of acquiring the confidential information (including personal, financial, and credit card information) of their customers. Recently, there have also been numerous highly publicized cases where hackers requested ransom payments in exchange for not disclosing customer information or to restore company access to locked systems. We have incurred, and may again incur, expenses related to the investigation of cyberattacks involving third-party providers or related to the protection of our clients from identity theft as a result of such attacks. We have also incurred, and may continue to incur, expenses to enhance our systems or processes to protect against cyber or other security incidents.

Risks and exposures related to cyberattacks are expected to remain high for the foreseeable future due to the rapidly evolving nature and sophistication of these threats, as well as due to the expanding use of Internet banking, mobile banking, and other technology-based products and services by us and our clients. To date, Key has not experienced material disruption of our operations, or material harm to our client base, as a result of the heightened threat landscape of cyberattacks.

As described in more detail in "Risk Management — Overview" in Item 7 of this report, the Board serves in an oversight capacity ensuring that Key's risks are managed in a manner that is effective and balanced and adds value

for the shareholders. The Board's Risk Committee has primary oversight for enterprise-wide risk at KeyCorp, including operational risk (which includes cybersecurity). The Risk Committee reviews and provides oversight of management's activities related to the enterprise-wide risk management framework, including cyber-related risk. Board members are updated on cybersecurity matters at each regularly-scheduled Board meeting. The ERM Committee, chaired by the Chief Executive Officer and comprising other senior level executives, is responsible for managing risk (including cyber-related risk) and ensuring that the corporate risk profile is managed in a manner consistent with our risk appetite. The ERM Committee reports to the Board's Risk Committee.

GAAP to Non-GAAP Reconciliations

Non-GAAP financial measures have inherent limitations, are not required to be uniformly applied, and are not audited. Although these non-GAAP financial measures are frequently used by investors to evaluate a company, they have limitations as analytical tools, and should not be considered in isolation, nor as a substitute for analyses of results as reported under GAAP.

The tangible common equity ratio and the return on tangible common equity ratio have been a focus for some investors, and management believes that these ratios may assist investors in analyzing Key's capital position without regard to the effects of intangible assets and preferred stock. Since analysts and banking regulators may assess our capital adequacy using tangible common equity, we believe it is useful to enable investors to assess our capital adequacy on these same bases.

Year ended December 31, *Dollars in millions*		**2022**		**2021**		**2020**
Tangible common equity to tangible assets at period end						
Key shareholders' equity (GAAP)	**$**	**13,454**	$	17,423	$	17,981
Less: Intangible assets [(a)]		**2,844**		2,820		2,848
Preferred Stock [(b)]		**2,446**		1,856		1,856
Tangible common equity (non-GAAP)	**$**	**8,164**	$	12,747	$	13,277
Total assets (GAAP)	**$**	**189,813**	$	186,346	$	170,336
Less: Intangible assets [(a)]		**2,844**		2,820		2,848
Tangible assets (non-GAAP)	**$**	**186,969**	$	183,526	$	167,488
Tangible common equity to tangible assets ratio (non-GAAP)		**4.37 %**		6.95 %		7.93 %
Average tangible common equity						
Average Key shareholders' equity (GAAP)	**$**	**14,730**	$	17,665	$	17,636
Less: Intangible assets (average) [(c)]		**2,839**		2,829		2,878
Preferred Stock (average)		**2,114**		1,900		1,900
Average tangible common equity (non-GAAP)	**$**	**9,777**	$	12,936	$	12,858
Return on average tangible common equity from continuing operations						
Income (loss) from continuing operations attributable to Key common shareholders (GAAP)	**$**	**1,793**	$	2,506	$	1,223
Average tangible common equity (non-GAAP)	**$**	**9,777**	$	12,936	$	12,858
Return on average tangible common equity from continuing operations (non-GAAP)		**18.34 %**		19.37 %		9.51 %
Return on average tangible common equity consolidated						
Net income (loss) attributable to Key common shareholders (GAAP)	**$**	**1,799**	$	2,519	$	1,237
Average tangible common equity (non-GAAP)		**9,777**		12,936		12,858
Return on average tangible common equity consolidated (non-GAAP)		**18.40 %**		19.47 %		9.62 %

(a) For the years ended December 31, 2022, December 31, 2021, and December 31, 2020,, intangible assets exclude $2 million, $3 million, and $4 million, respectively, of period-end purchased credit card relationships.
(b) Net of capital surplus.
(c) For the years ended December 31, 2022, December 31, 2021, and December 31, 2020, average intangible assets exclude $2 million, $4 million, and $6 million, respectively, of average purchased credit card relationships.

The cash efficiency ratio is a ratio of two non-GAAP performance measures, adjusted noninterest expense and total taxable-equivalent revenue. Accordingly, there is no directly comparable GAAP performance measure. The cash efficiency ratio excludes the impact of our intangible asset amortization from the calculation. We believe this ratio provides greater consistency and comparability between our results and those of our peer banks. Additionally, this ratio is used by analysts and investors to evaluate how effectively management is controlling noninterest expenses in generating revenue, as they develop earnings forecasts and peer bank analysis.

Year ended December 31, *Dollars in millions*	2022	2021	2020
Cash efficiency ratio			
Noninterest expense (GAAP)	**$ 4,410**	$ 4,429	$ 4,109
Less: Intangible asset amortization (GAAP)	**47**	58	65
Adjusted noninterest expense (non-GAAP)	**$ 4,363**	$ 4,371	$ 4,044
Net interest income (GAAP)	**$ 4,527**	$ 4,071	$ 4,034
Plus: TE adjustment	**27**	27	29
Noninterest income (GAAP)	**2,718**	3,194	2,652
Total TE revenue (non-GAAP)	**$ 7,272**	$ 7,292	$ 6,715
Cash efficiency ratio (non-GAAP)	**60.0 %**	59.9 %	60.2 %

Critical Accounting Policies and Estimates

Our business is dynamic and complex. Consequently, we must exercise judgment in choosing and applying accounting policies and methodologies. These choices are critical; not only are they necessary to comply with GAAP, they also reflect our view of the appropriate way to record and report our overall financial performance. All accounting policies are important, and all policies described in Note 1 (“Summary of Significant Accounting Policies”) should be reviewed for a greater understanding of how we record and report our financial performance.

In our opinion, some accounting policies are more likely than others to have a critical effect on our financial results and to expose those results to potentially greater volatility. These policies apply to areas of relatively greater business importance, or require us to exercise judgment and to make assumptions and estimates that affect amounts reported in the financial statements. Because these assumptions and estimates are based on current circumstances, they may prove to be inaccurate, or we may find it necessary to change them. The following is a description of our current critical accounting policies.

Allowance for loan and lease losses

The allowance for loan and lease losses represents management’s estimate of all expected credit losses over the expected contractual life of our existing loan portfolio. Determining the appropriateness of the allowance is complex and requires judgment by management about the effect of matters that are inherently uncertain. These critical estimates include significant use of our own historical data and complex methods to interpret them. We have an ongoing process to evaluate and enhance the quality, quantity, and timeliness of our data and interpretation methods used in the determination of these allowances. These evaluations are inherently subjective, as they require material estimates and may be susceptible to significant change, and include, among others:

- PD,
- LGD,
- Outstanding balance of the loan,
- Movement through delinquency stages,
- Amounts and timing of expected future cash flows,
- Value of collateral, which may be obtained from third parties,
- Economic forecasts which are obtained from a third party provider, and
- Qualitative factors, such as changes in current economic conditions, that may not be reflected in modeled results.

As described in our accounting policy related to the ALLL in Note 1 (“Summary of Significant Accounting Policies”) of this report under the heading “Allowance for Loan and Lease Losses," we employ a disciplined process and methodology to establish our ALLL, which has three main components: (i) asset specific / individual loan reserves; (ii) quantitative (formulaic or pooled) reserves; and (iii) qualitative (judgmental) reserves.

We use a non-DCF factor-based approach to estimate expected credit losses that include component PD/LGD/EAD models as well as less complex estimation methods for smaller loan portfolios. Probability of default models estimate the likelihood a borrower will cease making payments as agreed. These models use observed loan-level information and projected paths of macroeconomic variables. Borrower credit attributes including FICO scores of consumers and internally assigned risk ratings for commercial borrowers are significant inputs to the models. Consumer FICO scores are refreshed quarterly and commercial risk ratings are updated annually with select borrowers updated more frequently. The macroeconomic trends that have a significant impact on the probability of

default vary by portfolio segment. Exposure at default models estimate the loan balance at the time the borrower stops making payments. We use an amortization based formulaic approach to estimate account level EAD for all term loans. We use portfolio specific methods in each of our revolving product portfolios. LGD models estimate the loss we will suffer once a loan is in default. Account level inputs to LGD models include collateral attributes, such as loan to value.

If we observe limitations in the data or models, we use model overlays to make adjustments to model outputs to capture a particular risk or compensate for a known limitation. These variables and others may result in actual loan losses that differ from the originally estimated amounts.

This estimate produced by our models is forward-looking and requires management to use forecasts about future economic conditions to determine the expected credit loss over the remaining life of an instrument. Moody's Consensus forecast is the source of macroeconomic projections, including the interest rate forecasts used in the credit models. We use a two year reasonable and supportable period across all products to forecast economic conditions. As the length of the life of a financial asset increases, these inputs may become impractical to estimate as reasonable and supportable. We believe the two year time horizon appropriately aligns with our business planning, available industry guidance, and reliability of various forecasting services. Following this two year period in which supportable forecasts can be generated, for all modeled loan portfolios, we revert expected credit losses to a level that is consistent with our historical information by reverting the macroeconomic variables (model inputs) to their long run average. We revert to historical loss rates for less complex estimation methods for smaller portfolios.
A four quarter reversion period is used where the macroeconomic variables linearly revert to their long run average following the two year reasonable and supportable period. We use a 20 year lookback period for determining long run historical average of the macroeconomic variables. We determined the 20 year lookback period is appropriate as it captures the previous two economic cycles as well as the impact from the pandemic.

The ALLL is sensitive to various macroeconomic drivers such as GDP and unemployment as well as portfolio attributes such as remaining term, outstanding balance, risk ratings, FICO, LTV, and delinquency status. Our ALLL models were designed to capture the correlation between economic and portfolio changes. As such, evaluating shifts in individual portfolio attributes and macroeconomic variables in isolation may not be indicative of past or future performance.

It is difficult to estimate how potential changes in any one factor or input might affect the overall ALLL because we consider a wide variety of factors and inputs in estimating the ALLL. Changes in the factors and inputs considered may not occur at the same rate and may not be consistent across all geographies or product types, and changes in factors and input may be directionally inconsistent, such that improvement in one factor may offset deterioration in others. However, to consider the impact of a hypothetical alternate economic forecast, we compare the modeled quantitative allowance results using a downside economic scenario. The maximum difference in the quarterly macroeconomic variables between the base and downside scenarios over the two year reasonable and supportable period includes an approximate 7% decline in GDP annualized growth and an approximate 3% increase in the U.S. unemployment rate. The difference between these two scenarios would have driven an increase of approximately 1.6x for commercial and 1.5x for the consumer modeled allowance results.

Similarly, deteriorating conditions for portfolio factors were also considered by moderately stressing key portfolio drivers, relative to the baseline portfolio conditions. Stressing risk ratings by two ratings for commercial loans generates a 1.6x increase in the commercial modeled allowance results. Stressing FICO by ten points, and LTV and utilization by 10% for consumer loans generates a 1.2x increase in the consumer modeled allowance results.

Note that these analyses demonstrate the sensitivity of the ALLL to key quantitative assumptions, but exclude potential impacts to non-modeled allowance components and reserves for individually assessed loans. Furthermore, these analyses are not intended to estimate changes in the overall ALLL as they do not reflect qualitative factors, changes in current economic conditions that may not be reflected in quantitatively derived results, and other relevant factors that must be considered to ensure the ALLL reflects our best estimate of current expected credit losses.

Valuation methodologies

Fair value measurements

We measure or monitor many of our assets and liabilities on a fair value basis. Fair value is generally defined as the price that would be received to sell an asset or paid to transfer a liability (an exit price) as opposed to the price that would be paid to acquire the asset or received to assume the liability (an entry price), in an orderly transaction between market participants at the measurement date under current market conditions. While management uses judgment when determining the price at which willing market participants would transact when there has been a significant decrease in the volume or level of activity for the asset or liability in relation to “normal” market activity, management’s objective is to determine the point within the range of fair value estimates that is most representative of a sale to a third-party investor under current market conditions. The value to us if the asset or liability were held to maturity is not included in the fair value estimates.

A fair value measure should reflect the assumptions that market participants would use in pricing the asset or liability, including the assumptions about the risk inherent in a particular valuation technique, the effect of a restriction on the sale or use of an asset and the risk of nonperformance. Fair value is measured based on a variety of inputs. Fair value may be based on quoted market prices for identical assets or liabilities traded in active markets (Level 1 valuations). If market prices are not available, quoted market prices for similar instruments traded in active markets, quoted prices for identical or similar instruments in markets that are not active, or model-based valuation techniques for which all significant assumptions are observable in the market are used (Level 2 valuations). Where observable market data is not available, the valuation is generated from model based techniques that use significant assumptions not observable in the market, but observable based on our specific data (Level 3 valuations). Unobservable assumptions reflect our estimates for assumptions that market participants would use in pricing the asset or liability. Valuation techniques typically include option pricing models, discounted cash flow models and similar techniques, but may also include the use of market prices of assets or liabilities that are not directly comparable to the subject asset or liability.

The selection and weighting of the various fair value techniques may result in a fair value higher or lower than carrying value. Considerable judgment may be involved in determining the amount that is most representative of fair value.

For assets and liabilities recorded at fair value, our policy is to maximize the use of observable inputs and minimize the use of unobservable inputs when developing fair value measurements for those items where there is an active market. In certain cases, when market observable inputs for model-based valuation techniques may not be readily available, we are required to make judgments about assumptions market participants would use in estimating the fair value of the financial instrument. The models used to determine fair value adjustments are regularly evaluated by management for relevance under current facts and circumstances.

Changes in market conditions may reduce the availability of quoted prices or observable data. For example, reduced liquidity in the capital markets or changes in secondary market activities could result in observable market inputs becoming unavailable. When market data is not available, we use valuation techniques requiring more management judgment to estimate the appropriate fair value.

Fair value is used on a recurring basis for certain assets and liabilities in which fair value is the primary measure of accounting. Fair value is used on a nonrecurring basis to measure certain assets or liabilities (including held-to-maturity securities, commercial loans held for sale, and OREO) for impairment or for disclosure purposes in accordance with current accounting guidance.

Impairment analysis also relates to long-lived assets and core deposit and other intangible assets. An impairment loss is recognized if the carrying amount of the asset is not likely to be recoverable and exceeds its fair value. In determining the fair value, management uses models and applies the techniques and assumptions previously discussed.

See Note 1 under the heading “Fair Value Measurements” and Note 6 (“Fair Value Measurements”) for a detailed discussion of determining fair value, including pricing validation processes.

Goodwill

The valuation and testing methodologies used in our analysis of goodwill impairment are summarized in Note 1 under the heading “Goodwill and Other Intangible Assets.” Goodwill is initially recorded as the excess of the purchase price over the fair value of net assets acquired in a business combination. Goodwill is tested for impairment for all three of our reporting units: Consumer Bank, Commercial Bank and Institutional Bank. We perform our annual impairment test as of October 1st and on an interim basis if events or changes in circumstances between annual tests suggest additional testing is needed. Testing may be either quantitative or qualitative. Fair value is measured during quantitative tests using a combination of income and market approaches. If the fair value of a reporting unit declines below its carrying value, an impairment charge will be recognized for any amount by which the carrying value exceeds the reporting unit’s fair value, to the extent that the loss recognized does not exceed the amount of the goodwill allocated to that reporting unit. When utilizing the qualitative testing approach, Key examines numerous qualitative factors such as financial performance, market capitalization and other industry and economic trends to conclude whether it is more likely than not that goodwill is impaired.

We monitor impairment indicators for goodwill and other intangible assets and evaluate the carrying amount of these assets quarterly. Additional information is provided in Note 12 (“Goodwill and Other Intangible Assets”).

Derivatives and hedging

We primarily use interest rate swaps to hedge interest rate risk for asset and liability management purposes. These derivative instruments modify the interest rate characteristics of specified on-balance sheet assets and liabilities. Our accounting policies related to derivatives reflect the current accounting guidance, which provides that all derivatives should be recognized as either assets or liabilities on the balance sheet at fair value, after taking into account the effects of master netting agreements. Accounting for changes in the fair value (i.e., gains or losses) of a particular derivative depends on whether the derivative has been designated and qualifies as part of a hedging relationship, and further, on the type of hedging relationship.

The application of hedge accounting requires significant judgment to interpret the relevant accounting guidance, as well as to assess hedge effectiveness, identify similar hedged item groupings, and measure changes in the fair value of the hedged items. We believe our methods of addressing these judgments and applying the accounting guidance are consistent with both the guidance and industry practices. Additional information relating to our use of derivatives is included in Note 1 under the heading “Derivatives and Hedging,” and Note 8 (“Derivatives and Hedging Activities”).

Contingent liabilities, guarantees and income taxes

Note 22 (“Commitments, Contingent Liabilities, and Guarantees”) summarizes contingent liabilities arising from litigation and contingent liabilities arising from guarantees in various agreements with third parties under which we are a guarantor, and the potential effects of these items on the results of our operations. We record a liability for the fair value of the obligation to stand ready to perform over the term of a guarantee. Contingent aspects of guarantees within the scope of ASC 326 are assessed a reserve under CECL. There is a risk that our actual future payments in the event of a default by the guaranteed party could exceed the recorded amount. See Note 22 (“Commitments, Contingent Liabilities, and Guarantees”) for a comparison of the liability recorded and the maximum potential undiscounted future payments for the various types of guarantees that we had outstanding at December 31, 2022.

It is not always clear how the Internal Revenue Code and various state tax laws apply to transactions that we undertake. In the normal course of business, we may record tax benefits and then have those benefits contested by the IRS or state tax authorities. We have provided tax reserves that we believe are adequate to absorb potential adjustments that such challenges may necessitate. However, if our judgment later proves to be inaccurate, the tax reserves may need to be adjusted, which could have an adverse effect on our results of operations and capital.

Additionally, we conduct quarterly assessments that determine the amount of deferred tax assets that are more-likely-than-not to be realized, and therefore recorded. The available evidence used in connection with these assessments includes a history of pretax income, projected future taxable income, potential tax-planning strategies, and projected future reversals of deferred tax liabilities. These assessments are subjective and may change. Based on these criteria, and all available positive and negative evidence, we establish a valuation allowance for deferred tax assets when we are unable to conclude it is more likely than not that they will be realized. However, if our assessments prove incorrect, they could have a material adverse effect on our results of operations in the period in

which they occur. For further information on our accounting for income taxes, see Note 1 (“Summary of Significant Accounting Policies”) and Note 14 (“Income Taxes”).

Accounting and reporting developments

Accounting guidance pending adoption

Standard	Required Adoption	Description	Effect on Financial Statements or Other Significant Matters
ASU 2022-03, Fair Value Measurement - Fair Value Measurement of Equity Securities Subject to Contractual Sale Restrictions (Topic 820)	January 1, 2024 Early adoption is permitted.	The amendments clarify that a contractual restriction on the sale of an equity security is not considered part of the unit of account of the equity security and is not considered in measuring fair value. Entities cannot, as a separate unit of account, recognize and measure a contractual sale restriction. The amendments require disclosures for equity securities subject to contractual restrictions including; the fair value of equity securities subject to contractual sale restrictions reflected in the balance sheet, the nature and remaining duration of the restriction(s) and the circumstances that could cause a lapse in the restriction(s). The guidance should be applied prospectively with any adjustments from the adoption of the amendments recognized in earnings and disclosed on the date of adoption.	The guidance is not expected to have a material impact on Key’s financial condition or results of operations.

ITEM 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

The information included under the caption “Risk Management — Market risk management” in the MD&A beginning on page 74 is incorporated herein by reference.

ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

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Management's Annual Report on Internal Control over Financial Reporting

We are responsible for the preparation, content and integrity of the financial statements and other statistical data and analyses compiled for this annual report. The financial statements and related notes have been prepared in conformity with U.S. generally accepted accounting principles and include amounts which of necessity are based on management's best estimates and judgments and give due consideration to materiality. We believe the financial statements and notes present fairly our financial position, results of operations and cash flows in all material respects.

We are responsible for establishing and maintaining a system of internal control that is designed to protect our assets and the integrity of our financial reporting as defined in the Securities Exchange Act of 1934, as amended. This corporate-wide system of controls includes policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the Corporation; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of the consolidated financial statements in conformity with U.S. generally accepted accounting principles, and that receipts and expenditures of the Corporation are made only in accordance with authorizations of management and directors of the Corporation; and (3) 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 consolidated financial statements. All employees are required to comply with our code of ethics. We conduct an annual certification process to ensure that our employees meet this obligation. Although any system of internal control can be compromised by human error or intentional circumvention of required procedures, we believe our system provides reasonable assurance that financial transactions are recorded and reported properly, providing an adequate basis for reliable financial statements.

During 2022, the Audit Committee of the Board of Directors met regularly with Management, internal audit, and the independent registered public accounting firm, Ernst & Young LLP, to review the scope of their audits and to discuss the evaluation of internal accounting controls and financial reporting matters. The independent registered public accounting firm and the internal auditors have free access to, and meet confidentially with, the audit committee to discuss appropriate matters. Also, the Corporation maintains a Disclosure Review Committee. This committee's purpose is to design and maintain disclosure controls and procedures to ensure that material information relating to the financial and operating condition of the Corporation is properly reported to its Chief Executive Officer, Chief Financial Officer, General Auditor, and the Audit Committee of the Board of Directors in connection with the preparation and filing of periodic reports and the certification of those reports by the Chief Executive Officer and the Chief Financial Officer.

Management's Assessment of Internal Control over Financial Reporting

Management assessed, with participation of the Corporation's Chief Executive Officer and Chief Financial Officer, the effectiveness of our internal control and procedures over financial reporting using criteria described in "Internal Control - Integrated Framework," issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework). Based on that assessment, we believe we maintained an effective system of internal control over financial reporting as of December 31, 2022.

Because of 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 risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

The Corporation's internal control over financial reporting as of December 31, 2022, has been audited by Ernst & Young LLP, an independent registered public accounting firm, as stated in their accompanying report dated February 22, 2023.

Christopher M. Gorman
Chairman and Chief Executive Officer

Donald R. Kimble
Chief Financial Officer

Report of Independent Registered Public Accounting Firm

To the Shareholders and the Board of Directors of KeyCorp

Opinion on Internal Control over Financial Reporting

We have audited KeyCorp's internal control over financial reporting as of December 31, 2022, based on criteria established in Internal Control-Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework) (the COSO criteria). In our opinion, KeyCorp maintained, in all material respects, effective internal control over financial reporting as of December 31, 2022, based on the COSO criteria.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the consolidated balance sheets of KeyCorp as of December 31, 2022 and 2021, and the related consolidated statements of income, comprehensive income, changes in equity and cash flows for each of the three years in the period ended December 31, 2022, and the related notes and our report dated February 22, 2023 expressed an unqualified opinion thereon.

Basis for Opinion

KeyCorp's management is responsible for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting included in the accompanying Management's Annual Report on Internal Control over Financial Reporting. Our responsibility is to express an opinion on KeyCorp's internal control over financial reporting based on our audit. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to KeyCorp in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

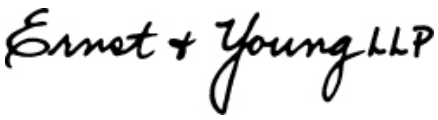
We conducted our audit in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects.

Our audit included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, testing and evaluating the design and operating effectiveness of internal control based on the assessed risk, and performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

Definition and Limitations of Internal Control Over Financial Reporting

A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

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



Cleveland, Ohio
February 22, 2023

Report of Independent Registered Public Accounting Firm

To the Shareholders and the Board of Directors of KeyCorp

Opinion on the Financial Statements

We have audited the accompanying consolidated balance sheets of KeyCorp as of December 31, 2022 and 2021, and the related consolidated statements of income, comprehensive income, changes in equity, and cash flows for each of the three years in the period ended December 31, 2022, and the related notes (collectively referred to as the “consolidated financial statements”). In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of KeyCorp at December 31, 2022 and 2021, and the consolidated results of its operations and its cash flows for each of the three years in the period ended December 31, 2022, in conformity with U.S. generally accepted accounting principles.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), KeyCorp’s internal control over financial reporting as of December 31, 2022, based on criteria established in Internal Control-Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework) and our report dated February 22, 2023 expressed an unqualified opinion thereon.

Basis for Opinion

These financial statements are the responsibility of KeyCorp’s management. Our responsibility is to express an opinion on KeyCorp’s financial statements based on our audits. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to KeyCorp in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement, whether due to error or fraud. Our audits included performing procedures to assess the risks of material misstatement of the financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the financial statements. We believe that our audits provide a reasonable basis for our opinion.

Critical Audit Matter

The critical audit matter communicated below is a matter arising from the current period audit of the financial statements that was communicated or required to be communicated to the audit committee and that: (1) relates to accounts or disclosures that are material to the financial statements and (2) involved our especially challenging, subjective or complex judgments. The communication of the critical audit matter does not alter in any way our opinion on the consolidated financial statements, taken as a whole, and we are not, by communicating the critical audit matter below, providing a separate opinion on the critical audit matter or on the account or disclosure to which it relates.

Allowance for Loan and Lease Losses

Description of the matter

KeyCorp's loan and lease portfolio totaled $119.4 billion as of December 31, 2022 and the associated ALLL was $1.3 billion. As discussed in Note 1 and 5 of the financial statements, the ALLL represents management's current estimate of lifetime credit losses inherent in the loan portfolio at the balance sheet date. Management estimates the ALLL using relevant available information, from internal and external sources, relating to past events, current portfolio specific and economic conditions, and reasonable and supportable forecasts. The ALLL is the sum of (i) asset specific / individual loan reserves; (ii) quantitative (formulaic or pooled) reserves; and (iii) qualitative (judgmental) reserves. Management estimates the quantitative reserves using probability of default / loss given default / exposure at default models ("loss forecasting models"), as well as other estimation methods for smaller loan portfolios. The ALLL also considers qualitative factors related to idiosyncratic risk factors, changes in current economic conditions that may not be reflected in quantitatively derived results, and other relevant factors to reflect management's best estimate of current expected credit losses.

Auditing management's ALLL was complex due to the loss forecasting models used to compute the quantitative reserve and involves a high degree of subjectivity and judgment in evaluating management's determination of the economic forecast and qualitative factor adjustments to the ALLL described above.

How we addressed the matter in our audit

We obtained an understanding, evaluated the design and tested the operating effectiveness of controls over the KeyCorp's ALLL process, including controls over the appropriateness of the ALLL methodology, the development, operation and monitoring of loss forecasting models, the reliability and accuracy of data used in developing the ALLL estimate, and management's review and approval process over the economic forecast, qualitative adjustments and overall ALLL results.

With the assistance of EY specialists we tested management's loss forecasting models including evaluating the conceptual soundness of model methodology, assessing model performance and governance, testing key modeling assumptions, including the reasonable and supportable forecast period, and independently recalculating model output. We also verified the underlying economic forecast data used to estimate the quantitative reserve was complete and accurate.

To test the qualitative factor adjustments, among other procedures, we assessed management's methodology and considered whether relevant risks were reflected in the models and whether adjustments to the model output were appropriate. We tested the completeness, accuracy and relevance of the underlying data used to estimate the qualitative adjustments. We evaluated whether qualitative adjustments were reasonable based on changes in economic conditions, the loan portfolio, management's policies and procedures, and lending personnel. For example, we evaluated the reasonableness of qualitative adjustments (or lack thereof) for concentrations of credit by independently comparing to loan portfolio information. We also assessed whether qualitative adjustments were consistent with publicly available information (e.g. macroeconomic data). Further, we performed an independent search for the existence of new or contrary information relating to risks impacting the qualitative factor adjustments to validate that management's considerations are appropriate. Additionally, we evaluated whether the overall ALLL, inclusive of qualitative factor adjustments, appropriately reflects losses expected in the loan and lease portfolio by comparing to peer bank data.

Ernst & Young LLP

We have served as KeyCorp's auditor since 1994.
Cleveland, Ohio
February 22, 2023

Consolidated Balance Sheets

December 31, *Dollars in millions, except per share data*	2022	2021
ASSETS		
Cash and due from banks	$ **887**	$ 913
Short-term investments	**2,432**	11,010
Trading account assets	**829**	701
Securities available for sale	**39,117**	45,364
Held-to-maturity securities (fair value: $8,113 and $7,665)	**8,710**	7,539
Other investments	**1,308**	639
Loans, net of unearned income of $368 and $373	**119,394**	101,854
Allowance for loan and lease losses	**(1,337)**	(1,061)
Net loans	**118,057**	100,793
Loans held for sale [(a)]	**963**	2,729
Premises and equipment	**636**	681
Goodwill	**2,752**	2,693
Other intangible assets	**94**	130
Corporate-owned life insurance	**4,369**	4,327
Accrued income and other assets	**9,223**	8,265
Discontinued assets	**436**	562
Total assets	$ **189,813**	$ 186,346
LIABILITIES		
Deposits in domestic offices:		
NOW and money market deposit accounts	$ **86,707**	$ 89,207
Savings deposits	**7,681**	7,503
Certificates of deposit ($100,000 or more)	**1,708**	1,705
Other time deposits	**5,665**	2,153
Total interest-bearing deposits	**101,761**	100,568
Noninterest-bearing deposits	**40,834**	52,004
Total deposits	**142,595**	152,572
Federal funds purchased and securities sold under repurchase agreements	**4,077**	173
Bank notes and other short-term borrowings	**5,386**	588
Accrued expense and other liabilities	**4,994**	3,548
Long-term debt	**19,307**	12,042
Total liabilities	**176,359**	168,923
EQUITY		
Preferred stock	**2,500**	1,900
Common Shares, $1 par value; authorized 2,100,000,000 and 2,100,000,000 shares; issued 1,256,702,081 and 1,256,702,081 shares	**1,257**	1,257
Capital surplus	**6,286**	6,278
Retained earnings	**15,616**	14,553
Treasury stock, at cost (323,377,500 and 327,852,311 shares)	**(5,910)**	(5,979)
Accumulated other comprehensive income (loss)	**(6,295)**	(586)
Total equity	**13,454**	17,423
Total liabilities and equity	$ **189,813**	$ 186,346

(a) Total loans held for sale include Real estate — residential mortgage loans held for sale at fair value of $24 million at December 31, 2022, and $281 million at December 31, 2021.
See Notes to Consolidated Financial Statements

Consolidated Statements of Income

Year ended December 31, *Dollars in millions, except per share amounts*	2022	2021	2020
INTEREST INCOME			
Loans	**$ 4,241**	$ 3,532	$ 3,866
Loans held for sale	**56**	50	69
Securities available for sale	**752**	546	484
Held-to-maturity securities	**213**	185	222
Trading account assets	**31**	19	20
Short-term investments	**97**	28	18
Other investments	**22**	7	6
Total interest income	**5,412**	4,367	4,685
INTEREST EXPENSE			
Deposits	**279**	67	347
Federal funds purchased and securities sold under repurchase agreements	**41**	—	6
Bank notes and other short-term borrowings	**90**	8	12
Long-term debt	**475**	221	286
Total interest expense	**885**	296	651
NET INTEREST INCOME	**4,527**	4,071	4,034
Provision for credit losses	**502**	(418)	1,021
Net interest income after provision for credit losses	**4,025**	4,489	3,013
NONINTEREST INCOME			
Trust and investment services income	**526**	530	507
Investment banking and debt placement fees	**638**	937	661
Service charges on deposit accounts	**350**	337	311
Operating lease income and other leasing gains	**103**	148	167
Corporate services income	**372**	288	213
Cards and payments income	**341**	415	368
Corporate-owned life insurance income	**132**	128	139
Consumer mortgage income	**58**	131	176
Commercial mortgage servicing fees	**167**	160	80
Other income[(a)]	**31**	120	30
Total noninterest income	**2,718**	3,194	2,652
NONINTEREST EXPENSE			
Personnel	**2,566**	2,561	2,336
Net occupancy	**295**	300	298
Computer processing	**314**	284	232
Business services and professional fees	**212**	227	196
Equipment	**92**	100	100
Operating lease expense	**101**	126	138
Marketing	**123**	126	97
Other expense	**707**	705	712
Total noninterest expense	**4,410**	4,429	4,109
INCOME (LOSS) FROM CONTINUING OPERATIONS BEFORE INCOME TAXES	**2,333**	3,254	1,556
Income taxes	**422**	642	227
INCOME (LOSS) FROM CONTINUING OPERATIONS	**1,911**	2,612	1,329
Income (loss) from discontinued operations	**6**	13	14
NET INCOME (LOSS)	**1,917**	2,625	1,343
Less: Net income (loss) attributable to noncontrolling interests	**—**	—	—
NET INCOME (LOSS) ATTRIBUTABLE TO KEY	**$ 1,917**	$ 2,625	$ 1,343
Income (loss) from continuing operations attributable to Key common shareholders	**$ 1,793**	$ 2,506	$ 1,223
Net income (loss) attributable to Key common shareholders	**1,799**	2,519	1,237
Per Common Share:			
Income (loss) from continuing operations attributable to Key common shareholders	**$ 1.94**	$ 2.64	$ 1.26
Income (loss) from discontinued operations, net of taxes	**.01**	.01	.01
Net income (loss) attributable to Key common shareholders [(b)]	**1.94**	2.65	1.28
Per Common Share — assuming dilution:			
Income (loss) from continuing operations attributable to Key common shareholders	**$ 1.92**	$ 2.62	$ 1.26
Income (loss) from discontinued operations, net of taxes	**.01**	.01	.01
Net income (loss) attributable to Key common shareholders [(b)]	**1.93**	2.63	1.27
Weighted-average Common Shares outstanding (000)	**924,363**	947,065	967,783
Effect of convertible preferred stock	**—**	—	—
Effect of Common Share options and other stock awards	**8,696**	10,349	7,024
Weighted-average Common Shares and potential Common Shares outstanding (000)[(c)]	**933,059**	957,414	974,807

(a) Net securities gains (losses) totaled $(9) million for the year ended December 31, 2022, $7 million for the year ended December 31, 2021, and $4 million for the year ended December 31, 2020. For 2022, 2021, and 2020, we did not have any impairment losses related to securities.
(b) EPS may not foot due to rounding.
(c) Assumes conversion of Common Share options and other stock awards and/or convertible preferred stock, as applicable.
See Notes to Consolidated Financial Statements.

Consolidated Statements of Comprehensive Income

Year ended December 31, *Dollars in millions*	2022	2021	2020
Net income (loss)	**$ 1,917**	$ 2,625	$ 1,343
Other comprehensive income (loss), net of tax:			
Net unrealized gains (losses) on securities available for sale, net of income taxes of $1,415, $306, and $(143)	**(4,492)**	(970)	452
Net unrealized gains (losses) on derivative financial instruments, net of income taxes of $382, $122, and $(72)	**(1,212)**	(388)	226
Net pension and postretirement benefit costs, net of income taxes of $1, $(11), and $(9)	**(5)**	34	34
Total other comprehensive income (loss), net of tax	**(5,709)**	(1,324)	712
Comprehensive income (loss) attributable to Key	**$ (3,792)**	$ 1,301	$ 2,055

See Notes to Consolidated Financial Statements.

Consolidated Statements of Changes in Equity

Dollars in millions, except per share amounts	Key Shareholders' Equity								
	Preferred Shares Outstanding (000)	Common Shares Outstanding (000)	Preferred Stock	Common Shares	Capital Surplus	Retained Earnings	Treasury Stock, at Cost	Accumulated Other Comprehensive Income (Loss)	Total Shareholder's Equity
BALANCE AT DECEMBER 31, 2019	1,396	977,189	$ 1,900	$ 1,257	$ 6,295	$ 12,469	$ (4,909)	$ 26	$ 17,038
Cumulative effect from changes in accounting principle [a]						(230)			(230)
Net income (loss)						1,343			1,343
Other reclassification of AOCI						(2)			(2)
Other comprehensive income (loss)								712	712
Deferred compensation					4				4
Cash dividends declared									
Common Shares ($.74 per share)						(723)			(723)
Series D Preferred Stock ($50.00 per depositary share)						(26)			(26)
Series E Preferred Stock ($1.531252 per depositary share)						(31)			(31)
Series F Preferred Stock ($1.4125 per depositary share)						(24)			(24)
Series G Preferred Stock ($.1.406252 per depositary share)						(25)			(25)
Open market Common Share repurchases		(7,151)					(134)		(134)
Employee equity compensation program Common Share repurchases		(1,823)			(18)		(36)		(54)
Common shares reissued (returned) for stock options and other employee benefit plans		7,558					133		133
BALANCE AT DECEMBER 31, 2020	1,396	975,773	$ 1,900	$ 1,257	$ 6,281	$ 12,751	$ (4,946)	$ 738	$ 17,981
Net income (loss)						2,625			2,625
Other comprehensive income (loss)								(1,324)	(1,324)
Deferred compensation					9				9
Cash dividends declared									
Common Shares ($.75 per share)						(717)			(717)
Series D Preferred Stock ($50.00 per depositary share)						(26)			(26)
Series E Preferred Stock ($1.531252 per depositary share)						(31)			(31)
Series F Preferred Stock ($1.4125 per depositary share)						(25)			(25)
Series G Preferred Stock ($1.406252 per depositary share)						(24)			(24)
Open market Common Share repurchases		(27,346)					(559)		(559)
Employee equity compensation program Common Share repurchases		(1,611)			—		(32)		(32)
Common Shares reissued (returned) for stock options and other employee benefit plans		8,061			(12)		143		131
Common Share repurchases under ASR program (b)		(26,027)			—		(585)		(585)
BALANCE AT DECEMBER 31, 2021	1,396	928,850	$ 1,900	$ 1,257	$ 6,278	$ 14,553	$ (5,979)	$ (586)	$ 17,423
Net income (loss)						**1,917**			**1,917**
Other comprehensive income (loss)								**(5,709)**	**(5,709)**
Deferred compensation					**(6)**				**(6)**
Cash dividends declared									
Common Shares ($.79 per share)						**(736)**			**(736)**
Series D Preferred Stock ($50.00 per depositary share)						**(26)**			**(26)**
Series E Preferred Stock ($1.531252 per depositary share)						**(31)**			**(31)**
Series F Preferred Stock ($1.4125 per depositary share)						**(24)**			**(24)**
Series G Preferred Stock ($1.406252 per depositary share)						**(25)**			**(25)**
Series H Preferred Stock ($.477917 per depositary share)						**(12)**			**(12)**
Open market Common Share repurchases		**—**							**—**
Employee equity compensation program Common Share repurchases		**(1,736)**					**(44)**		**(44)**
Common Shares reissued (returned) for stock options and other employee benefit plans		**6,211**			**24**		**113**		**137**
Issuance of Series H Preferred stock	**600**		**600**		**(10)**				**590**
BALANCE AT DECEMBER 31, 2022	**1,996**	**933,325**	**$ 2,500**	**$ 1,257**	**$ 6,286**	**$ 15,616**	**$ (5,910)**	**$ (6,295)**	**$ 13,454**

(a) Includes the impact of implementing ASU 2016-13.
(b) See Note 24 ("Shareholders' Equity") for additional detail regarding ASR program.
See Notes to Consolidated Financial Statements.

Consolidated Statements of Cash Flows

Year ended December 31, *Dollars in millions*	2022	2021	2020
OPERATING ACTIVITIES			
Net income (loss)	**$ 1,917**	$ 2,625	$ 1,343
Adjustments to reconcile net income (loss) to net cash provided by (used in) operating activities:			
Provision for credit losses	**502**	(418)	1,021
Depreciation and amortization expense, net	**137**	32	111
Accretion of acquired loans	**27**	24	28
Increase in cash surrender value of corporate-owned life insurance	**(113)**	(113)	(119)
Stock-based compensation expense	**120**	104	101
Deferred income taxes (benefit)	**(27)**	146	(191)
Proceeds from sales of loans held for sale	**12,496**	16,114	14,076
Originations of loans held for sale, net of repayments	**(10,684)**	(16,497)	(13,856)
Net losses (gains) from sale of loans held for sale	**(151)**	(282)	(233)
Net losses (gains) on leased equipment	**7**	(12)	(21)
Net securities losses (gains)	**(9)**	(7)	(4)
Net losses (gains) on sales of fixed assets	**(7)**	18	5
Net decrease (increase) in trading account assets	**(128)**	34	305
Other operating activities, net	**382**	(615)	(893)
NET CASH PROVIDED BY (USED IN) OPERATING ACTIVITIES	**4,469**	1,153	1,673
INVESTING ACTIVITIES			
Purchases of intangible assets via acquisitions	**(12)**	—	—
Cash received (used) in acquisitions, net of cash acquired	**(58)**	(29)	—
Net decrease (increase) in short-term investments, excluding acquisitions	**8,578**	5,184	(14,922)
Purchases of securities available for sale	**(4,473)**	(28,190)	(15,619)
Proceeds from sales of securities available for sale	**—**	1,375	583
Proceeds from prepayments and maturities of securities available for sale	**4,545**	7,623	9,923
Proceeds from prepayments and maturities of held-to-maturity securities	**2,291**	2,889	2,493
Purchases of held-to-maturity securities	**(3,670)**	(3)	(17)
Purchases of other investments	**(667)**	(55)	(134)
Proceeds from sales of other investments	**17**	41	101
Proceeds from prepayments and maturities of other investments	**15**	26	15
Net decrease (increase) in loans, excluding acquisitions, sales, and transfers	**(17,649)**	(4,276)	(7,358)
Proceeds from sales of portfolio loans	**157**	337	211
Proceeds from corporate-owned life insurance	**72**	72	66
Purchases of premises, equipment, and software	**(96)**	(66)	(63)
Proceeds from sales of premises and equipment	**16**	4	—
NET CASH PROVIDED BY (USED IN) INVESTING ACTIVITIES	**(10,934)**	(15,068)	(24,721)
FINANCING ACTIVITIES			
Net increase (decrease) in deposits, excluding acquisitions	**(9,977)**	17,290	23,412
Net increase (decrease) in short-term borrowings	**8,702**	(218)	(113)
Net proceeds from issuance of long-term debt	**16,596**	1,203	3,607
Payments on long-term debt	**(8,580)**	(2,566)	(2,508)
Issuance of preferred shares	**590**	—	—
Open market common share repurchases	**—**	(559)	(134)
Employee equity compensation program Common Share repurchases	**(44)**	(32)	(36)
Common share purchases under ASR program	**—**	(585)	—
Net proceeds from reissuance of Common Shares	**6**	27	8
Cash dividends paid	**(854)**	(823)	(829)
NET CASH PROVIDED BY (USED IN) FINANCING ACTIVITIES	**6,439**	13,737	23,407
NET INCREASE (DECREASE) IN CASH AND DUE FROM BANKS	**(26)**	(178)	359
CASH AND DUE FROM BANKS AT BEGINNING OF YEAR	**913**	1,091	732
CASH AND DUE FROM BANKS AT END OF YEAR	**$ 887**	$ 913	$ 1,091
Additional disclosures relative to cash flows:			
Interest paid	**$ 601**	$ 363	$ 731
Income taxes paid	**292**	277	241
Noncash items:			
Reduction of secured borrowing and related collateral	**$ 9**	$ 9	$ 7
Loans transferred to portfolio from held for sale	**105**	87	75
Loans transferred to held for sale from portfolio	**—**	3,403	310
Loans transferred to other real estate owned	**6**	4	96
CMBS risk retentions	**12**	28	40
ABS risk retentions	**8**	11	19
Securities received as consideration	**—**	2,825	—

See Notes to Consolidated Financial Statements.

1. Summary of Significant Accounting Policies

Organization

We are one of the nation's largest bank-based financial services companies, providing deposit, lending, cash management, and investment services to individuals and small and medium-sized businesses through our subsidiary, KeyBank. We also provide a broad range of sophisticated corporate and investment banking products, such as merger and acquisition advice, public and private debt and equity, syndications, and derivatives to middle market companies in selected industries throughout the United States through our subsidiary, KBCM. As of December 31, 2022, KeyBank operated 972 full-service retail banking branches and 1,265 ATMs in 15 states, as well as additional offices, online and mobile banking capabilities, and a telephone banking call center. Additional information pertaining to our two major business segments, Consumer Bank and Commercial Bank, is included in Note 25 ("Business Segment Reporting").

Use of Estimates

Our accounting policies conform to US GAAP and prevailing practices within the financial services industry. We must make certain estimates and judgments when determining the amounts presented in our consolidated financial statements and the related notes. If these estimates prove to be inaccurate, actual results could differ from those reported.

Principles of Consolidation and Basis of Presentation

The consolidated financial statements include the accounts of KeyCorp and its subsidiaries. All significant intercompany accounts and transactions have been eliminated in consolidation. Some previously reported amounts related to derivative valuations and reserves have been reclassified from Other Income to Corporate Services Income to conform to current reporting practices.

The consolidated financial statements also include the accounts of any voting rights entities in which we have a controlling financial interest and certain VIEs. In accordance with the applicable accounting guidance for consolidations, we consolidate a VIE if we (i) a variable interest in the entity; (ii) the power to direct activities of the VIE that most significantly affect the entity's economic performance; and (iii) the obligation to absorb losses of the entity or the right to receive benefits from the entity that could potentially be significant to the VIE (i.e., we are considered to be the primary beneficiary). See Note 13 ("Variable Interest Entities") for information on our involvement with VIEs.

We use the equity method to account for unconsolidated investments in voting rights entities or VIEs if we have significant influence over the entity's operating and financing decisions (usually defined as a voting or economic interest of 20% to 50%, but not controlling). Unconsolidated investments in voting rights entities or VIEs in which we have a voting or economic interest of less than 20% generally are carried at fair value or a cost measurement alternative. Investments held by our registered broker-dealer and investment company subsidiaries (principal investing entities and Real Estate Capital line of business) are carried at fair value.

In preparing these financial statements, subsequent events were evaluated through the time the financial statements were issued. Financial statements are considered issued when they are widely distributed to all shareholders and other financial statement users or filed with the SEC.

Cash and Cash Equivalents

Cash and due from banks are considered "cash and cash equivalents" for financial reporting purposes. We do not consider cash on deposit with the Federal Reserve to be restricted.

Loans

Loans held in portfolio, which management has the intent and ability to hold for the foreseeable future or until maturity or payoff, are carried at the principal amount outstanding, net of unearned income, including net deferred loan fees and costs and unamortized premiums and discounts. We defer certain nonrefundable loan origination and

commitment fees, and the direct costs of originating or acquiring loans. The net deferred amount is amortized over the estimated lives of the related loans as an adjustment to the yield.

Accrued interest on loans is included in "other assets" on the balance sheet and is excluded from the calculation of the allowance for credit losses due to our charge-off policy to reverse accrued interest on nonperforming loans against interest income in a timely manner.

Sales-type leases are carried at the aggregate of the lease receivable, estimated unguaranteed residual values, and deferred initial direct fees and costs if certain criteria are met. Direct financing leases are carried at the aggregate of the lease receivable, estimated unguaranteed residual values, and deferred initial direct fees and costs, less unearned income. Unearned income on direct financing leases is amortized over the lease terms using a method approximating the interest method that produces a constant rate of return. Deferred initial direct fees and costs for both sales-type and direct financing leases are amortized over the lease terms as an adjustment to the yield.

Expected credit losses on net investments in leases, including any unguaranteed residual asset, are included in the ALLL. Net gains or losses on sales of lease residuals are included in “other income” or “other expense” on the income statement. Additional information pertaining to the value of lease residuals is provided in Note 10 (“Leases”).

Loans Held for Sale

Loans held for sale generally include certain residential and commercial mortgage loans, other commercial loans, and student loans. Loans are initially classified as held for sale when they are individually identified as being available for immediate sale and a formal plan exists to sell them. Loans held for sale are recorded at either fair value, if elected, or the lower of cost or fair value. Fair value is determined based on available market data for similar assets. When a loan is originated as held-for-sale, origination fees and costs are deferred but not amortized. Upon sale of the loans, deferred origination fees and costs are recognized as part of the calculated gain or loss on sale. Our commercial loans (including commercial mortgage and non-mortgage loans) and student loans, which we originated and intend to sell, are carried at the lower of aggregate cost or fair value. Subsequent declines in fair value for loans held for sale are recognized as a charge to “other income” on the income statement. Consumer real estate - residential mortgages loans have been elected to be carried at fair value. Subsequent increases and decreases in fair value for loans elected to be measured at fair value are recorded to “consumer mortgage income” on the income statement. Additional information regarding fair value measurements associated with our loans held for sale is provided in Note 6 (“Fair Value Measurements”).

We may transfer certain loans to held for sale at the lower of cost or fair value. If a loan is transferred from the loan portfolio to the held-for-sale category, any write-down in the carrying amount of the loan at the date of transfer is recorded as a reduction in the ALLL. When a loan is transferred into the held for sale category, we stop amortizing the related deferred fees and costs. The remaining unamortized fees and costs are recognized as part of the cost basis of the loan at the time it is sold. We may also transfer loans from held for sale to the loan portfolio held for investment. If a loan held for sale for which fair value accounting was elected is transferred to held for investment, it will continue to be accounted for at fair value in the loan portfolio.

Nonperforming Loans

Nonperforming loans are loans for which we do not accrue interest income, and include both commercial and consumer loans and leases and nonaccruing TDR loans. Nonperforming loans do not include loans held for sale. Once a loan is designated nonaccrual, the interest accrued but not collected is reversed against interest income, and payments subsequently received are applied to principal until qualifying for return to accrual.

We generally classify commercial loans as nonperforming and stop accruing interest (i.e., designate the loan “nonaccrual”) when the borrower’s principal or interest payment is 90 days past due unless the loan is well-secured and in the process of collection. Commercial loans are also placed on nonaccrual status when payment is not past due but we have serious doubts about the borrower’s ability to comply with existing repayment terms. Once a loan is designated nonaccrual (and as a result assessed for impairment), the interest accrued but not collected is reversed against loan interest income, and payments subsequently received are applied to principal. Commercial loans are typically charged off in full or charged down to the fair value of the underlying collateral when the borrower’s payment is 180 days past due.

We classify consumer loans as nonperforming and stop accruing interest when the borrower's payment is 120 days past due, unless the loan is well-secured and in the process of collection. Any second lien home equity loan with an associated first lien that is 120 days or more past due or in foreclosure, or for which the first mortgage delinquency timeframe is unknown, is reported as a nonperforming loan. Secured loans that are discharged through Chapter 7 bankruptcy and not formally re-affirmed are designated as nonperforming and TDRs. Our charge-off policy for most consumer loans takes effect when payments are 120 days past due. Home equity and residential mortgage loans generally are charged down to net realizable value when payment is 180 days past due. Credit card loans and similar unsecured products continue to accrue interest until the account is charged off at 180 days past due.

Commercial and consumer loans may be returned to accrual status if we are reasonably assured that all contractually due principal and interest are collectible and the borrower has demonstrated a sustained period (generally six months) of repayment performance under the contracted terms of the loan and applicable regulation.

Purchased Loans

Purchased performing loans that do not have evidence of deterioration in credit quality at acquisition are recorded at fair value at the acquisition date. Any premium or discount associated with purchased performing loans is recognized as interest income based on the effective yield method of amortization for term loans or the straight-line method of amortization for revolving loans. The methods utilized to estimate the required ALLL for purchased performing loans is similar to originated loans.

Purchased loans that have experienced a more-than-insignificant deterioration in credit quality since origination are deemed PCD loans. PCD loans are initially recorded at fair value along with an allowance for credit losses determined using the same methodology as originated loans. The sum of the loan's purchase price and allowance for credit losses becomes its initial amortized cost basis. The difference between the initial amortized cost basis and the par value of the loan is a noncredit discount or premium, which is amortized into interest income over the life of the loan. Subsequent changes to the allowance for credit losses are recorded through provision for credit losses.

Allowance for Loan and Lease Losses

On January 1, 2020, we adopted ASU 2016-13, Financial Instruments - Credit Losses: Measurement of Credit Losses on Financial Instruments, which replaces the incurred-loss methodology that recognized losses when a probable threshold was met with an expected-loss methodology, specifically, recognizing current expected credit losses for the remaining life of the asset at the time of origination or acquisition. We estimate the ALLL using relevant available information, from internal and external sources, relating to past events, current conditions, and reasonable and supportable forecasts. The ALLL is measured on a collective (pool) basis when similar risk characteristics exist. Our portfolio segments include commercial and consumer. Each of these two segments comprises multiple loan classes. Classes are characterized by similarities in initial measurement, risk attributes, and the manner in which we monitor and assess credit risk. The commercial segment is composed of commercial and industrial, commercial real estate, and commercial lease financing loan classes. The consumer lending segment is composed of residential mortgage, home equity, consumer direct, credit card, student lending and consumer indirect loan classes.

The ALLL represents our current estimate of lifetime credit losses inherent in our loan portfolio at the balance sheet date. In determining the ALLL, we estimate expected future losses for the loan's entire contractual term adjusted for expected prepayments when appropriate. The contractual term excludes expected extensions, renewals, and modifications.

The ALLL is the sum of three components: (i) asset specific/ individual loan reserves; (ii) quantitative (formulaic or pooled) reserves; and (iii) qualitative (judgmental) reserves.

Asset Specific / Individual Component

Loans that do not share risk characteristics are evaluated on an individual basis. Loans evaluated individually are not included in the collective evaluation. We have elected to apply the practical expedient to measure expected credit losses of a collateral dependent asset using the fair value of the collateral, less any costs to sell, when foreclosure is not probable, when repayment of the loan is expected to be provided substantially through the operation or sale of the collateral, and the borrower is experiencing financial difficulty.

Individual reserves are determined as follows:

- For commercial non-accruing loans greater than or equal to a defined dollar threshold, individual reserves are determined based on an analysis of the present value of the loan's expected future cash flows or the fair value of the collateral less costs to sell.
- For commercial non-accruing loans below the defined dollar threshold, an established LGD percentage is multiplied by the loan balance and the results are aggregated for purposes of measuring specific reserve impairment.
- The population of individually assessed consumer loans includes loans deemed collateral dependent, in addition to all TDRs. The expected loss for these loans is estimated based on the present value of the loan's expected future cash flows, except in instances where the loan is collateral dependent, in which case the loan is written down based on the collateral's fair market value less costs to sell.

Quantitative Component

We use a non-DCF factor-based approach to estimate expected credit losses that include component PD/LGD/EAD models as well as less complex estimation methods for smaller loan portfolios.

- PD: This component model is used to estimate the likelihood that a borrower will cease making payments as agreed. The major contributors to this are the borrower credit attributes and macro-economic trends. The objective of the PD model is to produce default likelihood forecasts based on the observed loan-level information and projected paths of macroeconomic variables.
- LGD: This component model is used to estimate the loss on a loan once a loan is in default.
- EAD: Estimates the loan balance at the time the borrower stops making payments. For all term loans, an amortization based formulaic approach is used for account level EAD estimates. We calculate EAD using a portfolio specific method in each of our revolving product portfolios. For line products that are unconditionally cancellable, the balances will either use a paydown curve or be held flat through the life of the loan.

Qualitative Component

The ALLL also includes identified qualitative factors related to idiosyncratic risk factors, changes in current economic conditions that may not be reflected in quantitatively derived results, and other relevant factors to ensure the ALLL reflects our best estimate of current expected credit losses. While our reserve methodologies strive to reflect all relevant risk factors, there continues to be uncertainty associated with, but not limited to, potential imprecision in the estimation process due to the inherent time lag of obtaining information and normal variations between estimates and actual outcomes. We provide additional reserves that are designed to provide coverage for losses attributable to such risks. The ALLL also includes factors that may not be directly measured in the determination of individual or collective reserves. Such qualitative factors may include:

- The nature and volume of the institution’s financial assets;
- The existence, growth, and effect of any concentrations of credit;
- The volume and severity of past due financial assets, the volume of nonaccrual assets, and the volume and severity of adversely classified or graded assets;
- The value of the underlying collateral for loans that are not collateral dependent;
- The institution’s lending policies and procedures, including changes in underwriting standards and practices for collections, write-offs, and recoveries;
- The quality of the institution’s credit review function;
- The experience, ability, and depth of the institution’s lending, investment, collection, and other relevant management and staff;
- The effect of other external factors such as the regulatory, legal and technological environments; competition; and events such as natural disasters; and
- Actual and expected changes in international, national, regional, and local economic and business conditions and developments in which the institution operates that affect the collectability of financial assets.

Liability for Credit Losses on Lending-Related Commitments

The liability for credit losses on lending-related commitments, such as letters of credit and unfunded loan commitments, is included in “accrued expense and other liabilities” on the balance sheet. Expected credit losses are estimated over the contractual period in which we are exposed to credit risk via a contractual obligation unless that obligation is unconditionally cancellable by us. The liability for credit losses on lending-related commitments is

adjusted as a provision for credit losses. The estimate includes consideration of the likelihood that funding will occur and an estimate of expected credit losses on commitments expected to be funded over its estimated useful life. Consistent with our estimation process on our loan and lease portfolio, we use a non-DCF factor-based approach to estimate expected credit losses that include component PD/LGD/EAD models as well as less complex estimation methods for smaller portfolios.

Allowance for Credit Losses on Other Financial Assets

The allowance for credit losses on other financial assets, such as other receivables and servicing advances, is determined based on historical loss information and other available indicators. If such information does not indicate any expected credit losses, Key may estimate the allowance for credit losses on other financial assets to be zero or close to zero.

Fair Value Measurements

Fair value is defined as the price to sell an asset or transfer a liability in an orderly transaction between market participants in the principal market. Therefore, fair value represents an exit price at the measurement date. We value our assets and liabilities based on the principal or most advantageous market where each would be sold (in the case of assets) or transferred (in the case of liabilities). In the absence of observable market transactions, we consider liquidity valuation adjustments to reflect the uncertainty in pricing the instruments.

Valuation inputs can be observable or unobservable. Observable inputs are assumptions based on market data obtained from an independent source. Unobservable inputs are assumptions based on our own information or assessment of assumptions used by other market participants in pricing the asset or liability. Our unobservable inputs are based on the best and most current information available on the measurement date.

All inputs, whether observable or unobservable, are ranked in accordance with a prescribed fair value hierarchy that gives the highest ranking to quoted prices in active markets for identical assets or liabilities (Level 1) and the lowest ranking to unobservable inputs (Level 3). Fair values for Level 2 assets and liabilities are based on one or a combination of the following factors: (i) quoted market prices for similar assets or liabilities; (ii) observable inputs, such as interest rates or yield curves; or (iii) inputs derived principally from or corroborated by observable market data. The level in the fair value hierarchy ascribed to a fair value measurement in its entirety is based on the lowest level input that is significant to the measurement. Assets and liabilities may transfer between levels based on the observable and unobservable inputs used at the valuation date.

Assets and liabilities are recorded at fair value on a recurring or nonrecurring basis. Nonrecurring fair value adjustments are typically recorded as a result of the application of lower of cost or fair value accounting; or impairment. At a minimum, we conduct our valuations quarterly.

Additional information regarding fair value measurements and disclosures is provided in Note 6 (“Fair Value Measurements”).

Short-Term Investments

Short-term investments consist of segregated, interest-bearing deposits due from banks, the Federal Reserve, and certain non-U.S. banks as well as reverse repurchase agreements and United States Treasury Bills with an original maturity of three months or less.

Trading Account Assets

Trading account assets are debt and equity securities, as well as commercial loans, that we purchase and hold but intend to sell in the near term. These assets are reported at fair value. Realized and unrealized gains and losses on trading account assets are reported in “other income” on the income statement.

Securities

Securities available for sale. Debt securities that we intend to hold for an indefinite period of time but that may be sold in response to changes in interest rates, prepayment risk, liquidity needs, or other factors are classified as available-for-sale and reported at fair value. Realized gains and losses resulting from sales of securities using the specific identification method, are included in “other income” on the income statement. Unrealized holding gains are recorded through other comprehensive income. Unrealized losses in fair value below the amortized cost basis are assessed to determine whether the impairment gets recorded through other comprehensive income or through earnings using a valuation allowance.

For available-for-sale securities in an unrealized loss position, we first assess whether we intend to sell, or it is more likely than not that we will be required to sell the security before recovery of its amortized cost basis. If either of these criteria regarding intent or requirement to sell is met, the security’s amortized cost basis is written down to fair value in “other income” on the income statement. For debt securities that do not meet the aforementioned criteria, we evaluate whether the decline in fair value has resulted from credit losses or other factors. In making this assessment, management considers the extent to which fair value is less than amortized costs, the nature of the security, the underlying collateral, and the financial condition of the issuers, among other factors. If this assessment indicates a credit loss exists, the present value of cash flows expected to be collected from the security are compared to the amortized cost basis of the security. If the present value of the cash flows expected to be collected is less than the amortized cost basis, a credit loss exists and an allowance for available-for-sale securities is recorded for the credit loss, limited by the amount that the fair value is less than the amortized costs basis. Any impairment that has not been recorded through an allowance for available-for-sale securities is recognized in other comprehensive income.

Changes in the allowance for available-for-sale securities are recorded as provision for (or reversal of) credit loss. Losses are charged against the allowance for available-for-sale securities when management believes the uncollectibility of an available-for-sale security is confirmed or when either criteria regarding intent or requirement to sell is met.

“Other securities” held in the available-for-sale portfolio consist of convertible preferred stock of privately held companies. For additional information, refer to Note 7 (“Securities”).

Held-to-maturity securities. Debt securities that we have the intent and ability to hold until maturity are classified as held-to-maturity and are carried at cost and adjusted for amortization of premiums and accretion of discounts using the interest method. This method produces a constant rate of return on the adjusted carrying amount.

The held-to-maturity portfolio is classified by the following major security types: agency residential collateralized mortgage obligations, agency residential mortgage-backed securities, agency commercial mortgage-backed securities, asset backed securities, and other. “Other securities” held in the held-to-maturity portfolio consist of foreign bonds and capital securities. Management measures expected credit losses on held-to-maturity securities on a collective basis by major security type. The estimate of expected losses considers historical credit loss information that is adjusted for current conditions and reasonable and supportable forecasts. We do not measure expected credit losses on held-to-maturity securities in which historical credit loss information adjusted for current conditions and reasonable and supportable forecasts results in an expectation that nonpayment of the amortized cost basis is zero.

All of our mortgage-backed securities are issued by U.S. government-sponsored enterprises or GNMA, are highly rated by major rating agencies and have a long history of no credit losses. Our asset backed securities consist primarily of senior notes from the sale and securitization of our indirect auto portfolio. Other securities are comprised of State of Israel bonds denominated and paid in U.S. dollars. Israel bonds have a long history of no credit losses. Additionally, as of December 31, 2022, the State of Israel's credit rating is "stable" or “positive” among Fitch, Moody's, and S&P (A+, A1, AA-).

Other Investments

Other investments include equity and mezzanine instruments as well as other types of investments that generally are carried at the alternative cost method. The alternative cost method results in these investments being recorded at cost, less any impairment, plus or minus changes resulting from observable market transactions. Adjustments are

included in “other income” on the income statement. At each reporting period, we assess if these investments continue to qualify for this measurement alternative.

Derivatives and Hedging

All derivatives are recognized on the balance sheet at fair value in “accrued income and other assets” or “accrued expense and other liabilities.” The net increase or decrease in derivatives is included in “other operating activities, net” within the statement of cash flows. Accounting for changes in fair value (i.e., gains or losses) of derivatives differs depending on whether the derivative has been designated and qualifies as part of a hedge relationship, and on the type of hedge relationship. For derivatives that are not in a hedge relationship, any gain or loss, as well as any premium paid or received, is recognized immediately in earnings in “corporate services income” or “other income” on the income statement, depending whether the derivative is for customer accommodation or risk management, respectively. A derivative that is designated and qualifies as a hedging instrument must be designated as a fair value hedge, a cash flow hedge, or a hedge of a net investment in a foreign operation. Changes in the fair value of a hedging instrument are reflected in the same income statement line as the earnings effect of the change in fair value of the hedged item attributable to the hedged risk.

A fair value hedge is used to limit exposure to changes in the fair value of existing assets, liabilities, and commitments caused by changes in interest rates or other economic factors. The change in the fair value of an instrument designated as a fair value hedge is recorded in earnings at the same time as a change in fair value of the hedged item attributable to the hedged risk.

A cash flow hedge is used to minimize the variability of future cash flows that is caused by changes in interest rates or other economic factors. The gain or loss on a cash flow hedge is recorded as a component of AOCI on the balance sheet and reclassified to earnings in the same period in which the hedged transaction affects earnings (e.g., when we incur variable-rate interest on debt, earn variable-rate interest on loans, or sell commercial real estate loans).

A net investment hedge is used to hedge the exposure of changes in the carrying value of investments as a result of changes in the related foreign exchange rates. The gain or loss on a net investment hedge is recorded as a component of AOCI on the balance sheet when the terms of the derivative match the notional and currency risk being hedged. The amount in AOCI is reclassified into income when the hedged transaction affects earnings (e.g., when we dispose or liquidate a foreign subsidiary).

Hedge “effectiveness” is determined by the extent to which changes in the fair value of a derivative instrument offset changes in the fair value, cash flows, or carrying value attributable to the risk being hedged. If the relationship between the change in the fair value of the derivative instrument and the change in the hedged item falls within a range considered to be the industry norm, the hedge is considered “highly effective” and qualifies for hedge accounting. A hedge is “ineffective” if the relationship between the changes falls outside the acceptable range. In that case, hedge accounting is discontinued on a prospective basis. Hedge effectiveness is tested at least quarterly.

We take into account the impact of bilateral collateral and master netting agreements that allow us to settle all derivative contracts held with a single counterparty on a net basis, and to offset the net derivative position with the related cash collateral when recognizing derivative assets and liabilities. As a result, we could have derivative contracts with negative fair values included in derivative assets on the balance sheet and contracts with positive fair values included in derivative liabilities. Derivative assets and derivative liabilities are recorded within “accrued income and other assets” and “accrued expense and other liabilities,” respectively.

Additional information regarding the accounting for derivatives is provided in Note 8 (“Derivatives and Hedging Activities”).

Loan Sales and Securitizations

We sell and at times may securitize loans and other financial assets. We recognize the sale and securitization of loans or other financial assets when the transferred assets are legally isolated from our creditors and the appropriate accounting criteria are met. When we securitize loans or other financial assets, we may retain a portion of the securities issued, including senior interests, subordinated interests, interest-only strips, servicing rights, and other interests, all of which are considered retained interests in the transferred assets. The interests are initially measured at fair value which is based on independent third party market prices or market prices for similar assets.

If market prices are not available, fair value is estimated based on the present value of expected future cash flows using assumptions as to discount rates, interest rates, prepayment speeds, and credit losses. Loans sold or securitized are removed from the balance sheet and a net gain or loss is recorded depending on the fair value of the loans sold and the retained interests at the date of sale. The net gain or loss is recognized in “other income,” “consumer mortgage income,” or “investment banking and debt placement fees” at the time of sale.

Servicing Assets

We service commercial real estate and residential mortgage loans. Servicing assets and liabilities purchased or retained are initially measured at fair value and are recorded as a component of “accrued income and other assets” on the balance sheet. When no ready market value (such as quoted market prices, or prices based on sales or purchases of similar assets) is available to determine the fair value of servicing assets, fair value is determined by calculating the present value of future cash flows associated with servicing the loans. This calculation is based on a number of assumptions, including the market cost of servicing, the discount rate, the prepayment rate, and the default rate.

We account for our servicing assets using the amortization method. The amortization of servicing assets is determined in proportion to, and over the period of, the estimated net servicing income and recorded in either “consumer mortgage income” or “commercial mortgage servicing fees” on the income statement.

Servicing assets are evaluated quarterly for possible impairment. This process involves stratifying the assets based upon one or more predominant risk characteristics and determining the fair value of each class. The characteristics may include financial asset type, size, interest rate, date of origination, term and geographic location. If the evaluation indicates that the carrying amount of the servicing assets exceeds their fair value, the carrying amount is reduced by recording a charge to income in the amount of such excess and establishing a valuation reserve allowance. If impairment is determined to be other-than-temporary, a direct write-off of the carrying amount would be recorded. Additional information pertaining to servicing assets is included in Note 9 (“Mortgage Servicing Assets”).

Leases

For leases where Key is the lessee that have initial terms greater than one year, right-of-use assets and corresponding lease liabilities are reported on the balance sheet. Leases with an initial term of less than one year are not recorded on the balance sheet. Our leases where Key is the lessee are primarily classified as operating leases. Operating lease expense is recognized in "net occupancy" and "equipment" on a straight-line basis over the lease term. For additional information, see Note 10 (“Leases”).

Premises and Equipment

Premises and equipment, including leasehold improvements, are stated at cost less accumulated depreciation and amortization. We determine depreciation of premises and equipment using the straight-line method over the estimated useful lives of the particular assets. Leasehold improvements are amortized using the straight-line method over the shorter of their useful lives or terms of the leases. Premises and equipment are evaluated for impairment whenever events or circumstances indicate that the carrying value of the asset may not be recoverable.

Goodwill and Other Intangible Assets

Goodwill represents the amount by which the cost of net assets acquired in a business combination exceeds their fair value. Goodwill is assigned to reporting units as of the acquisition date based on the expected benefit to such reporting unit from the synergies of the business combination. Goodwill is not amortized. Goodwill is tested at the reporting unit level for impairment, at least annually as of October 1, or when indicators of impairment exist.

We may elect to perform a qualitative analysis to determine whether or not it is more-likely-than-not that the fair value of a reporting unit is less than its carrying amount. When conducting a qualitative analysis, we evaluate both internal and external factors, including recent performance, updated projections, stock prices and economic conditions. If we elect to bypass this qualitative analysis, or conclude via qualitative analysis that it is more-likely-than-not that the fair value of a reporting unit is less than its carrying value, a quantitative goodwill impairment test is performed. If the fair value is less than the carrying value, an impairment charge is recorded for the difference.

Beginning January 1, 2021, the amount of capital being allocated to our reporting units as a proxy for the carrying value is based on a combination of regulatory and economic equity. Fair values are estimated using a combination of market and income approaches. The market approach incorporates comparable public company multiples along with data related to recent merger and acquisition activity. The income approach consists of discounted cash flow modeling that utilizes internal forecasts and various other inputs and assumptions. A multi-year internal forecast is prepared for each reporting unit and a terminal growth rate is estimated for each one based on market expectations of inflation and economic conditions in the financial services industry. Earnings projections for reporting units are adjusted for after tax cost savings expected to be realized by a market participant. The discount rate applied to our cash flows is derived from the CAPM. The buildup to the discount rate includes a risk-free rate, 5-year adjusted beta based on peer companies, a market equity risk premium, a size premium and a company specific risk premium. The discount rates differ between our reporting units as they have different levels of risk. A sensitivity analysis is typically performed on key assumptions, such as the discount rates and cost savings estimates.

Other intangible assets with finite lives are amortized on either an accelerated or straight-line basis. We monitor for impairment indicators for goodwill and other intangible assets on a quarterly basis. Additional information pertaining to goodwill and other intangible assets is included in Note 12 (“Goodwill and Other Intangible Assets”).

Business Combinations

We account for our business combinations using the acquisition method of accounting. Under this accounting method, the acquired company’s assets and liabilities are recorded at fair value at the date of acquisition, except as provided for by the applicable accounting guidance, and the results of operations of the acquired company are combined with Key’s results from the date of acquisition forward. Acquisition costs are expensed when incurred. The difference between the purchase price and the fair value of the net assets acquired (including identifiable intangible assets) is recorded as goodwill. Our accounting policy for intangible assets is summarized in this note under the heading “Goodwill and Other Intangible Assets.”

Additional information regarding acquisitions is provided in Note 15 (“Acquisitions and Discontinued Operations”).

Securities Financing Activities

We enter into repurchase agreements to finance overnight customer sweep deposits. We also enter into repurchase and reverse repurchase agreements to settle other securities obligations. We account for these securities financing agreements as collateralized financing transactions. Repurchase and reverse repurchase agreements are recorded on the balance sheet at the amounts that the securities will be subsequently sold or repurchased. Securities borrowed transactions are recorded on the balance sheet at the amounts of cash collateral advanced. While our securities financing agreements incorporate a right of set off, the assets and liabilities are reported on a gross basis. Reverse repurchase agreements and securities borrowed transactions are included in “short-term investments” on the balance sheet; repurchase agreements are included in “federal funds purchased and securities sold under repurchase agreements.” Fees received in connection with these transactions are recorded in interest income; fees paid are recorded in interest expense.

Additional information regarding securities financing activities is included in Note 16 (“Securities Financing Activities”).

Contingencies and Guarantees

We recognize liabilities for the fair value of our obligations under certain guarantees issued. These liabilities are included in “accrued expense and other liabilities” on the balance sheet. If we receive a fee for a guarantee requiring liability recognition, the amount of the fee represents the initial fair value of the “stand ready” obligation. If there is no fee, the fair value of the stand ready obligation is determined using expected present value measurement techniques, unless observable transactions for comparable guarantees are available. The subsequent accounting for these stand ready obligations depends on the nature of the underlying guarantees. We account for our release from risk under a particular guarantee when the guarantee expires or is settled, or by a systematic and rational amortization method, depending on the risk profile of the guarantee. Contingent aspects of certain guarantees are assessed a reserve under CECL if required.

Contingent liabilities may result from litigation, claims and assessments, loss or damage to Key. We recognize liabilities from contingencies when a loss is probable and can be reasonably estimated.

Additional information regarding contingencies and guarantees is included in Note 22 (“Commitments, Contingent Liabilities, and Guarantees”).

Revenue Recognition

We recognize revenues as they are earned based on contractual terms, as transactions occur, or as services are provided and collectability is reasonably assured. Our principal source of revenue is interest income from loans and investments. We also earn noninterest income from various banking and financial services offered through both the Commercial and Consumer banks.

Interest Income. The largest source of revenue for us is interest income. Interest income is primarily recognized on an accrual basis according to nondiscretionary formulas in written contracts, such as loan agreements or securities contracts.

Noninterest Income. We earn noninterest income through a variety of financial and transaction services provided to commercial and consumer clients. Revenue is recorded for noninterest income based on the contractual terms for the service or transaction performed. In certain circumstances, noninterest income is reported net of associated expenses.

Trust and Investment Services Income. Trust and investment services revenues include brokerage commissions trust and asset management commissions.

Revenue from trade execution and brokerage services is earned through commissions from trade execution on behalf of clients. Revenue from these transactions is recognized at the trade date. Any ongoing service fees are recognized on a monthly basis as services are performed.

Trust and asset management services include asset custody and investment management services provided to individual and institutional customers. Revenue is recognized monthly based on a minimum annual fee, and the market value of assets in custody. Additional fees are recognized for transactional activity at a point in time.

Investment Banking and Debt Placement Fees. Investment banking and debt placement fees consist of syndication fees, debt and equity underwriting fees, financial advisor fees, gains on sales of commercial mortgages, and agency origination fees. Revenues for these services are recorded at a point in time, upon completion of a contractually identified transaction, or when an advisory opinion is provided. Investment banking and debt placement costs are reported on a gross basis within other expense on the income statement.

Service Charges on Deposit Accounts. Revenue from service charges on deposit accounts is earned through cash management, wire transfer, and other deposit-related services as well as overdraft, non-sufficient funds, account management and other deposit-related fees. Revenue is recognized for these services either over time, corresponding with deposit accounts’ monthly cycle, or at a point in time for transactional related services and fees. Certain reward costs are netted within revenues from service charges on deposits.

Corporate Services Income. Corporate services income includes various ancillary service revenue including letter of credit fees, loan fees, certain non-hedging derivatives gains and losses, and certain capital market fees. Revenue from these fees is recorded in a manner that reflects the timing of when transactions occur, and as services are provided.

Cards and Payments Income. Cards and payments income consists of debit card, consumer and commercial credit card, and merchant services income. Revenue sources include interchange fees from credit and debit cards processed through card association networks, merchant services, and other card related services. Interchange rates are generally set by the credit card associations and based on purchase volumes and other factors. Interchange fees are recognized as transactions occur. Certain card network costs and reward costs are netted within interchange revenues. Merchant services income represents account management fees and transaction fees charged to merchants for the processing of card association network transactions. Merchant services revenue is recognized as transactions occur, or as services are performed.

Corporate-Owned Life Insurance Income. Income from corporate-owned life insurance primarily represents changes in the cash surrender value of life insurance policies held on certain key employees. Revenue is recognized in each period based on the change in the cash surrender value during the period.

Stock-Based Compensation

Stock-based compensation is measured using the fair value method of accounting on the grant date. The measured cost is recognized over the period during which the recipient is required to provide service in exchange for the award. We estimate expected forfeitures when stock-based awards are granted and record compensation expense only for awards that are expected to vest. Compensation expense related to awards granted to employees is recorded in “personnel expense” on the Consolidated Statements of Income while compensation expense related to awards granted to directors is recorded in “other expense.”

We recognize compensation expense for stock-based, mandatory deferred incentive compensation awards using the accelerated method of amortization over a period of approximately 5 years (the current year performance period and a four-year vesting period, which generally starts in the first quarter following the performance period).

We estimate the fair value of options granted using the Black-Scholes option-pricing model, as further described in Note 17 (“Stock-Based Compensation”). Employee stock options typically become exercisable at the rate of 25% per year, beginning one year after the grant date. Options expire no later than 10 years after their grant date. We recognize stock-based compensation expense for stock options with graded vesting using an accelerated method of amortization.

We use shares repurchased under our annual capital plan submitted to our regulators (treasury shares) for share issuances under all stock-based compensation programs.

Income Taxes

Deferred tax assets and liabilities are determined based on temporary differences between financial statement asset and liability amounts and their respective tax bases, and are measured using enacted tax laws and rates that are expected to apply in the periods in which the deferred tax assets or liabilities are expected to be realized. Deferred tax assets are also recorded for any tax attributes, such as tax credit and net operating loss carryforwards. The net balance of deferred tax assets and liabilities is reported in “Accrued income and other assets” or “Accrued expense and other liabilities” in the consolidated balance sheets, as appropriate. Subsequent changes in the tax laws require adjustment to these assets and liabilities with the cumulative effect included in the provision for income taxes for the period in which the change is enacted. A valuation allowance is recognized for a deferred tax asset if, based on the weight of available evidence, it is more-likely-than-not that some portion or all of the deferred tax asset will not be realized.

Earnings Per Share

Basic net income per common share is calculated using the two-class method. The two-class method is an earnings allocation formula that determines earnings per share for each share of common stock and participating securities according to dividends declared (distributed earnings) and participation rights in undistributed earnings. Distributed and undistributed earnings are allocated between common and participating security shareholders based on their respective rights to receive dividends. Nonvested share-based payment awards that contain nonforfeitable rights to dividends or dividend equivalents are considered participating securities (e.g., nonvested service-based restricted stock units). Undistributed net losses are not allocated to nonvested restricted shareholders, as these shareholders do not have a contractual obligation to fund the incurred losses. Net income attributable to common shares is then divided by the weighted-average number of common shares outstanding during the period.

Diluted net income per common share is calculated using the more dilutive of either the treasury method or the two-class method. The dilutive calculation considers the potential dilutive effect of common stock equivalents determined under the treasury stock method. Common stock equivalents include stock options and service- and performance-based restricted stock and stock units granted under our stock plans. Net income attributable to common shares is then divided by the total of weighted-average number of common shares and common stock equivalents outstanding during the period.

Accounting Guidance Adopted in 2022

Standard	Date of Adoption	Description	Effect on Financial Statements or Other Significant Matters
ASU 2020-04 and ASU 2021-01 — Reference Rate Reform (Topic 848)	March 12, 2020 through December 31, 2024	London Interbank Offered Rate (LIBOR), a reference rate presumed to capture bank funding costs, is being phased out and will no longer be published. This transition to alternate rates will impact, among other things, contracts that reference LIBOR. This ASU provides relief from cumbersome accounting consequences for certain qualifying contract modifications undertaken as a result of reference rate reform.	Key has established an enterprise-wide program to identify and address all LIBOR related matters. We have elected to apply certain optional expedients for contract modifications and hedging relationships to derivative instruments impacted by the market-wide discounting transition. These optional expedients remove the requirement to remeasure contract modifications or dedesignate hedging relationships due to reference rate reform. We plan to elect any optional expedients for contract modifications and hedging relationships to any other financial instruments falling under the scope of reference rate reform.
ASU 2020-06, Debt—Debt with Conversion and Other Options (Subtopic 470-20) and Derivatives and Hedging—Contracts in Entity's Own Equity (Subtopic 815-40)	January 1, 2022	The ASU simplifies the accounting for convertible debt instruments by eliminating the legacy accounting models for convertible instruments with beneficial conversion features or cash conversion features. The guidance also amends the guidance used to determine if a freestanding financial instrument or an embedded feature qualifies for a scope exception from derivative accounting. For freestanding financial instruments and embedded features that have all the characteristics of a derivative instrument and are potentially settled in an entity's own stock, the guidance simplifies the settlement assessment that entities are required to perform. Also, this update now requires the use of the if-converted method for all convertible instruments and includes the effect of potential share settlement in diluted EPS if the effect is more dilutive. The new guidance also makes clarifications to the EPS calculation. Further, the ASU expands disclosure requirements. The guidance should be applied on a modified retrospective or retrospective basis.	The adoption of this accounting guidance did not have a material effect on our financial condition or results of operations.

Accounting Guidance Adopted in 2023

Standard	Date of Adoption	Description	Effect on Financial Statements or Other Significant Matters
ASU 2021-08, Business Combinations (Topic 805)	January 1, 2023 Early adoption is permitted.	At the acquisition date, an acquirer must account for any acquired revenue contracts in accordance with Topic 606 as if it had originated the contracts (i.e. measure contract assets and liabilities, generally consistent with acquiree's financial statements). The guidance should be applied on a prospective basis.	The adoption of this guidance did not have a material impact on Key's financial condition or results of operations.
ASU 2022-01, Derivatives and Hedging (Topic 815)	January 1, 2023 Early adoption is permitted.	This guidance allows entities to apply the same portfolio hedging method to both prepayable and nonprepayable financial assets. It also allows multiple hedged layers to be designated for a single closed portfolio of financial assets or one or more beneficial interests secured by a portfolio of financial instruments. If a breach is anticipated, an entity is required to partially or fully dedesignate a hedged layer or layers until a breach is no longer anticipated. There are additional requirements and enhanced disclosures related to basis adjustments. The guidance should be applied on a prospective, retrospective or modified retrospective basis depending on the amendment.	The adoption of this guidance did not have a material impact on Key's financial condition or results of operations.
ASU 2022-02, Financial Instruments—Credit Losses (Topic 326)	January 1, 2023 Early adoption is permitted.	The amendments eliminate current Troubled Debt Restructuring (TDR) guidance and instead require entities to apply the loan refinancing and restructuring guidance to determine whether a modification results in a new loan or is a continuation of an existing loan. Entities must disclose current-period gross write-offs on an amortized cost basis by credit quality indicator and class of financing receivable by year of origination. The guidance should be applied on a prospective basis except for amendments related to recognition and measurement of TDRs, where a modified retrospective transition method is optional.	The adoption of this guidance did not have a material impact on Key's financial condition or results of operations.

2. Earnings Per Common Share

Basic earnings per share is the amount of earnings (adjusted for dividends declared on our preferred stock) available to each Common Share outstanding during the reporting periods. Diluted earnings per share is the amount of earnings available to each Common Share outstanding during the reporting periods adjusted to include the effects of potentially dilutive Common Shares. Potentially dilutive Common Shares include stock options and other

stock-based awards. Potentially dilutive Common Shares are excluded from the computation of diluted earnings per share in the periods where the effect would be antidilutive.

Our basic and diluted earnings per Common Share are calculated as follows:

Year ended December 31, *Dollars in millions, except per share amounts*	2022	2021	2020
EARNINGS			
Income (loss) from continuing operations	**$ 1,911**	$ 2,612	$ 1,329
Less: Net income (loss) attributable to noncontrolling interests	**—**	—	—
Income (loss) from continuing operations attributable to Key	**1,911**	2,612	1,329
Less: Dividends on preferred stock	**118**	106	106
Income (loss) from continuing operations attributable to Key common shareholders	**1,793**	2,506	1,223
Income (loss) from discontinued operations, net of taxes	**6**	13	14
Net income (loss) attributable to Key common shareholders	**$ 1,799**	$ 2,519	$ 1,237
WEIGHTED-AVERAGE COMMON SHARES			
Weighted-average Common Shares outstanding (000)	**924,363**	947,065	967,783
Effect of common share options and other stock awards	**8,696**	10,349	7,024
Weighted-average common shares and potential Common Shares outstanding (000) [a]	**933,059**	957,414	974,807
EARNINGS PER COMMON SHARE			
Income (loss) from continuing operations attributable to Key common shareholders	**$ 1.94**	$ 2.64	$ 1.26
Income (loss) from discontinued operations, net of taxes	**.01**	.01	.01
Net income (loss) attributable to Key common shareholders [b]	**1.94**	2.65	1.28
Income (loss) from continuing operations attributable to Key common shareholders — assuming dilution	**1.92**	2.62	1.26
Income (loss) from discontinued operations, net of taxes — assuming dilution	**.01**	.01	.01
Net income (loss) attributable to Key common shareholders — assuming dilution [b]	**1.93**	2.63	1.27

(a) Assumes conversion of Common Share options and other stock awards and/or convertible preferred stock, as applicable.
(b) EPS may not foot due to rounding.

3. Restrictions on Cash, Dividends, and Lending Activities

Capital distributions from KeyBank and other subsidiaries are our principal source of cash flows for paying dividends on our common and preferred shares, servicing our debt, and financing corporate operations. Federal banking law limits the amount of capital distributions that a bank can make to its holding company without prior regulatory approval. A national bank's dividend-paying capacity is affected by several factors, including net profits (as defined by statute) for the previous two calendar years and for the current year, up to the date the dividend is declared.

During 2022, KeyBank paid $475 million in dividends to KeyCorp. At January 1, 2023, KeyBank had regulatory capacity to pay $2.3 billion in dividends to KeyCorp without prior regulatory approval. At December 31, 2022, KeyCorp held $3.2 billion in cash and short-term investments, which can be used to pay dividends to shareholders, service debt, and finance corporate operations.

4. Loan Portfolio

Loan Portfolio by Portfolio Segment and Class of Financing Receivable [a]

December 31, *Dollars in millions*	2022	2021
Commercial and industrial [b]	**$ 59,647**	$ 50,525
Commercial real estate:		
Commercial mortgage	**16,352**	14,244
Construction	**2,530**	1,996
Total commercial real estate loans	**18,882**	16,240
Commercial lease financing [c]	**3,936**	4,071
Total commercial loans	**82,465**	70,836
Residential — prime loans:		
Real estate — residential mortgage	**21,401**	15,756
Home equity loans	**7,951**	8,467
Total residential — prime loans	**29,352**	24,223
Consumer direct loans	**6,508**	5,753
Credit cards	**1,026**	972
Consumer indirect loans	**43**	70
Total consumer loans	**36,929**	31,018
Total loans [d]	**$ 119,394**	$ 101,854

(a) Accrued interest of $417 million and $198 million at December 31, 2022, and December 31, 2021, respectively, is presented in "Accrued income and other assets" on the Consolidated Balance Sheets and is excluded from the amortized cost basis disclosed in this table.

(b) Loan balances include $172 million and $139 million of commercial credit card balances at December 31, 2022, and December 31, 2021, respectively.
(c) Commercial lease financing includes receivables of $8 million and $16 million held as collateral for secured borrowings at December 31, 2022, and December 31, 2021, respectively. Principal reductions are based on the cash payments received from these related receivables. Additional information pertaining to this secured borrowing is included in Note 20 (“Long-Term Debt”).
(d) Total loans exclude loans of $434 million at December 31, 2022, and $567 million at December 31, 2021, related to the discontinued operations of the education lending business.

5. Asset Quality

ALLL

We estimate the appropriate level of the ALLL on at least a quarterly basis. The methodology is described in Note 1 ("Basis of Presentation and Accounting Policies") under the heading "Allowance for Loan and Lease Losses" of this report.

The ALLL at December 31, 2022, represents our current estimate of lifetime credit losses inherent in the loan portfolio at that date. The changes in the ALLL by loan category for the periods indicated are as follows:

Twelve Months Ended December 31, 2022:

Dollars in millions	December 31, 2021	Provision	Charge-offs	Recoveries	December 31, 2022
Commercial and Industrial	$ 445	$ 259	$ (153)	$ 50	$ 601
Commercial real estate:					
Real estate — commercial mortgage	182	39	(23)	5	203
Real estate — construction	29	(2)	—	1	28
Total commercial real estate loans	211	37	(23)	6	231
Commercial lease financing	32	(2)	(2)	4	32
Total commercial loans	688	294	(178)	60	864
Real estate — residential mortgage	95	94	2	5	196
Home equity loans	110	(14)	(1)	3	98
Consumer direct loans	105	32	(34)	8	111
Credit cards	61	29	(30)	6	66
Consumer indirect loans	2	2	(4)	2	2
Total consumer loans	373	143	(67)	24	473
Total ALLL — continuing operations	1,061	437 [(a)]	(245)	84	1,337
Discontinued operations	28	(3)	(6)	2	21
Total ALLL — including discontinued operations	$ 1,089	$ 434	$ (251)	$ 86	$ 1,358

(a) Excludes a provision related to reserves on lending-related commitments of $65 million.

Twelve Months Ended December 31, 2021:

Dollars in millions	December 31, 2020	Provision	Charge-offs	Recoveries	December 31, 2021
Commercial and Industrial	$ 678	$ (142)	$ (174)	$ 83	$ 445
Commercial real estate:					
Real estate — commercial mortgage	327	(114)	(40)	9	182
Real estate — construction	47	(18)	—	—	29
Total commercial real estate loans	374	(132)	(40)	9	211
Commercial lease financing	47	(16)	(6)	7	32
Total commercial loans	1,099	(290)	(220)	99	688
Real estate — residential mortgage	102	(12)	2	3	95
Home equity loans	171	(57)	(9)	5	110
Consumer direct loans	128	(2)	(29)	8	105
Credit cards	87	(7)	(27)	8	61
Consumer indirect loans	39	(13)	(39)	15	2
Total consumer loans	527	(91)	(102)	39	373
Total ALLL — continuing operations	1,626	(381) [(a)]	(322)	138	1,061
Discontinued operations	36	(6)	(4)	2	28
Total ALLL — including discontinued operations	$ 1,662	$ (387)	$ (326)	$ 140	$ 1,089

(a) Excludes a credit related to reserves on lending-related commitments of $37 million.

Twelve Months Ended December 31, 2020

Dollars in millions	December 31, 2019	Impact of ASC 326 Adoption	January 1, 2020	Provision	Charge-offs	Recoveries	December 31, 2020
Commercial and industrial	$ 551	$ (141)	$ 410	$ 585	$ (351)	$ 34	$ 678
Commercial real estate:							
Real estate — commercial mortgage	143	16	159	184	(19)	3	327
Real estate — construction	22	(7)	15	32	—	—	47
Total commercial real estate loans	165	9	174	216	(19)	3	374
Commercial lease financing	35	8	43	38	(35)	1	47
Total commercial loans	751	(124)	627	839	(405)	38	1,099
Real estate — residential mortgage	7	77	84	19	(2)	1	102
Home equity loans	31	147	178	(3)	(11)	7	171
Consumer direct loans	34	63	97	61	(37)	7	128
Credit cards	47	35	82	36	(39)	8	87
Consumer indirect loans	30	6	36	13	(28)	18	39
Total consumer loans	149	328	477	126	(117)	41	527
Total ALLL — continuing operations	900	204	1,104	965 [(a)]	(522)	79	1,626
Discontinued operations	10	31	41	(5)	(5)	5	36
Total ALLL — including discontinued operations	$ 910	$ 235	$ 1,145	$ 960	$ (527)	$ 84	$ 1,662

(a) Excludes a provision related to reserves on lending-related commitments of $56 million.

As described in Note 1 ("Basis of Presentation and Accounting Policies"), we estimate the ALLL using relevant available information, from internal and external sources, relating to past events, current conditions, and reasonable and supportable forecasts. In our estimation of expected credit losses, we use a two year reasonable and supportable period across all products. Following this two year period in which supportable forecasts can be generated, for all modeled loan portfolios, we revert expected credit losses to a level that is consistent with our historical information by reverting the macroeconomic variables (model inputs) to their long run average. We revert to historical loss rates for less complex estimation methods for smaller portfolios. A 20 year fixed length look back period is used to calculate the long run average of the macroeconomic variables. A four quarter reversion period is used where the macroeconomic variables linearly revert to their long run average following the two year reasonable and supportable period.

We develop our reasonable and supportable forecasts using relevant data including, but not limited to, changes in economic output, unemployment rates, property values, and other factors associated with the credit losses on financial assets. Some macroeconomic variables apply to all portfolio segments, while others are more portfolio specific. The following table discloses key macroeconomic variables for each loan portfolio.

Segment	Portfolio	Key Macroeconomic Variables [(a)]
Commercial	Commercial and industrial	BBB corporate bond rate (spread), fixed investment, business bankruptcies, GDP, industrial production, and unemployment rate, Producer Price Index
	Commercial real estate	Property & real estate price indices, unemployment rate, business bankruptcies, GDP, SOFR
	Commercial lease financing	BBB corporate bond rate (spread), GDP, and unemployment rate
Consumer	Real estate — residential mortgage	GDP, home price index, unemployment rate, and 30 year mortgage rate
	Home equity	Home price index, unemployment rate, and 30 year mortgage rate
	Consumer direct	Unemployment rate and U.S. household income
	Consumer indirect	Unemployment rate
	Credit cards	Unemployment rate and U.S. household income
	Discontinued operations	Unemployment rate

(a) Variables include all transformations and interactions with other risk drivers. Additionally, variables may have varying impacts at different points in the economic cycle.

In addition to macroeconomic drivers, portfolio attributes such as remaining term, outstanding balance, risk ratings, utilization, FICO, LTV, and delinquency also drive ALLL changes. Our ALLL models were designed to capture the correlation between economic and portfolio changes. As such, evaluating shifts in individual portfolio attributes and macroeconomic variables in isolation may not be indicative of past or future performance.

Economic Outlook

As of December 31, 2022, the outlook is for slow, but positive economic growth over the forecasting horizon. Unemployment is increasing modestly, as job growth moderates, but remains at relatively low levels from an historical perspective. Inflation in the United States is starting to ease as the restrictive monetary policy and higher interest rates are making an impact. Asset prices, including residential and commercial real estate values, are expected to come under pressure. We utilized the Moody's November 2022 Consensus forecast as our baseline forecast to estimate our expected credit losses as of December 31, 2022. We determined such forecast to be a reasonable view of the outlook for the economy given all available information at year end.

The baseline scenario reflects slow economic growth over the next two years in markets in which we operate. U.S. GDP is expected to contract by 0.1% annualized rate in the fourth quarter of 2022, but grow at an annual rate of approximately 0.4% and 1.4% for 2023 and 2024, respectively. The national unemployment rate forecast is 3.7% in the fourth quarter of 2022, and is expected to increase gradually to 4.5% in the fourth quarter of 2023 and throughout 2024 due to labor supply constraints. The U.S. Consumer Price Index (CPI) annualized rate is expected to decrease to 3.9% in 2023 and further decline to 2.5% in 2024. The national home price index is expected to decline approximately 5% over 2023 and then grow 3% over 2024.

To the extent we identified credit risk considerations that were not captured by the third-party economic forecast, we addressed the risk through management's qualitative adjustments to the ALLL.

Commercial Loan Portfolio

The commercial ALLL increased by $176 million, or 25.6%, from December 31, 2021, through December 31, 2022. The increase is driven by the change in the economic outlook and loan growth. Asset quality remained strong as of December 31, 2022.

The declining economic outlook primarily contributed to the reserve increase year-over-year. The economic environment was impacted by interest rate increases, lower commercial real estate values, and expectations of lower GDP growth in the second half of the year. As a result, such factors led to a higher commercial reserve at December 31, 2022, than the prior year. In addition, Key's strong loan growth in 2022 was a contributing factor to the reserve change.

Consumer Loan Portfolio

The consumer ALLL increased $100 million, or 26.8%, from December 31, 2021, through December 31, 2022. The overall increase in the allowance is primarily driven by loan growth and economic forecast changes, partly offset by reductions in qualitative reserves as pandemic-related pressures ease.

Reserve levels reflect the overall declining economic outlook year-over-year. The most meaningful change to the economic forecast is the deterioration in the home price index outlook and elevated interest rates, which contribute to reserve increases for both the residential mortgage and home equity segments. In addition, deterioration in the unemployment rate outlook impacts all consumer portfolios. As it relates to the changes in the ALLL due to portfolio factors, increases are largely driven by targeted growth in the residential mortgage portfolio.

Credit Risk Profile

The prevalent risk characteristic for both commercial and consumer loans is the risk of loss arising from an obligor's inability or failure to meet contractual payment or performance terms. Evaluation of this risk is stratified and monitored by the loan risk rating grades assigned for the commercial loan portfolios and the refreshed FICO score assigned for the consumer loan portfolios. The internal risk grades assigned to loans follow our definitions of Pass and Criticized, which are consistent with published definitions of regulatory risk classifications. Loans with a pass rating represent those loans not classified on our rating scale for credits, as minimal credit risk has been identified. Criticized loans are those loans that either have a potential weakness deserving management's close attention or have a well-defined weakness that may put full collection of contractual cash flows at risk. Borrower FICO scores provide information about the credit quality of our consumer loan portfolio as they provide an indication as to the likelihood that a debtor will repay its debts. The scores are obtained from a nationally recognized consumer rating agency and are presented in the tables below at the dates indicated.

Most extensions of credit are subject to loan scoring. Loan grades are assigned at the time of origination, verified by credit risk management, and periodically re-evaluated thereafter. This risk rating methodology blends our judgment with quantitative modeling. Commercial loans generally are assigned two internal risk ratings. The first rating reflects the probability that the borrower will default on an obligation; the second rating reflects expected recovery rates on the credit facility. Default probability is determined based on, among other factors, the financial strength of the borrower, an assessment of the borrower's management, the borrower's competitive position within its industry sector, and our view of industry risk in the context of the general economic outlook. Types of exposure, transaction structure, and collateral, including credit risk mitigants, affect the expected recovery assessment.

Commercial Credit Exposure
Credit Risk Profile by Creditworthiness Category and Vintage [(a)]

As of December 31, 2022	Term Loans Amortized Cost Basis by Origination Year and Internal Risk Rating						Revolving Loans Amortized Cost Basis	Revolving Loans Converted to Term Loans Amortized Cost Basis	
Dollars in millions	2022	2021	2020	2019	2018	Prior			Total
Commercial and Industrial									
Risk Rating:									
Pass	$ 11,580	$ 8,636	$ 3,540	$ 2,839	$ 1,787	$ 3,307	$ 25,565	$ 138	$ 57,392
Criticized (Accruing)	40	357	131	160	227	205	936	25	2,081
Criticized (Nonaccruing)	34	2	5	4	22	20	87	—	174
Total commercial and industrial	11,654	8,995	3,676	3,003	2,036	3,532	26,588	163	59,647
Real estate — commercial mortgage									
Risk Rating:									
Pass	4,786	3,817	992	1,853	788	2,578	1,068	67	15,949
Criticized (Accruing)	6	13	20	48	73	175	47	—	382
Criticized (Nonaccruing)	—	—	1	1	1	15	3	—	21
Total real estate — commercial mortgage	4,792	3,830	1,013	1,902	862	2,768	1,118	67	16,352
Real estate — construction									
Risk Rating:									
Pass	698	895	445	262	107	48	1	—	2,456
Criticized (Accruing)	5	1	5	32	25	4	—	2	74
Criticized (Nonaccruing)	—	—	—	—	—	—	—	—	—
Total real estate — construction	703	896	450	294	132	52	1	2	2,530
Commercial lease financing									
Risk Rating:									
Pass	1,039	743	509	467	174	947	—	—	3,879
Criticized (Accruing)	15	1	9	12	9	10	—	—	56
Criticized (Nonaccruing)	—	—	—	—	—	1	—	—	1
Total commercial lease financing	1,054	744	518	479	183	958	—	—	3,936
Total commercial loans	$ 18,203	$ 14,465	$ 5,657	$ 5,678	$ 3,213	$ 7,310	$ 27,707	$ 232	$ 82,465

(a) Accrued interest of $314 million, presented in "Accrued income and other assets" on the Consolidated Balance Sheets, was excluded from the amortized cost basis disclosed in this table.

Consumer Credit Exposure
Credit Risk Profile by FICO Score and Vintage [(a)]

As of December 31, 2022	Term Loans Amortized Cost Basis by Origination Year and FICO Score						Revolving Loans Amortized Cost Basis	Revolving Loans Converted to Term Loans Amortized Cost Basis	
Dollars in millions	2022	2021	2020	2019	2018	Prior			Total
Real estate — residential mortgage									
FICO Score:									
750 and above	$ 5,205	$ 8,702	$ 2,584	$ 636	$ 64	$ 978	$ —	$ —	$ 18,169
660 to 749	1,286	919	282	106	28	260	—	—	2,881
Less than 660	41	42	17	14	15	130	—	—	259
No Score	62	1	1	1	1	25	1	—	92
Total real estate — residential mortgage	6,594	9,664	2,884	757	108	1,393	1	—	21,401
Home equity loans									
FICO Score:									
750 and above	146	1,044	736	207	74	617	2,238	398	5,460
660 to 749	83	291	194	79	32	187	974	126	1,966
Less than 660	11	31	25	17	10	81	300	37	512
No Score	7	—	—	—	—	2	4	—	13
Total home equity loans	247	1,366	955	303	116	887	3,516	561	7,951
Consumer direct loans									
FICO Score:									
750 and above	1,291	1,632	811	351	45	97	102	—	4,329
660 to 749	526	434	229	120	26	41	206	—	1,582
Less than 660	58	63	32	23	7	9	57	—	249
No Score	59	32	22	11	9	22	193	—	348
Total consumer direct loans	1,934	2,161	1,094	505	87	169	558	—	6,508
Credit cards									
FICO Score:									
750 and above	—	—	—	—	—	—	524	—	524
660 to 749	—	—	—	—	—	—	402	—	402
Less than 660	—	—	—	—	—	—	99	—	99
No Score	—	—	—	—	—	—	1	—	1
Total credit cards	—	—	—	—	—	—	1,026	—	1,026
Consumer indirect loans									
FICO Score:									
750 and above	—	2	—	—	—	19	—	—	21
660 to 749	—	—	—	—	—	15	—	—	15
Less than 660	—	—	—	—	—	7	—	—	7
No Score	—	—	—	—	—	—	—	—	—
Total consumer indirect loans	—	2	—	—	—	41	—	—	43
Total consumer loans	$ 8,775	$ 13,193	$ 4,933	$ 1,565	$ 311	$ 2,490	$ 5,101	$ 561	$ 36,929

(a) Accrued interest of $103 million, presented in “Accrued income and other assets” on the Consolidated Balance Sheets, was excluded from the amortized cost basis disclosed in this table.

Nonperforming and Past Due Loans

Our policies for determining past due loans, placing loans on nonaccrual, applying payments on nonaccrual loans, and resuming accrual of interest for our commercial and consumer loan portfolios are disclosed in Note 1 (“Summary of Significant Accounting Policies”) under the heading “Nonperforming Loans”.

The following aging analysis of past due and current loans as of December 31, 2022, and December 31, 2021, provides further information regarding Key’s credit exposure.

Aging Analysis of Loan Portfolio[a]

December 31, 2022 *Dollars in millions*	Current	30-59 Days Past Due [b]	60-89 Days Past Due [b]	90 and Greater Days Past Due [b]	Non-performing Loans	Total Past Due and Non-performing Loans	Total Loans [c]
LOAN TYPE							
Commercial and industrial	$ 59,366	$ 43	$ 33	$ 31	$ 174	$ 281	$ 59,647
Commercial real estate:							
Commercial mortgage	16,305	16	2	8	21	47	16,352
Construction	2,530	—	—	—	—	—	2,530
Total commercial real estate loans	18,835	16	2	8	21	47	18,882
Commercial lease financing	3,928	3	1	3	1	8	3,936
Total commercial loans	$ 82,129	$ 62	$ 36	$ 42	$ 196	$ 336	$ 82,465
Real estate — residential mortgage	$ 21,307	$ 13	$ 3	$ 1	$ 77	$ 94	$ 21,401
Home equity loans	7,804	27	8	5	107	147	7,951
Consumer direct loans	6,478	15	7	5	3	30	6,508
Credit cards	1,007	5	4	7	3	19	1,026
Consumer indirect loans	42	—	—	—	1	1	43
Total consumer loans	$ 36,638	$ 60	$ 22	$ 18	$ 191	$ 291	$ 36,929
Total loans	$ 118,767	$ 122	$ 58	$ 60	$ 387	$ 627	$ 119,394

(a) Amounts in table represent amortized cost and exclude loans held for sale.
(b) Accrued interest of $417 million presented in “Accrued income and other assets” on the Consolidated Balance Sheets is excluded from the amortized cost basis disclosed in this table.
(c) Net of unearned income, net of deferred fees and costs, and unamortized discounts and premiums.

December 31, 2021 *Dollars in millions*	Current	30-59 Days Past Due [b]	60-89 Days Past Due [b]	90 and Greater Days Past Due [b]	Non-performing Loans	Total Past Due and Non-performing Loans	Total Loans [c]
LOAN TYPE							
Commercial and industrial	$ 50,226	$ 19	$ 49	$ 40	$ 191	$ 299	$ 50,525
Commercial real estate:							
Commercial mortgage	14,174	10	9	7	44	70	14,244
Construction	1,978	—	17	1	—	18	1,996
Total commercial real estate loans	16,152	10	26	8	44	88	16,240
Commercial lease financing	4,061	6	—	—	4	10	4,071
Total commercial loans	$ 70,439	$ 35	$ 75	$ 48	$ 239	$ 397	$ 70,836
Real estate — residential mortgage	$ 15,669	$ 7	$ 3	$ 5	$ 72	$ 87	$ 15,756
Home equity loans	8,299	21	6	6	135	168	8,467
Consumer direct loans	5,736	8	2	3	4	17	5,753
Credit cards	956	4	3	6	3	16	972
Consumer indirect loans	68	1	—	—	1	2	70
Total consumer loans	$ 30,728	$ 41	$ 14	$ 20	$ 215	$ 290	$ 31,018
Total loans	$ 101,167	$ 76	$ 89	$ 68	$ 454	$ 687	$ 101,854

(a) Amounts in table represent amortized cost and exclude loans held for sale.
(b) Accrued interest of $198 million presented in “Accrued income and other assets” on the Consolidated Balance Sheets is excluded from the amortized cost basis disclosed in this table.
(c) Net of unearned income, net of deferred fees and costs, and unamortized discounts and premiums.

At December 31, 2022, the carrying amount of our commercial nonperforming loans outstanding represented 55% of their original contractual amount owed, total nonperforming loans outstanding represented 69% of their original contractual amount owed, and nonperforming assets in total were carried at 77% of their original contractual amount owed.

Nonperforming loans reduced expected interest income by $17 million, $17 million, and $27 million for each of the twelve months ended December 31, 2022, December 31, 2021, and December 31, 2020, respectively.

The amortized cost basis of nonperforming loans on nonaccrual status for which there is no related allowance for credit losses was $277 million at December 31, 2022.

Collateral-dependent Financial Assets

We classify financial assets as collateral-dependent when our borrower is experiencing financial difficulty, and we expect repayment to be provided substantially through the operation or sale of the collateral. Our commercial loans have collateral that includes cash, accounts receivable, inventory, commercial machinery, commercial properties, commercial real estate construction projects, enterprise value, and stock or ownership interests in the borrowing entity. When appropriate we also consider the enterprise value of the borrower as a repayment source for collateral-dependent loans. Our consumer loans have collateral that includes residential real estate, automobiles, boats, and RVs.

There were no significant changes in the extent to which collateral secures our collateral-dependent financial assets during 2022.

TDRs

We classify loan modifications as TDRs when a borrower is experiencing financial difficulties and we have granted a concession without commensurate financial, structural, or legal consideration. Our loan modifications are handled on a case-by-case basis and are negotiated to achieve mutually agreeable terms that maximize loan collectability and meet the borrower's financial needs.

Commitments outstanding to lend additional funds to borrowers whose loan terms have been modified in TDRs were $10 million and $15 million at December 31, 2022, and December 31, 2021, respectively.

The consumer TDR other concession category in the table below primarily includes those borrowers' debts that are discharged through Chapter 7 bankruptcy and have not been formally re-affirmed. At December 31, 2022, and December 31, 2021, the recorded investment of consumer residential mortgage loans in the process of foreclosure was approximately $156 million and $104 million, respectively.

The following table shows the post-modification outstanding recorded investment by concession type for our commercial and consumer accruing and nonaccruing TDRs that occurred during the periods indicated:

December 31, *Dollars in millions*	**2022**	**2021**
Commercial loans:		
Extension of Maturity Date	**$ 36**	$ —
Payment or Covenant Modification/Deferment	**—**	7
Total	**$ 36**	$ 7
Consumer loans:		
Interest rate reduction	**$ 13**	$ 7
Other	**20**	19
Total	**$ 33**	$ 26
Total TDRs	**$ 69**	$ 33

The following table summarizes the change in the post-modification outstanding recorded investment of our accruing and nonaccruing TDRs during the periods indicated:

December 31, *Dollars in millions*	**2022**	**2021**
Balance at beginning of the period	**$ 220**	$ 363
Additions	**79**	103
Payments	**(45)**	(217)
Charge-offs	**(18)**	(29)
Balance at end of period	**$ 236**	$ 220

A further breakdown of TDRs included in nonperforming loans by loan category for the periods indicated are as follows:

Dollars in millions	December 31, 2022 Number of Loans	Pre-modification Outstanding Recorded Investment	Post-modification Outstanding Recorded Investment	December 31, 2021 Number of Loans	Pre-modification Outstanding Recorded Investment	Post-modification Outstanding Recorded Investment
LOAN TYPE						
Nonperforming:						
Commercial and industrial	**27**	**$ 60**	**$ 45**	36	$ 30	$ 14
Commercial real estate:						
Real estate — commercial mortgage	**4**	**50**	**13**	3	50	25
Total commercial real estate loans	**4**	**50**	**13**	3	50	25
Total commercial loans	**31**	**110**	**58**	39	80	39
Real estate — residential mortgage	**238**	**30**	**27**	220	26	24
Home equity loans	**468**	**32**	**28**	531	36	31
Consumer direct loans	**156**	**2**	**2**	207	3	2
Credit cards	**331**	**2**	**2**	360	2	2
Consumer indirect loans	**16**	**2**	**1**	23	1	1
Total consumer loans	**1,209**	**68**	**60**	1,341	68	60
Total nonperforming TDRs	**1,240**	**178**	**118**	1,380	148	99
Prior-year accruing: [a]						
Commercial and industrial	**19**	**—**	**—**	11	—	—
Commercial real estate:						
Real estate — commercial mortgage	**—**	**—**	**—**	1	—	—
Total commercial loans	**19**	**—**	**—**	12	—	—
Real estate — residential mortgage	**425**	**41**	**35**	455	39	33
Home equity loans	**1,547**	**96**	**73**	1,628	97	75
Consumer direct loans	**272**	**4**	**3**	236	5	3
Credit cards	**607**	**4**	**2**	579	4	2
Consumer indirect loans	**95**	**11**	**5**	139	15	8
Total consumer loans	**2,946**	**156**	**118**	3,037	160	121
Total prior-year accruing TDRs	**2,965**	**156**	**118**	3,049	160	121
Total TDRs	**4,205**	**$ 334**	**$ 236**	4,429	$ 308	$ 220

(a) All TDRs that were restructured prior to January 1, 2022, and January 1, 2021, are fully accruing.

Commercial loan TDRs are considered defaulted when principal and interest payments are 90 days past due. Consumer loan TDRs are considered defaulted when principal and interest payments are more than 60 days past due. During 2022, there were twelve commercial loan TDRs and 191 consumer loan TDRs with a combined recorded investment of $12 million that experienced payment defaults after modifications resulting in TDR status during 2021. During 2021, there were seven commercial loan TDRs and 131 consumer loan TDRs with a combined recorded investment of $5 million that experienced payment defaults after modifications resulting in TDR status during 2020.

Liability for Credit Losses on Off Balance Sheet Exposures

The liability for credit losses inherent in unfunded lending-related commitments, such as letters of credit and unfunded loan commitments, and certain financial guarantees is included in “accrued expense and other liabilities” on the balance sheet.

Changes in the liability for credit losses on off balance sheet exposures are summarized as follows:

Dollars in millions	Twelve Months Ended December 31, 2022	2021
Balance at beginning of period	**$ 160**	$ 197
Provision (credit) for losses on off balance sheet exposures	**65**	(37)
Balance at end of period	**$ 225**	$ 160

6. Fair Value Measurements

In accordance with GAAP, Key measures certain assets and liabilities at fair value. Fair value is defined as the price to sell an asset or transfer a liability in an orderly transaction between market participants in our principal market. Additional information regarding our accounting policies for determining fair value is provided in Note 1 (“Summary of Significant Accounting Policies”) under the heading “Fair Value Measurements.”

Assets and Liabilities Measured at Fair Value on a Recurring Basis

Certain assets and liabilities are measured at fair value on a recurring basis in accordance with GAAP. For more information on the valuation techniques used to measure classes of assets and liabilities reported at fair value on a recurring basis as well as the classification of each in the valuation hierarchy, refer to Note 1 ("Basis of Presentation and Accounting Policies") under the heading "Fair Value Measurements" of this report. The following tables present assets and liabilities measured at fair value on a recurring basis at December 31, 2022, and December 31, 2021.

	December 31, 2022				December 31, 2021			
Dollars in millions	**Level 1**	**Level 2**	**Level 3**	**Total**	**Level 1**	**Level 2**	**Level 3**	**Total**
ASSETS MEASURED ON A RECURRING BASIS								
Trading account assets:								
U.S. Treasury, agencies and corporations	**$ — $**	**698 $**	**— $**	**698**	$ — $	530 $	— $	530
States and political subdivisions	**—**	**33**	**—**	**33**	—	96	—	96
Other mortgage-backed securities	**—**	**84**	**—**	**84**	—	44	—	44
Other securities	**—**	**—**	**—**	**—**	—	13	—	13
Total trading account securities	**—**	**815**	**—**	**815**	—	683	—	683
Commercial loans	**—**	**14**	**—**	**14**	—	18	—	18
Total trading account assets	**—**	**829**	**—**	**829**	—	701	—	701
Securities available for sale:								
U.S. Treasury, agencies and corporations	**—**	**9,415**	**—**	**9,415**	—	9,472	—	9,472
States and political subdivisions	**—**	**—**	**—**	**—**	—	—	—	—
Agency residential collateralized mortgage obligations	**—**	**16,433**	**—**	**16,433**	—	21,119	—	21,119
Agency residential mortgage-backed securities	**—**	**3,920**	**—**	**3,920**	—	5,122	—	5,122
Agency commercial mortgage-backed securities	**—**	**9,349**	**—**	**9,349**	—	9,651	—	9,651
Other securities	**—**	**—**	**—**	**—**	—	—	—	—
Total securities available for sale	**$ — $**	**39,117 $**	**— $**	**39,117**	$ — $	45,364 $	— $	45,364
Other investments:								
Principal investments:								
Direct	**$ — $**	**— $**	**1 $**	**1**	$ — $	— $	1 $	1
Indirect (measured at NAV) [(a)]	**—**	**—**	**—**	**34**	—	—	—	45
Total principal investments	**—**	**—**	**1**	**35**	—	—	1	46
Equity investments:								
Direct	**4**	**—**	**2**	**6**	24	—	9	33
Direct (measured at NAV) [(a)]	**—**	**—**	**—**	**32**	—	—	—	21
Indirect (measured at NAV) [(a)]	**—**	**—**	**—**	**4**	—	—	—	5
Total equity investments	**4**	**—**	**2**	**42**	24	—	9	59
Total other investments	**4**	**—**	**3**	**77**	24	—	10	105
Loans, net of unearned income (residential)	**—**	**—**	**9**	**9**	—	—	11	11
Loans held for sale (residential)	**—**	**24**	**—**	**24**	—	281	—	281
Derivative assets:								
Interest rate	**—**	**301**	**2**	**303**	—	774	33	807
Foreign exchange	**112**	**24**	**—**	**136**	71	10	—	81
Commodity	**—**	**1,328**	**—**	**1,328**	—	1,330	—	1,330
Credit	**—**	**—**	**1**	**1**	—	—	1	1
Other	**—**	**13**	**—**	**13**	—	22	5	27
Derivative assets	**112**	**1,666**	**3**	**1,781**	71	2,136	39	2,246
Netting adjustments [(b)]	**—**	**—**	**—**	**(757)**	—	—	—	(284)
Total derivative assets	**112**	**1,666**	**3**	**1,024**	71	2,136	39	1,962
Total assets on a recurring basis at fair value	**$ 116 $**	**41,636 $**	**15 $**	**41,080**	$ 95 $	48,482 $	60 $	48,424
LIABILITIES MEASURED ON A RECURRING BASIS								
Bank notes and other short-term borrowings:								
Short positions	**$ 126 $**	**509 $**	**— $**	**635**	$ 75 $	513 $	— $	588
Derivative liabilities:								
Interest rate	**—**	**1,307**	**—**	**1,307**	—	253	—	253
Foreign exchange	**107**	**24**	**—**	**131**	66	10	—	76
Commodity	**—**	**1,304**	**—**	**1,304**	—	1,335	—	1,335
Credit	**—**	**—**	**3**	**3**	—	5	7	12
Other	**—**	**5**	**—**	**5**	—	11	—	11
Derivative liabilities	**107**	**2,640**	**3**	**2,750**	66	1,614	7	1,687
Netting adjustments [(b)]	**—**	**—**	**—**	**(1,262)**	—	—	—	(1,526)
Total derivative liabilities	**107**	**2,640**	**3**	**1,488**	66	1,614	7	161
Total liabilities on a recurring basis at fair value	**$ 233 $**	**3,149 $**	**3 $**	**2,123**	$ 141 $	2,127 $	7 $	749

(a) Certain investments that are measured at fair value using the net asset value per share (or its equivalent) practical expedient have not been classified in the fair value hierarchy. The fair value amounts presented in this table are intended to permit reconciliation of the fair value hierarchy to the amounts presented in the Consolidated Balance Sheet.

(b) Netting adjustments represent the amounts recorded to convert our derivative assets and liabilities from a gross basis to a net basis in accordance with the applicable accounting guidance. The net basis takes into account the impact of bilateral collateral and master netting agreements that allow us to settle all derivative contracts with a single counterparty on a net basis and to offset the net derivative position with the related cash collateral. Total derivative assets and liabilities include these netting adjustments.

Qualitative Disclosures of Valuation Techniques

The following table describes the valuation techniques and significant inputs used to measure the classes of assets and liabilities reported at fair value on a recurring basis, as well as the classification of each within the valuation hierarchy.

Asset/liability class	Valuation technique	Valuation hierarchy classification(s)
Securities (includes trading account assets securities available for sale, and U.S. Treasury Bills classified as short-term investments)	Fair value of level 1 securities is determined by: • Quoted market prices available in an active market for identical securities. This includes exchange-traded equity securities. Fair value of level 2 securities is determined by: • Pricing models (either by a third party pricing service or internally). Inputs include: yields, benchmark securities, bids, offers, actual trade data (i.e., spreads, credit ratings, and interest rates) for comparable assets, spread tables, matrices, high-grade scales, and option-adjusted spreads. • Observable market prices of similar securities. Fair value of level 3 securities is determined by: • Internally developed valuation techniques, principally discounted cash flow methods (income approach). • Revenue multiples of comparable public companies (market approach). For level 3 securities, increases (decreases) in the discount rate and marketability discount used in the discounted cash flow models would have resulted in lower (higher) fair value measurements. Higher volatility factors would have further magnified changes in fair value. The valuations provided by the third-party pricing service are based on observable market inputs, which include benchmark yields, reported trades, issuer spreads, benchmark securities, bids, offers, and reference data obtained from market research publications. Inputs used by the third-party pricing service in valuing CMOs and other mortgage-backed securities also include new issue data, monthly payment information, whole loan collateral performance, and “To Be Announced” prices. In valuations of securities issued by state and political subdivisions, inputs used by the third-party pricing service also include material event notices. We regularly validate the pricing methodologies of valuations derived from a third-party pricing service to ensure the fair value determination is consistent with applicable accounting guidance and that our assets are properly classified in the fair value hierarchy. To perform this validation, we: • review documentation received from our third-party pricing service regarding the inputs used in its valuations and determine a level assessment for each category of securities; • substantiate actual inputs used for a sample of securities by comparing the actual inputs used by our third-party pricing service to comparable inputs for similar securities; and • substantiate the fair values determined for a sample of securities by comparing the fair values provided by our third-party pricing service to prices from other independent sources for the same and similar securities. We analyze variances and conduct additional research with our third-party pricing service and take appropriate steps based on our findings.	Level 1, 2, and 3 (primarily Level 2)
Commercial loans (trading account assets)	Fair value is based on: • Observable market price spreads for similar loans. Valuations reflect prices within the bid-ask spread that are most representative of fair value.	Level 2
Principal investments (direct)	Direct principal investments consist of equity and debt instruments of private companies made by our principal investing entities. Fair value is determined using: • Operating performance and market multiples of comparable businesses • Other unique facts and circumstances related to each individual investment Direct principal investments are accounted for as investment companies in accordance with the applicable accounting guidance, whereby each investment is adjusted to fair value with any net realized or unrealized gain/loss recorded in the current period’s earnings. We are in the process of winding down our direct principal investment portfolio. As of December 31, 2022, the balance is less than $1 million.	Level 3

Asset/liability class	Valuation technique	Valuation hierarchy classification(s)
Principal investments (indirect)	Indirect principal investments include primary and secondary investments in private equity funds engaged mainly in venture- and growth-oriented investing. These investments do not have readily determinable fair values and qualify for the practical expedient to estimate fair value based upon net asset value per share (or its equivalent, such as member units or an ownership interest in partners' capital to which a proportionate share of net assets is attributed). Indirect principal investments are also accounted for as investment companies, whereby each investment is adjusted to fair value with any net realized or unrealized gain/loss recorded in the current period's earnings. Under the provisions of the Volcker Rule, we are required to dispose or conform our indirect investments to the requirements of the statute by no later than July 21, 2023. As of December 31, 2022, we have not committed to a plan to sell these investments. Therefore, these investments continue to be valued using the net asset value per share methodology.	NAV

The following table presents the fair value of our direct and indirect principal investments and related unfunded commitments at December 31, 2022, as well as financial support provided for the years ended December 31, 2022, and December 31, 2021.

			Financial support provided			
			Year ended December 31,			
	December 31, 2022		2022		2021	
Dollars in millions	Fair Value	Unfunded Commitments	Funded Commitments	Funded Other	Funded Commitments	Funded Other
INVESTMENT TYPE						
Direct investments	$ 1	$ —	$ —	$ —	$ —	$ —
Indirect investments [(a)]	34	9	—	—	4	—
Total	$ 35	$ 9	$ —	$ —	$ 4	$ —

(a) Our indirect investments consist of buyout funds, venture capital funds, and fund of funds. These investments are generally not redeemable. Instead, distributions are received through the liquidation of the underlying investments of the fund. An investment in any one of these funds typically can be sold only with the approval of the fund's general partners. At December 31, 2022, no significant liquidation of the underlying investments has been communicated to Key. The purpose of funding our capital commitments to these investments is to allow the funds to make additional follow-on investments and pay fund expenses until the fund dissolves. We, and all other investors in the fund, are obligated to fund the full amount of our respective capital commitments to the fund based on our and their respective ownership percentages, as noted in the applicable Limited Partnership Agreement.

Asset/liability class	Valuation technique	Valuation hierarchy classification(s)
Other direct equity investments	Fair value is determined using: • Discounted cash flows • Operating performance and market/exit multiples of comparable businesses • Other unique facts and circumstances related to each individual investment For level 3 securities, increases in the discount rate applied in the discounted cash flow models would negatively affect the fair value. Increases in valuation multiples of comparable companies would positively affect the fair value. Level 1 investments reflect the quoted market prices of the investments available in an active market.	Level 1 and 3
Other direct and indirect equity investments (NAV)	Certain direct and indirect investments do not have readily determinable fair values and qualify for the practical expedient in the accounting guidance that allows us to estimate fair value based upon net asset value per share.	NAV

Asset/liability class	Valuation technique	Valuation hierarchy classification(s)
Loans held for sale and held for investment (residential)	Residential mortgage loans held for sale are accounted for at fair value. Fair values are based on: • Quoted market prices, where available • Prices for other traded mortgage loans with similar characteristics • Purchase commitments and bid information received from market participants Prices are adjusted as necessary to include: • The embedded servicing value in the loans • The specific characteristics of certain loans that are priced based on the pricing of similar loans. (These adjustments represent unobservable inputs to the valuation but are not considered significant given the relative insensitivity of the value to changes in these inputs to the fair value of the loans.) Residential loans held for investment: Certain residential loans held for sale contain salability exceptions that make them unable to be sold into the performing loan sales market. Loans in this category are transferred to the held to maturity loan portfolio and are included in “Loans, net of unearned income” on the balance sheet. This type of loan is classified as level 3 in the valuation hierarchy as transaction details regarding sales of this type of loan are often unavailable. Fair value is based upon: • Unobservable bid information from brokers and investors Higher (lower) unobservable bid information would have resulted in higher (lower) fair value measurements.	Level 1, 2 and 3 (primarily level 2)
Derivatives	Exchange-traded derivatives are valued using quoted prices in active markets and, therefore, are classified as Level 1 instruments. The majority of our derivative positions are Level 2 and are valued using internally developed models based on market convention and observable market inputs. These derivative contracts include interest rate swaps, certain options, floors, cross currency swaps, credit default swaps, and forward mortgage loan sale commitments. Significant inputs used in the valuation models include: • LIBOR, SOFR and Overnight Index Swap (OIS) curves, index pricing curves, foreign currency curves • Volatility surfaces (a three-dimensional graph of implied volatility against strike price and maturity) We have customized derivative instruments and risk participations that are classified as Level 3 instruments. These derivative positions are valued using internally developed models, with inputs consisting of available market data, including: • Credit spreads and interest rates The unobservable internally derived assumptions include: • Loss given default • Internal risk assessments of customers The fair value represents an estimate of the amount that the risk participation counterparty would need to pay/receive as of the measurement date based on the probability of customer default on the swap transaction and the fair value of the underlying customer swap. Therefore, for sold risk participation agreements, a higher loss probability and a lower credit rating would negatively affect the fair value of the risk participations and a lower loss probability and higher credit rating would positively affect the fair value of the risk participations. (For purchased risk participation agreements, higher loss probabilities and lower credit ratings would positively affect the fair value.)	Level 1, 2, and 3 (primarily level 2)

Asset/liability class	Valuation technique	Valuation hierarchy classification(s)
Derivatives (continued)	We use interest rate lock commitments for our residential mortgage business, which are classified as Level 3 instruments. The significant components of the valuation model include: • Interest rates observable in the market • Investor supplied prices for similar loans and securities • The probability of the loan closing (i.e. the "pull-through" amount, a significant unobservable input). Increases (decreases) in the probability of the loan closing would have resulted in higher (lower) fair value measurements. Valuation of residential mortgage forward sale commitments utilizes observable market prices of comparable commitments and mortgage securities (Level 2). The fair values of our derivatives include a credit valuation adjustment related to both counterparty and our own creditworthiness. The credit component considers master netting and collateral agreements and is determined by the individual counterparty based on potential future exposures, expected recovery rates, and market-implied probabilities of default.	Level 1, 2, and 3 (primarily level 2)
Liability for short positions	This includes fixed income securities held by our broker dealer in its trading inventory. Fair value of level 1 securities is determined by: • Quoted market prices available in an active market for identical securities Fair value of level 2 securities is determined by: • Observable market prices of similar securities • Market activity, spreads, credit ratings and interest rates for each security type	Level 1 and 2

We also make liquidity valuation adjustments to the fair value of certain assets to reflect the uncertainty in the pricing and trading of the instruments when we are unable to observe recent market transactions for identical or similar instruments. Liquidity valuation adjustments are based on the following factors:

- the amount of time since the last relevant valuation;
- whether there is an actual trade or relevant external quote available at the measurement date; and
- volatility associated with the primary pricing components.

Changes in Level 3 Fair Value Measurements

The following table shows the change in the fair values of our Level 3 financial instruments measured at fair value on a recurring basis for the years ended December 31, 2022, and December 31, 2021.

Dollars in millions	Beginning of Period Balance	Gains (Losses) included in comprehensive income	Gains (Losses) Included in Earnings	Purchases	Sales	Settlements	Transfers Other	Transfers into Level 3	Transfers out of Level 3	End of Period Balance	Unrealized Gains (Losses) Included in Earnings
Year ended December 31, 2022											
Securities available for sale											
Other securities	$ —	$ —	$ —	$ —	$ —	$ —	$ —	$ —	$ —	$ —	$ —
Other investments											
Principal investments											
Direct	1	—	—	—	—	—	—	—	—	1	—
Equity investments											
Direct	9	—	(3) [c]	—	(4)	—	—	—	—	2	(3)
Loans held for sale (residential)	—	—	—	—	—	—	—	—	—	—	—
Loans held for investment (residential)	11	—	(3)	—	(1)	—	2	—	—	9	—
Derivative instruments [b]											
Interest rate	33	—	(72) [d]	2	(2)	—	—	33 [e]	8 [e]	2	—
Credit	(6)	—	4 [d]	—	—	—	—	—	—	(2)	—
Other [a]	5	—	—	—	—	—	(5)	—	—	—	—

Dollars in millions	Beginning of Period Balance	Gains (Losses) included in comprehensive income	Gains (Losses) Included in Earnings	Purchases	Sales	Settlements	Transfers Other	Transfers into Level 3	Transfers out of Level 3	End of Period Balance	Unrealized Gains (Losses) Included in Earnings
Year ended December 31, 2021											
Securities available for sale											
Other securities	$ 13	$ 9	$ —	$ —	$ —	$ —	$ —	$ —	$ (22)	$ —	$ —
Other investments											
Principal investments											
Direct	1	—	—	—	—	—	—	—	—	1	—
Equity investments											
Direct	13		(1) [c]				—	—	(3)	9	(1)
Loans held for sale (residential)	—	—	—	—	(1)	—	1	—	—	—	—
Loans held for investment (residential)	11	—	—	—	(3)	—	1	—	—	11	—
Derivative instruments [b]											
Interest rate	56		(24) [d]	3	(12)		—	28 [e]	(17) [e]	33	
Credit	(10)	—	3 [d]	1	—	$ —	—	—		(6)	—
Other [a]	32	—	(3)	—	—	—	(24)	—	—	5	—

(a) Amounts represent Level 3 interest rate lock commitments.
(b) Amounts represent Level 3 derivative assets less Level 3 derivative liabilities.
(c) Realized and unrealized gains and losses on principal investments are reported in “other income” on the income statement. Realized and unrealized losses on equity investments are reported in “other income” on the income statement.
(d) Realized and unrealized gains and losses on derivative instruments are reported in “corporate services income” and “other income” on the income statement.
(e) Certain derivatives previously classified as Level 2 were transferred to Level 3 because Level 3 unobservable inputs became significant. Certain derivatives previously classified as Level 3 were transferred to Level 2 because Level 3 unobservable inputs became less significant.

Assets and Liabilities Measured at Fair Value on a Nonrecurring Basis

Certain assets and liabilities are measured at fair value on a nonrecurring basis in accordance with GAAP. The adjustments to fair value generally result from the application of accounting guidance that requires assets and liabilities to be recorded at the lower of cost or fair value, or assessed for impairment. There were no liabilities measured at fair value on a nonrecurring basis at December 31, 2022, and December 31, 2021.

The following table presents our assets measured at fair value on a nonrecurring basis at December 31, 2022, and December 31, 2021:

	December 31, 2022				December 31, 2021			
Dollars in millions	Level 1	Level 2	Level 3	Total	Level 1	Level 2	Level 3	Total
ASSETS MEASURED ON A NONRECURRING BASIS								
Collateral-dependent loans	**$ —**	**$ —**	**$ 17**	**$ 17**	$ —	$ —	$ 28	$ 28
Accrued income and other assets	**—**	**—**	**14**	**14**	—	—	80	80
Total assets on a nonrecurring basis at fair value	**$ —**	**$ —**	**$ 31**	**$ 31**	$ —	$ —	$ 108	$ 108

Qualitative Disclosures of Valuation Techniques

The following table describes the valuation techniques and significant inputs used to measure the significant classes of assets and liabilities reported at fair value on a nonrecurring basis, as well as the classification of each within the valuation hierarchy.

Asset/liability class	Valuation technique	Valuation hierarchy classification(s)
Collateral-dependent loans	When a loan is collateral-dependent, the fair value of the loan is determined based on the fair value of the underlying collateral.	Level 3
Commercial loans and student loans held for sale	Through a quarterly analysis of our loan portfolios held for sale, which include both performing and nonperforming commercial loans and student loans, we determine any adjustments necessary to record the portfolios at the lower of cost or fair value in accordance with GAAP. Valuation inputs include: • Non-binding bids for the respective loans or similar loans • Recent sales transactions • Internal models that emulate recent securitizations	Level 2 and 3
Direct financing leases and operating lease assets held for sale	Valuations of direct financing leases and operating lease assets held for sale are performed using an internal model that relies on market data, including: • Swap rates and bond ratings • Our own assumptions about the exit market for the leases • Details about the individual leases in the portfolio Leases for which we receive a current nonbinding bid, and for which the sale is considered probable, may be classified as Level 2. Valuations of lease and operating lease assets held for sale that employ our own assumptions are classified as Level 3 assets. The inputs based on our own assumptions include changes in the value of leased items and internal credit ratings.	Level 2 and 3
OREO, other repossessed personal properties, and right-of-use assets[(a)]	OREO, other repossessed properties, and right-of-use assets are valued based on: • Appraisals and third-party price opinions, less estimated selling costs Generally, we classify these assets as Level 3, but OREO and other repossessed properties for which we receive binding purchase agreements are classified as Level 2. Returned lease inventory is valued based on market data for similar assets and is classified as Level 2.	Level 2 and 3
LIHTC, HTC, and NMTC investments[(a)]	Valuation of LIHTC, HTC and NMTC involves measuring the present value of future tax benefits and comparing that value against the current carrying value of the investment. Expected future tax benefits are discounted to their present value using discounted cash flow modeling that incorporates an appropriate risk premium. LIHTC and HTC investments are impaired when it is more likely than not that the carrying amount of the investment will not be realized.	Level 3
Other equity investments	We have other investments in equity securities that do not have readily determinable fair values and do not qualify for the practical expedient to measure the investment using a net asset value per share. We have elected to measure these securities at cost less impairment plus or minus adjustments due to observable orderly transactions. Impairment is recorded when there is evidence that the expected fair value of the investment has declined to below the recorded cost. At each reporting period, we assess if these investments continue to qualify for this measurement alternative. At December 31, 2022, and December 31, 2021, the carrying amount of equity investments recorded under this method was $249 million and $173 million, respectively. No impairment was recorded for the year ended December 31, 2022.	Level 3
Mortgage Servicing Rights[(a)]	Refer to Note 9 (“Mortgage Servicing Assets”).	Level 3

(a) Asset classes included in “Accrued income and other assets” on the Consolidated Balance Sheets

Quantitative Information about Level 3 Fair Value Measurements

The range and weighted-average of the significant unobservable inputs used to fair value our material Level 3 recurring and nonrecurring assets at December 31, 2022, and December 31, 2021, along with the valuation techniques used, are shown in the following table:

Dollars in millions	Level 3 Asset (Liability)				Range (Weighted-Average) [b], [c]	
	December 31, 2022	December 31, 2021	Valuation Technique	Significant Unobservable Input	December 31, 2022	December 31, 2021
Recurring						
Loans, net of unearned income (residential)	**$ 9**	$ 11	Market comparable pricing	Comparability factor	61.00%-86.58% (72.21%)	64.50 - 97.30% (94.24%)
Derivative instruments:						
Interest rate	**2**	33	Discounted cash flows	Probability of default	.02 - 100% (8.00%)	.02 - 100% (8.88%)
				Loss given default	0 - 1 (.49)	0 - 1 (.50)
Insignificant level 3 assets, net of liabilities(d)	**1**	9				
Nonrecurring						
Collateral dependent loans	**17**	28	Fair value of underlying collateral	Discount Rate	0 - 85.00% (34.00%)	0 - 10.00% (8.00%)
Accrued income and other assets:[e]						
OREO and other assets	**14**	13	Appraised value	Appraised value	N/M	N/M

(a) Principal investments, direct is excluded from this table as the balance at December 31, 2022, is insignificant (less than $1 million).
(b) The weighted average of significant unobservable inputs is calculated using a weighting relative to fair value.
(c) For significant unobservable inputs with no range, a single figure is reported to denote the single quantitative factor used.
(d) Represents the aggregate amount of level 3 assets and liabilities measured at fair value on a recurring basis that are individually and in the aggregate insignificant. The amount includes certain equity investments and certain financial derivative assets and liabilities.
(e) No mortgage services assets required fair value adjustments as of December 31, 2022. Excludes $67 million pertaining to mortgage servicing assets measured at fair value as of December 31, 2021. Refer to Note 9 (“Mortgage Servicing Assets”) for significant unobservable inputs pertaining to these assets.

Fair Value Disclosures of Financial Instruments

The levels in the fair value hierarchy ascribed to our financial instruments and the related carrying amounts at December 31, 2022, and December 31, 2021, are shown in the following table. Assets and liabilities are further arranged by measurement category.

	December 31, 2022						
		Fair Value					
Dollars in millions	Carrying Amount	Level 1	Level 2	Level 3	Measured at NAV	Netting Adjustment	Total
ASSETS (by measurement category)							
Fair value - net income							
Trading account assets [b]	$ 829	$ —	$ 829	$ —	$ —	$ —	$ 829
Other investments [b]	1,308	4	—	1,234	70	—	1,308
Loans, net of unearned income (residential) [d]	9	—	—	9	—	—	9
Loans held for sale (residential) [b]	24	—	24	—	—	—	24
Derivative assets - trading [b]	927	112	1,552	3	—	(740) [f]	927
Fair value - OCI							
Securities available for sale [b]	39,117	—	39,117	—	—	—	39,117
Derivative assets - hedging [b] [g]	97	—	114	—	—	(17) [f]	97
Amortized cost							
Held-to-maturity securities [c]	8,710	—	8,113	—	—	—	8,113
Loans, net of unearned income [d]	118,048	—	—	112,590	—	—	112,590
Loans held for sale [b]	939	—	—	939	—	—	939
Other							
Cash and short-term investments [a]	3,319	3,319	—	—	—	—	3,319
LIABILITIES (by measurement category)							
Fair value - net income							
Derivative liabilities - trading [b]	$ 1,485	$ 107	$ 2,637	$ 3	$ —	$ (1,262) [f]	$ 1,485
Fair value - OCI							
Derivative liabilities - hedging [b] [g]	3	—	3	—	—	— [f]	3
Amortized cost							
Time deposits [e]	7,373	—	7,392	—	—	—	7,392
Short-term borrowings [a]	9,463	126	9,337	—	—	—	9,463
Long-term debt [e]	19,307	12,196	6,685	—	—	—	18,881
Other							
Deposits with no stated maturity [a]	135,222	—	135,222	—	—	—	135,222

	December 31, 2021						
		Fair Value					
Dollars in millions	Carrying Amount	Level 1	Level 2	Level 3	Measured at NAV	Netting Adjustment	Total
ASSETS (by measurement category)							
Fair value - net income							
Trading account assets [b]	$ 701	$ —	$ 701	$ —	$ —	$ —	$ 701
Other investments [b]	639	24	—	543	72	—	639
Loans, net of unearned income (residential) [d]	11	—	—	11	—	—	11
Loans held for sale (residential) [b]	281	—	281	—	—	—	281
Derivative assets - trading [b]	1,887	71	2,096	40	—	(320) [f]	1,887
Fair value - OCI							
Securities available for sale [b]	45,364	—	45,364	—	—	—	45,364
Derivative assets - hedging [b] [g]	75	—	39	—	—	36 [f]	75
Amortized cost							
Held-to-maturity securities [c]	7,539	—	7,665	—	—	—	7,665
Loans, net of unearned income [d]	100,782	—	—	100,428	—	—	100,428
Loans held for sale [b]	2,448	—	—	2,448	—	—	2,448
Other							
Cash and short-term investments [a]	11,923	11,923	—	—	—	—	11,923
LIABILITIES (by measurement category)							
Fair value - net income							
Derivative liabilities - trading [b]	$ 157	$ 66	$ 1,610	$ 7	$ —	$ (1,526) [f]	$ 157
Fair value - OCI							
Derivative liabilities - hedging [b] [g]	4	—	4	—	—	— [f]	4
Amortized cost							
Time deposits [e]	3,858	—	3,866	—	—	—	3,866
Short-term borrowings [a]	761	75	686	—	—	—	761
Long-term debt [e]	12,042	11,813	$ 705	—	—	—	12,518
Other							
Deposits with no stated maturity [a]	148,714	—	148,714	—	—	—	148,714

Valuation Methods and Assumptions

(a) Fair value equals or approximates carrying amount. The fair value of deposits with no stated maturity does not take into consideration the value ascribed to core deposit intangibles.

(b) Information pertaining to our methodology for measuring the fair values of these assets and liabilities is included in the sections entitled "Qualitative Disclosures of Valuation Techniques" and "Assets and Liabilities Measured at Fair Value on a Nonrecurring Basis" in this Note. Investments accounted for under the cost method (or cost less impairment adjusted for observable price changes for certain equity investments) are classified as Level 3 assets. These investments are not actively traded in an open market as sales for these types of investments are rare. The carrying amount of the investments carried at cost are adjusted for declines in value if they are considered to be other-than-temporary (or due to observable orderly transactions of the same issuer for equity investments eligible for the cost less impairment measurement alternative). These adjustments are included in "other income" on the income statement.

(c) Fair values of held-to-maturity securities are determined by using models that are based on security-specific details, as well as relevant industry and economic factors. The most significant of these inputs are quoted market prices, interest rate spreads on relevant benchmark securities, and certain prepayment assumptions. We review the valuations derived from the models to ensure that they are reasonable and consistent with the values placed on similar securities traded in the secondary markets.

(d) The fair value of loans is based on the present value of the expected cash flows. The projected cash flows are based on the contractual terms of the loans, adjusted for prepayments and use of a discount rate based on the relative risk of the cash flows, taking into account the loan type, maturity of the loan, liquidity risk, servicing costs, and a required return on debt and capital. In addition, an incremental liquidity discount is applied to certain loans, using historical sales of loans during periods of similar economic conditions as a benchmark. The fair value of loans includes lease financing receivables at their aggregate carrying amount, which is equivalent to their fair value.

(e) Fair values of time deposits and long-term debt are based on discounted cash flows utilizing relevant market inputs.

(f) Netting adjustments represent the amounts recorded to convert our derivative assets and liabilities from a gross basis to a net basis in accordance with the applicable accounting guidance. The net basis takes into account the impact of bilateral collateral and master netting agreements that allow us to settle all derivative contracts with a single counterparty on a net basis and to offset the net derivative position with the related cash collateral. Total derivative assets and liabilities include these netting adjustments.

(g) Derivative assets-hedging and derivative liabilities-hedging includes both cash flow and fair value hedges. Additional information regarding our accounting policies for cash flow and fair value hedges is provided in Note 1 ("Summary of Significant Accounting Policies") under the heading "Derivatives and Hedging."

We determine fair value based on assumptions pertaining to the factors that a market participant would consider in valuing the asset. A substantial portion of our fair value adjustments are related to liquidity. During 2022 and 2021, the fair values of our loan portfolios generally remained stable, primarily due to sustained liquidity in the loan markets. If we were to use different assumptions, the fair values shown in the preceding table could change. Also, because the applicable accounting guidance for financial instruments excludes certain financial instruments and all nonfinancial instruments from its disclosure requirements, the fair value amounts shown in the table above do not, by themselves, represent the underlying value of our company as a whole.

Discontinued assets - education lending business. Our discontinued assets include government-guaranteed and private education loans originated through our education lending business that was discontinued in September 2009. This portfolio consists of loans recorded at carrying value with appropriate valuation reserves and loans recorded at fair value. All of these loans were excluded from the table above as follows:

- Loans at carrying value, net of allowance, of $434 million ($357 million at fair value) at December 31, 2022, and $567 million ($486 million at fair value) at December 31, 2021; and
- Loans at fair value of $1 million at December 31, 2022, and $2 million at December 31, 2021.

These loans are classified as Level 3 because we rely on unobservable inputs when determining fair value since observable market data is not available.

Short-term financial instruments. For financial instruments with a remaining average life to maturity of less than six months, carrying amounts were used as an approximation of fair values.

7. Securities

The amortized cost, unrealized gains and losses, and approximate fair value of our securities available for sale and held-to-maturity securities are presented in the following tables. Gross unrealized gains and losses represent the difference between the amortized cost and the fair value of securities on the balance sheet as of the dates indicated. Accordingly, the amount of these gains and losses may change in the future as market conditions change.

December 31, *Dollars in millions*	2022 Amortized Cost [a]	2022 Gross Unrealized Gains	2022 Gross Unrealized Losses	2022 Fair Value	2021 Amortized Cost[a]	2021 Gross Unrealized Gains	2021 Gross Unrealized Losses	2021 Fair Value
SECURITIES AVAILABLE FOR SALE								
U.S. Treasury, agencies, and corporations	**$ 10,044**	**$ —**	**$ 629**	**$ 9,415**	$ 9,573	$ —	$ 101	$ 9,472
Agency residential collateralized mortgage obligations	**20,180**	**—**	**3,747**	**16,433**	21,430	99	410	21,119
Agency residential mortgage-backed securities	**4,616**	**—**	**696**	**3,920**	5,137	37	52	5,122
Agency commercial mortgage-backed securities	**10,712**	**2**	**1,365**	**9,349**	9,753	188	290	9,651
Other securities	**—**	**—**	**—**	**—**	—	—	—	—
Total securities available for sale	**$ 45,552**	**$ 2**	**$ 6,437**	**$ 39,117**	$ 45,893	$ 324	$ 853	$ 45,364
HELD-TO-MATURITY SECURITIES								
Agency residential collateralized mortgage obligations	**$ 4,586**	**$ 5**	**$ 283**	**$ 4,308**	$ 2,196	$ 33	$ —	$ 2,229
Agency residential mortgage-backed securities	**181**	**—**	**16**	**165**	164	6	—	170
Agency commercial mortgage-backed securities	**2,522**	**1**	**208**	**2,315**	2,678	118	—	2,796
Asset-backed securities[b]	**1,407**	**—**	**96**	**1,311**	2,485	—	31	2,454
Other securities	**14**	**—**	**—**	**14**	16	—	—	16
Total held-to-maturity securities	**$ 8,710**	**$ 6**	**$ 603**	**$ 8,113**	$ 7,539	$ 157	$ 31	$ 7,665

(a) Amortized cost amounts exclude accrued interest receivable which is recorded within "other assets" on the balance sheet. At December 31, 2022, accrued interest receivable on available for sale securities and held-to-maturity securities totaled $67 million and $88 million, respectively. At December 31, 2021, accrued interest receivable on available for sale securities and held-to-maturity securities totaled $59 million and $15 million, respectively.
(b) Includes $1.4 billion of securities as of December 31, 2022, and $2.5 billion of securities as of December 31, 2021, related to the purchase of senior notes from a securitization collateralized by sold indirect auto loans.

The following table summarizes securities in an unrealized loss position for which an allowance for credit losses has not been recorded as of December 31, 2022, and December 31, 2021:

Dollars in millions	Duration of Unrealized Loss Position: Less than 12 Months Fair Value	Less than 12 Months Gross Unrealized Losses	12 Months or Longer Fair Value	12 Months or Longer Gross Unrealized Losses	Total Fair Value	Total Gross Unrealized Losses
December 31, 2022						
Securities available for sale:						
U.S. Treasury, agencies, and corporations	**$ 494**	**$ 48**	**$ 8,920**	**$ 581**	**$ 9,414**	**$ 629**
Agency residential collateralized mortgage obligations	**3,114**	**377**	**13,317**	**3,370**	**16,431**	**3,747**
Agency residential mortgage-backed securities	**579**	**31**	**3,338**	**665**	**3,917**	**696**
Agency commercial mortgage-backed securities	**4,511**	**282**	**4,791**	**1,083**	**9,302**	**1,365**
Held-to-maturity securities:						
Agency residential collateralized mortgage obligations	**2,659**	**178**	**726**	**105**	**3,385**	**283**
Agency residential mortgage-backed securities	**165**	**16**	**—**	**—**	**165**	**16**
Agency commercial mortgage-backed securities	**2,243**	**208**	**—**	**—**	**2,243**	**208**
Asset-backed securities	**1**	**—**	**1,309**	**96**	**1,310**	**96**
Other securities	**10**	**— [a]**	**4**	**—**	**14**	**—**
Total securities in an unrealized loss position	**$ 13,776**	**$ 1,140**	**$ 32,405**	**$ 5,900**	**$ 46,181**	**$ 7,040**
December 31, 2021						
Securities available for sale:						
U.S. Treasury, agencies, and corporations	$ 9,078	$ 98	$ 243	$ 3	$ 9,321	$ 101
Agency residential collateralized mortgage obligations	12,603	315	1,255	95	13,858	410
Agency residential mortgage-backed securities	3,793	49	178	3	3,971	52
Agency commercial mortgage-backed securities	1,645	75	3,834	215	5,479	290
Held-to-maturity securities:						
Agency residential collateralized mortgage obligations	96	— [b]	—	—	96	—
Asset-backed securities	2,450	31	1	— [b]	2,451	31
Other securities	15	— [b]	—	—	15	—
Total securities in an unrealized loss position	$ 29,680	$ 568	$ 5,511	$ 316	$ 35,191	$ 884

(a) At December 31, 2022, gross unrealized losses totaled less than $1 million for other securities held to maturity with a loss duration of less than 12 months.
(b) At December 31, 2021, gross unrealized losses totaled less than $1 million for other securities held to maturity and agency residential collateralized mortgage obligations held-to-maturity with a loss duration of less than 12 months. At December 31, 2021, gross unrealized losses totaled less than $1 million for asset backed securities held to maturity with a loss duration greater than 12 months or longer.

Based on our evaluation at December 31, 2022, an allowance for credit losses has not been recorded nor have unrealized losses been recognized into income. The issuers of the securities are of high credit quality and have a history of no credit losses, management does not intend to sell and it is likely that management will not be required to sell the securities prior to their anticipated recovery, and the decline in fair value is largely attributed to changes in interest rates and other market conditions. The issuers continue to make timely principal and interest payments.

At December 31, 2022, securities available-for-sale and held-to-maturity securities totaling $12.9 billion were pledged to secure securities sold under repurchase agreements, to secure public and trust deposits, to facilitate access to secured funding, and for other purposes required or permitted by law.

The following table shows securities by remaining maturity. CMOs, other mortgage-backed securities, and asset-backed securities in the available for sale portfolio and held-to-maturity portfolio are presented based on their expected average lives. The remaining securities, in both the available-for-sale and held-to-maturity portfolios, are presented based on their remaining contractual maturity. Actual maturities may differ from expected or contractual maturities since borrowers have the right to prepay obligations with or without prepayment penalties.

December 31, 2022 *Dollars in millions*	Securities Available for Sale		Held-to-Maturity Securities	
	Amortized Cost	Fair Value	Amortized Cost	Fair Value
Due in one year or less	$ 1,259	$ 1,215	$ 20	$ 21
Due after one through five years	16,044	14,780	4,834	4,517
Due after five through ten years	21,682	17,970	3,004	2,775
Due after ten years	6,567	5,152	852	800
Total	$ 45,552	$ 39,117	$ 8,710	$ 8,113

8. Derivatives and Hedging Activities

We are a party to various derivative instruments, mainly through our subsidiary, KeyBank. The primary derivatives that we use are interest rate swaps, caps, floors, forwards and futures; foreign exchange contracts; commodity derivatives; and credit derivatives. Generally, these instruments help us manage exposure to interest rate risk, mitigate the credit risk inherent in our loan portfolio, hedge against changes in foreign currency exchange rates, and meet client financing and hedging needs. As further discussed in this note:

- interest rate risk is the risk that the EVE or net interest income will be adversely affected by fluctuations in interest rates;
- credit risk is the risk of loss arising from an obligor’s inability or failure to meet contractual payment or performance terms; and
- foreign exchange risk is the risk that an exchange rate will adversely affect the fair value of a financial instrument.

At December 31, 2022, after taking into account the effects of bilateral collateral and master netting agreements, we had $97 million of derivative assets and $3 million of derivative liabilities that relate to contracts entered into for hedging purposes. As of the same date, after taking into account the effects of bilateral collateral and master netting agreements and a reserve for potential future losses, we had derivative assets of $927 million and derivative liabilities of $1.5 billion that were not designated as hedging instruments. These positions are primarily comprised of derivative contracts entered into for client accommodation purposes.

Additional information regarding our accounting policies for derivatives is provided in Note 1 (“Summary of Significant Accounting Policies”) under the heading “Derivatives and Hedging.”

Derivatives Designated in Hedge Relationships

Net interest income and the EVE change in response to changes in the mix of assets, liabilities, and off-balance sheet instruments and the associated interest rates tied to each instrument. In addition, differences in the repricing and maturity characteristics of interest-earning assets and interest-bearing liabilities cause net interest income and the EVE to fluctuate. We utilize derivatives that have been designated as part of a hedge relationship in accordance with the applicable accounting guidance to manage net interest income and EVE to within our stated risk tolerances. The primary derivative instruments used to manage interest rate risk are interest rate swaps.

We designate certain “receive fixed/pay variable” interest rate swaps as fair value hedges. These contracts convert certain fixed-rate long-term debt into variable-rate obligations, thereby modifying our exposure to changes in interest rates. As a result, we receive fixed-rate interest payments in exchange for making variable-rate payments over the lives of the contracts without exchanging the notional amounts.

Similarly, we designate certain “receive fixed/pay variable” interest rate swaps as cash flow hedges. These contracts effectively convert certain floating-rate loans into fixed-rate loans to reduce the potential adverse effect of interest rate decreases on future interest income. Again, we receive fixed-rate interest payments in exchange for making variable-rate payments over the lives of the contracts without exchanging the notional amounts.

We designate interest rate floors as cash flow hedges. Interest rate floors also reduce the potential adverse effect of interest rate decreases on future interest income. We receive interest payments when the strike price specified in the contracts falls below a reference rate in exchange for an upfront premium.

We designate certain “pay fixed/receive variable” interest rate swaps as fair value hedges. These swaps convert certain fixed-rate securities into floating rate securities. The swaps reduce the potential adverse effects from higher interest rates on valuations and future interest income.

We designate certain “pay fixed/receive variable” interest rate swaps as cash flow hedges. These swaps convert certain floating-rate debt into fixed-rate debt. We also use these swaps to manage the interest rate risk associated with anticipated sales of certain commercial real estate loans and certain student loans originated through our Laurel Road digital lending business. The swaps protect against the possible short-term decline in the value of the loans that could result from changes in interest rates between the time they are originated and the time they are sold.

Derivatives Not Designated in Hedge Relationships

We may enter into interest rate swap contracts to manage economic risks but do not designate the instruments in hedge relationships. Excluding contracts addressing customer exposures, the amount of derivatives hedging risks on an economic basis at December 31, 2022, was not significant.

Like other financial services institutions, we originate loans and extend credit, both of which expose us to credit risk. We actively manage our overall loan portfolio and the associated credit risk in a manner consistent with asset quality objectives and concentration risk tolerances to mitigate portfolio credit risk. Purchasing credit protection through default swaps enables us to transfer to a third party a portion of the credit risk associated with a particular extension of credit, including situations where there is a forecasted sale of loans. We purchase credit default swaps to reduce the credit risk associated with the debt securities held in our trading portfolio.

We also enter into derivative contracts for other purposes, including:

- interest rate swap, cap, and floor contracts entered into generally to accommodate the needs of commercial loan clients;
- energy and base metal swap and option contracts entered into to accommodate the needs of clients;
- foreign exchange forward and option contracts entered into primarily to accommodate the needs of clients; and
- futures contracts and positions with third parties that are intended to offset or mitigate the interest rate or market risk related to client positions discussed above.

Fair Values, Volume of Activity, and Gain/Loss Information Related to Derivative Instruments

The following table summarizes the fair values of our derivative instruments on a gross and net basis as of December 31, 2022, and December 31, 2021. The change in the notional amounts of these derivatives by type from December 31, 2021, to December 31, 2022, indicates the volume of our derivative transaction activity during 2022. The notional amounts are not affected by bilateral collateral and master netting agreements. The derivative asset and liability balances are presented on a gross basis, prior to the application of bilateral collateral and master netting agreements. Total derivative assets and liabilities are adjusted to take into account the impact of legally enforceable master netting agreements that allow us to settle all derivative contracts with a single counterparty on a net basis and to offset the net derivative position with the related cash collateral. Where master netting agreements are not in effect or are not enforceable under bankruptcy laws, we do not adjust those derivative assets and liabilities with counterparties. Securities collateral related to legally enforceable master netting agreements is not offset on the balance sheet. Our derivative instruments are included in “accrued income and other assets” or “accrued expenses and other liabilities” on the Consolidated Balance Sheets, as indicated in the following table:

Dollars in millions	December 31, 2022 Notional Amount	December 31, 2022 Fair Value [a] Derivative Assets	December 31, 2022 Fair Value [a] Derivative Liabilities	December 31, 2021 Notional Amount	December 31, 2021 Fair Value [a] Derivative Assets	December 31, 2021 Fair Value [a] Derivative Liabilities
Derivatives designated as hedging instruments:						
Interest rate	**$ 41,200**	**$ 114**	**$ 3**	$ 38,654	$ 39	$ 4
Derivatives not designated as hedging instruments:						
Interest rate	**80,772**	**189**	**1,304**	72,088	768	249
Foreign exchange	**9,507**	**136**	**131**	9,073	81	76
Commodity	**16,176**	**1,328**	**1,304**	14,151	1,330	1,335
Credit	**95**	**1**	**3**	465	1	12
Other [b]	**940**	**13**	**5**	3,330	27	11
Total derivatives not designated as hedging instruments:	**107,490**	**1,667**	**2,747**	99,107	2,207	1,683
Total	**148,690**	**1,781**	**2,750**	137,761	2,246	1,687
Netting adjustments [c]	**—**	**(757)**	**(1,262)**	—	(284)	(1,526)
Net derivatives in the balance sheet	**148,690**	**1,024**	**1,488**	137,761	1,962	161
Other collateral [d]	**—**	**—**	**(5)**	—	(1)	—
Net derivative amounts	**$ 148,690**	**$ 1,024**	**$ 1,483**	$ 137,761	$ 1,961	$ 161

(a) We take into account bilateral collateral and master netting agreements that allow us to settle all derivative contracts held with a single counterparty on a net basis, and to offset the net derivative position with the related cash collateral when recognizing derivative assets and liabilities. As a result, we could have derivative contracts with negative fair values included in derivative assets and contracts with positive fair values included in derivative liabilities.
(b) Other derivatives include interest rate lock commitments related to our residential mortgage banking activities, forward sales commitments related to our residential mortgage banking activities, forward purchase and sales contracts consisting of contractual commitments associated with "to be announced" securities and when-issued securities, and other customized derivative contracts.
(c) Netting adjustments represent the amounts recorded to convert our derivative assets and liabilities from a gross basis to a net basis in accordance with the applicable accounting guidance.
(d) Other collateral represents the amount that cannot be used to offset our derivative assets and liabilities from a gross basis to a net basis in accordance with the applicable accounting guidance. The other collateral consists of securities and is exchanged under bilateral collateral and master netting agreements that allow us to offset the net derivative position with the related collateral. The application of the other collateral cannot reduce the net derivative position below zero. Therefore, excess other collateral, if any, is not reflected above.

Fair value hedges. During the year ended December 31, 2022, we did not exclude any portion of these hedging instruments from the assessment of hedge effectiveness.

The following tables summarize the amounts that were recorded on the balance sheet as of December 31, 2022 and December 31, 2021, related to cumulative basis adjustments for fair value hedges.

Dollars in millions	December 31, 2022 Balance sheet line item in which the hedge item is included	Carrying amount of hedged item[a]	Hedge accounting basis adjustment
Interest rate contracts	Long-term debt[b]	**$ 10,411**	**$ (552)**
Interest rate contracts	Securities available for sale[c]	**405**	**48**

Dollars in millions	December 31, 2021 Balance sheet line item in which the hedge item is included	Carrying amount of hedged item [a]	Hedge accounting basis adjustment
Interest rate contracts	Long-term debt[b]	$ 7,553	$ 138
Interest rate contracts	Securities available for sale[c]	6,280	134

(a) The carrying amount represents the portion of the asset or liability designated as the hedged item.
(b) Basis adjustments related to de-designated hedges that no longer qualify as fair value hedges reduced the hedge accounting basis adjustment by $6 million and $7 million at December 31, 2022 and December 31, 2021, respectively.
(c) These amounts are designated as fair value hedges under the last-of-layer method. The carrying amount represents the amortized costs basis of the prepayable financial assets used to designate hedging relationships in which the hedged item is the last layer expected to be remaining at the end of the hedging relationship. At December 31, 2022 and December 31, 2021 the amortized cost of the closed portfolios used in these hedging relationships was $708 million and $7.7 billion, respectively.

Cash flow hedges. During the year ended December 31, 2022, we did not exclude any portion of these hedging instruments from the assessment of hedge effectiveness.

Considering the interest rates, yield curves, and notional amounts as of December 31, 2022, we expect to reclassify an estimated $665 million of after-tax net losses on derivative instruments designated as cash flow hedges from AOCI to income during the next 12 months. In addition, we expect to reclassify approximately $3 million of pre-tax net losses related to terminated cash flow hedges from AOCI to income during the next 12 months. These reclassified amounts could differ from actual amounts recognized due to changes in interest rates hedge de-designations and the addition of other hedges subsequent to December 31, 2022. As of December 31, 2022, the maximum length of time over which we hedge forecasted transactions is 5.01 years.

The following tables summarize the effect of fair value and cash flow hedge accounting on the income statement for the years ended December 31, 2022, December 31, 2021, and December 31, 2020.

	Location and amount of net gains (losses) recognized in income on fair value and cash flow hedging relationships			
Dollars in millions	Interest expense – long-term debt	Interest income – loans	Interest Income - securities	Investment banking and debt placement fees
Twelve Months Ended December 31, 2022				
Total amounts presented in the consolidated statement of income	**$ (475)**	**$ 4,241**	**$ 752**	**$ 638**
Net gains (losses) on fair value hedging relationships				
Interest contracts				
Recognized on hedged items	**690**	**—**	**(339)**	**—**
Recognized on derivatives designated as hedging instruments	**(697)**	**—**	**350**	**—**
Net income (expense) recognized on fair value hedges	**$ (7)**	**$ —**	**$ 11**	**$ —**
Net gain (loss) on cash flow hedging relationships				
Realized gains (losses) (pre-tax) reclassified from AOCI into net income				
Interest contracts	**$ (3)**	**$ (146)**	**$ —**	**$ 9**
Net income (expense) recognized on cash flow hedges	**$ (3)**	**$ (146)**	**$ —**	**$ 9**
Twelve Months Ended December 31, 2021				
Total amounts presented in the consolidated statement of income	$ (221)	$ 3,532	$ 546	$ 937
Net gains (losses) on fair value hedging relationships				
Interest contracts				
Recognized on hedged items	276	—	(113)	—
Recognized on derivatives designated as hedging instruments	(150)	—	113	—
Net income (expense) recognized on fair value hedges	$ 126	$ —	$ —	$ —
Net gain (loss) on cash flow hedging relationships				
Realized gains (losses) (pre-tax) reclassified from AOCI into net income				
Interest contracts	$ (4)	$ 329	$ —	$ 4
Net income (expense) recognized on cash flow hedges	$ (4)	$ 329	$ —	$ —
Twelve Months Ended December 31, 2020				
Total amounts presented in the consolidated statement of income	$ (286)	$ 3,866	$ 484	$ 661
Net gains (losses) on fair value hedging relationships				
Interest contracts				
Recognized on hedged items	(177)	—	—	—
Recognized on derivatives designated as hedging instruments	305	—	—	—
Net income (expense) recognized on fair value hedges	$ 128	$ —	$ —	$ —
Net gain (loss) on cash flow hedging relationships				
Realized gains (losses) (pre-tax) reclassified from AOCI into net income				
Interest contracts	$ (4)	$ 319	$ —	$ —
Net income (expense) recognized on cash flow hedges	$ (4)	$ 319	$ —	$ —

Net investment hedges. We previously entered into foreign currency forward contracts to hedge our exposure to changes in the carrying value of our investments in foreign subsidiaries as a result of changes in the related foreign exchange rates. We had no activity in net investment hedges for the years ended December 31, 2022, December 31, 2021, and December 31, 2020.

The following table summarizes the pre-tax net gains (losses) on our cash flow and net investment hedges for the years ended December 31, 2022, December 31, 2021, and December 31, 2020, and where they are recorded on the income statement. The table includes net gains (losses) recognized in OCI during the period and net gains (losses) reclassified from AOCI into income during the current period.

Dollars in millions	Net Gains (Losses) Recognized in OCI	Income Statement Location of Net Gains (Losses) Reclassified From OCI Into Income	Net Gains (Losses) Reclassified From OCI Into Income	Net Gains (Losses) Recognized in Other Income
Twelve Months Ended December 31, 2022				
Cash Flow Hedges				
Interest rate	**$ (1,660)**	Interest income — Loans	**$ (146)**	**$ —**
Interest rate	**7**	Interest expense — Long-term debt	**(3)**	**—**
Interest rate	**11**	Investment banking and debt placement fees	**9**	**—**
Total	**$ (1,642)**		**$ (140)**	**$ —**
Twelve Months Ended December 31, 2021				
Cash Flow Hedges				
Interest rate	$ (307)	Interest income — Loans	$ 329	$ —
Interest rate	2	Interest expense — Long-term debt	(4)	—
Interest rate	10	Investment banking and debt placement fees	4	—
Total	$ (295)		$ 329	$ —
Twelve Months Ended December 31, 2020				
Cash Flow Hedges				
Interest rate	$ 628	Interest income — Loans	$ 319	$ —
Interest rate	(5)	Interest expense — Long-term debt	(4)	—
Interest rate	(9)	Investment banking and debt placement fees	—	—
Total	$ 614		$ 315	$ —

Nonhedging instruments.

The following table summarizes the pre-tax net gains (losses) on our derivatives that are not designated as hedging instruments for the years ended December 31, 2022, December 31, 2021, and December 31, 2020, and where they are recorded on the income statement.

	2022				2021				2020			
Year ended December 31, *Dollars in millions*	Corporate services income	Consumer mortgage income	Other income	Total	Corporate services income	Consumer mortgage income	Other income	Total	Corporate services income	Consumer mortgage income	Other income	Total
NET GAINS (LOSSES)												
Interest rate	**$ 57**	**$ —**	**$ 6**	**$ 63**	$ 30	$ —	$ 2	$ 32	$ 32	$ —	$ (10)	$ 22
Foreign exchange	**52**	**—**	**—**	**52**	47	—	—	47	41	—	—	41
Commodity	**23**	**—**	**—**	**23**	14	—	—	14	19	—	—	19
Credit	**(1)**	**—**	**(39)**	**(40)**	4	—	(36)	(32)	(4)	—	(29)	(33)
Other	**—**	**4**	**(2)**	**2**	—	13	(7)	6	—	19	19	38
Total net gains (losses)	**$ 131**	**$ 4**	**$ (35)**	**$ 100**	$ 95	$ 13	$ (41)	$ 67	$ 88	$ 19	$ (20)	$ 87

Counterparty Credit Risk

We use several means to mitigate and manage exposure to credit risk on derivative contracts. We enter into bilateral collateral and master netting agreements that provide for the net settlement of all contracts with a single counterparty in the event of default. Additionally, we monitor counterparty credit risk exposure on each contract to determine appropriate limits on our total credit exposure across all product types. We review our collateral positions on a daily basis and exchange collateral with our counterparties in accordance with standard ISDA documentation, central clearing rules, and other related agreements. We hold collateral in the form of cash and highly rated securities issued by the U.S. Treasury, government-sponsored enterprises, or GNMA. Cash collateral netted against derivative assets on the balance sheet totaled $10 million at December 31, 2022, and $100 million at December 31, 2021. The cash collateral netted against derivative liabilities totaled $626 million at December 31, 2022, and $1.1 billion at December 31, 2021.

The following table summarizes the fair value of our derivative assets by type at the dates indicated. These assets represent our gross exposure to potential loss after taking into account the effects of bilateral collateral and master netting agreements and other means used to mitigate risk.

December 31, *Dollars in millions*	2022	2021
Interest rate	$ 136	$ 696
Foreign exchange	67	31
Commodity	820	1,108
Credit	—	—
Other	11	27
Derivative assets before collateral	1,034	1,862
Plus (Less): Related collateral	(10)	100
Total derivative assets	$ 1,024	$ 1,962

We enter into derivative transactions with two primary groups: broker-dealers and banks, and clients. Since these groups have different economic characteristics, we have different methods for managing counterparty credit exposure and credit risk.

We enter into transactions with broker-dealers and banks for various risk management purposes. These types of transactions are primarily high dollar volume. We enter into bilateral collateral and master netting agreements with these counterparties. We clear certain types of derivative transactions with these counterparties, whereby central clearing organizations become the counterparties to our derivative contracts. In addition, we enter into derivative contracts through swap execution facilities. Swap clearing and swap execution facilities reduce our exposure to counterparty credit risk. At December 31, 2022, we had gross exposure of $355 million to broker-dealers and banks. We had net exposure of $213 million after the application of master netting agreements and cash collateral, where such qualifying agreements exist. We had net exposure of $212 million after considering $1 million of additional collateral held in the form of securities.

We enter into transactions using master netting agreements with clients to accommodate their business needs. In most cases, we mitigate our credit exposure by cross-collateralizing these transactions to the underlying loan collateral. For transactions that are not clearable, we mitigate our market risk by buying and selling U.S. Treasuries and Eurodollar futures or entering into offsetting positions. Due to the cross-collateralization to the underlying loan, we typically do not exchange cash or marketable securities collateral in connection with these transactions. To address the risk of default associated with these contracts, we have established a CVA reserve (included in “accrued income and other assets”) in the amount of $3 million at December 31, 2022. The CVA is calculated from potential future exposures, expected recovery rates, and market-implied probabilities of default. At December 31, 2022, we had gross exposure of $968 million to client counterparties and other entities that are not broker-dealers or banks for derivatives that have associated master netting agreements. We had net exposure of $812 million on our derivatives with these counterparties after the application of master netting agreements, collateral, and the related reserve.

Credit Derivatives

We are a buyer and, under limited circumstances, may be a seller of credit protection through the credit derivative market. We purchase credit derivatives to manage the credit risk associated with specific commercial lending and swap obligations as well as exposures to debt securities. Our credit derivative portfolio was in a net liability position of $2 million as of December 31, 2022, and $11 million as of December 31, 2021.

Our credit derivative portfolio may consist of the following:

- *Single-name credit default swap*: A bilateral contract whereby the seller agrees, for a premium, to provide protection against the credit risk of a specific entity (the “reference entity”) in connection with a specific debt obligation. The protected credit risk is related to adverse credit events, such as bankruptcy, failure to make payments, and acceleration or restructuring of obligations, identified in the credit derivative contract.
- *Traded credit default swap index:* Represents a position on a basket or portfolio of reference entities.
- *Risk participation agreement:* A transaction in which the lead participant has a swap agreement with a customer. The lead participant (purchaser of protection) then enters into a risk participation agreement with a counterparty (seller of protection), under which the counterparty receives a fee to accept a portion of the lead participant’s credit risk. If the customer defaults on the swap contract, the counterparty to the risk participation agreement must reimburse the lead participant for the counterparty’s percentage of the positive fair value of the customer swap as of the default date. If the customer swap has a negative fair value, the counterparty has no reimbursement requirements. If the customer defaults on the swap contract and the

seller fulfills its payment obligations under the risk participation agreement, the seller is entitled to a *pro rata* share of the lead participant's claims against the customer under the terms of the swap agreement.

The following table provides information on the types of credit derivatives sold by us and held on the balance sheet at December 31, 2022, and December 31, 2021. The notional amount represents the amount that the seller could be required to pay. The payment/performance risk shown in the table represents a weighted average of the default probabilities for all reference entities in the respective portfolios. These default probabilities are implied from observed credit indices in the credit default swap market, which are mapped to reference entities based on Key's internal risk rating.

December 31, *Dollars in millions*	2022 Notional Amount	2022 Average Term (Years)	2022 Payment / Performance Risk	2021 Notional Amount	2021 Average Term (Years)	2021 Payment / Performance Risk
Other	$ 1	15.17	5.10 %	$ 149	13.86	3.15 %
Total credit derivatives sold	$ 1	—	—	$ 149	—	—

Credit Risk Contingent Features

We have entered into certain derivative contracts that require us to post collateral to the counterparties when these contracts are in a net liability position. The amount of collateral to be posted is based on the amount of the net liability and thresholds generally related to our long-term senior unsecured credit ratings with Moody's and S&P. Collateral requirements also are based on minimum transfer amounts, which are specific to each Credit Support Annex (a component of the ISDA Master Agreement) that we have signed with the counterparties. In a limited number of instances, counterparties have the right to terminate their ISDA Master Agreements with us if our ratings fall below a certain level, usually investment-grade level (i.e., "Baa3" for Moody's and "BBB-" for S&P). At December 31, 2022, KeyBank's rating was "A3" with Moody's and "A-" with S&P, and KeyCorp's rating was "Baa1" with Moody's and "BBB+" with S&P. As of December 31, 2022, the aggregate fair value of all derivative contracts with credit risk contingent features (i.e., those containing collateral posting or termination provisions based on our ratings) held by KeyBank that were in a net liability position totaled $612 million, which includes $243 million in derivative assets, $1.3 billion in derivative liabilities and associated collateral posted. We had $534 million in cash and securities collateral posted to cover those positions as of December 31, 2022. There were no derivative contracts with credit risk contingent features held by KeyCorp at December 31, 2022.

The following table summarizes the additional cash and securities collateral that KeyBank would have been required to deliver under the ISDA Master Agreements had the credit risk contingent features been triggered for the derivative contracts in a net liability position as of December 31, 2022, and December 31, 2021. The additional collateral amounts were calculated based on scenarios under which KeyBank's ratings are downgraded one, two, or three ratings as of December 31, 2022, and December 31, 2021, and take into account all collateral already posted. A similar calculation was performed for KeyCorp, and no additional collateral would have been required at December 31, 2022, or December 31, 2021. For more information about the credit ratings for KeyBank and KeyCorp, see the discussion under the heading "Factors affecting liquidity" in the section entitled "Liquidity risk management" in Item 7 of this report.

December 31, *Dollars in millions*	2022 Moody's	2022 S&P	2021 Moody's	2021 S&P
KeyBank's long-term senior unsecured credit ratings	A3	A-	A3	A-
One rating downgrade	$ 1	$ 1	$ 3	$ 3
Two rating downgrades	1	1	3	3
Three rating downgrades	1	1	3	3

KeyBank's long-term senior unsecured credit rating was three ratings above noninvestment grade at Moody's and S&P as of December 31, 2022, and December 31, 2021. If KeyBank's ratings had been downgraded below investment grade as of December 31, 2022, and December 31, 2021, payments of up to $2 million and $4 million, respectively, would have been required to either terminate the contracts or post additional collateral for those contracts in a net liability position, taking into account all collateral already posted. If KeyCorp's ratings had been downgraded below investment grade as of December 31, 2022, and December 31, 2021, no payments would have been required to either terminate the contracts or post additional collateral for those contracts in a net liability position, taking into account all collateral already posted.

9. Mortgage Servicing Assets

We originate and periodically sell commercial and residential mortgage loans but continue to service those loans for the buyers. We also may purchase the right to service commercial mortgage loans for other lenders. We record a servicing asset if we purchase or retain the right to service loans in exchange for servicing fees that exceed the going market servicing rate and are considered more than adequate compensation for servicing. Additional information pertaining to the accounting for mortgage and other servicing assets is included in Note 1 (“Summary of Significant Accounting Policies”) under the heading “Servicing Assets.”

Commercial

Changes in the carrying amount of commercial mortgage servicing assets are summarized as follows:

Year ended December 31, *Dollars in millions*	**2022**	**2021**
Balance at beginning of period	**$ 634**	$ 578
Servicing retained from loan sales	**106**	128
Purchases	**38**	29
Amortization	**(125)**	(120)
Temporary recoveries (impairments)	**—**	19
Balance at end of period	**$ 653**	$ 634
Fair value at end of period	**$ 997**	$ 789

The fair value of commercial mortgage servicing assets is determined by calculating the present value of future cash flows associated with servicing the loans. This calculation uses a number of assumptions that are based on current market conditions. The range and weighted-average of the significant unobservable inputs used to determine fair value our commercial mortgage servicing assets at December 31, 2022, and December 31, 2021, along with the valuation techniques, are shown in the following table:

dollars in millions		**December 31, 2022**			**December 31, 2021**		
Valuation Technique	**Significant Unobservable Input**	**Range**		**Weighted-Average**	**Range**		**Weighted-Average**
Discounted cash flow	Expected defaults	**0.97 %**	**2.00 %**	**1.07 %**	1.00 %	2.00 %	1.13 %
	Residual cash flows discount rate	**8.54 %**	**10.02 %**	**9.48 %**	7.92 %	10.49 %	9.44 %
	Escrow earn rate	**5.09 %**	**5.21 %**	**5.17 %**	1.34 %	1.74 %	1.34 %
	Loan assumption rate	**— %**	**1.41 %**	**1.12 %**	— %	1.69 %	1.37 %

If these economic assumptions change or prove incorrect, the fair value of commercial mortgage servicing assets may also change. Expected credit losses, escrow earn rates, and discount rates are critical to the valuation of commercial mortgage servicing assets. Estimates of these assumptions are based on how a market participant would view the respective rates and reflect historical data associated with the commercial mortgage loans, industry trends, and other considerations. Actual rates may differ from those estimated due to changes in a variety of economic factors. A decrease in the value assigned to the escrow earn rates would cause a decrease in the fair value of our commercial mortgage servicing assets. An increase in the assumed default rates of commercial mortgage loans or an increase in the assigned discount rates would cause a decrease in the fair value of our commercial mortgage servicing assets. Prepayment activity on commercial serviced loans does not significantly impact the valuation of our commercial mortgage servicing assets. Unlike residential mortgages, commercial mortgages experience significantly lower prepayments due to certain contractual restrictions impacting the borrower’s ability to prepay the mortgage.

The amortization of commercial mortgage servicing assets is determined in proportion to, and over the period of, the estimated net servicing income. The amortization of commercial servicing assets for each period, as shown in the table at the beginning of this note, is recorded as a reduction to contractual fee income. The contractual fee income from servicing commercial mortgage loans totaled $292 million for the year ended December 31, 2022, $264 million for the year ended December 31, 2021, and $214 million for the year ended December 31, 2020. This fee income was partially offset by $125 million of amortization for the year ended December 31, 2022, $120 million for the year ended December 31, 2021, and $117 million for the year ended December 31, 2020. Both the contractual fee income and the amortization are recorded, net, in “commercial mortgage servicing fees” on the income statement.

Residential

Changes in the carrying amount of residential mortgage servicing assets are summarized as follows:

Dollars in millions	2022	2021
Balance at beginning of period	$ 93	$ 58
Servicing retained from loan sales	23	43
Purchases	—	—
Amortization	(11)	(18)
Temporary recoveries (impairments)	1	10
Balance at end of period	$ 106	$ 93
Fair value at end of period	$ 130	$ 97

The fair value of residential mortgage servicing assets is determined by calculating the present value of future cash flows associated with servicing the loans. This calculation uses a number of assumptions that are based on current market conditions. The range and weighted-average of the significant unobservable inputs used to fair value our residential mortgage servicing assets at December 31, 2022 and December 31, 2021, along with the valuation techniques, are shown in the following table:

		December 31, 2022			December 31, 2021		
Valuation Technique	**Significant Unobservable Input**	**Range**		**Weighted-Average**	**Range**		**Weighted-Average**
Discounted cash flow	Prepayment speed	**6.10 %**	**41.34 %**	**7.20 %**	9.65 %	49.17 %	10.97 %
	Discount rate	**7.50 %**	**8.50 %**	**7.53 %**	7.50 %	11.50 %	7.53 %
	Servicing cost	**$ 62.00**	**$ 4,375**	**$ 67.05**	$ 62.00	$ 8,075	$ 66.94

If these economic assumptions change or prove incorrect, the fair value of residential mortgage servicing assets may also change. Prepayment speed, discount rates, and servicing cost are critical to the valuation of residential mortgage servicing assets. Estimates of these assumptions are based on how a market participant would view the respective rates and reflect historical data associated with the residential mortgage loans, industry trends, and other considerations. Actual rates may differ from those estimated due to changes in a variety of economic factors. An increase in the prepayment speed would cause a decrease in the fair value of our residential mortgage servicing assets. An increase in the assigned discount rates and servicing cost assumptions would cause a decrease in the fair value of our residential mortgage servicing assets.

The amortization of residential mortgage servicing assets for December 31, 2022, as shown in the table above, is recorded as a reduction to contractual fee income. The contractual fee income from servicing residential mortgage loans totaled $35 million for the year ended December 31, 2022, $42 million for the year ended December 31, 2021, and $34 million for the year ended December 31, 2020. This fee income was offset by $11 million of amortization for the year ended December 31, 2022, $18 million for the year ended December 31, 2021, and $14 million for the year ended December 31, 2020. Both the contractual fee income and the amortization are recorded, net, in “consumer mortgage income” on the income statement.

10. Leases

As a lessee, we enter into leases of land, buildings, and equipment. Our real estate leases primarily relate to bank branches and office space. The leases of equipment principally relate to technology assets for data processing and data storage. As a lessor, we primarily provide financing through our equipment leasing business.

Lessee

Our leases are classified as either operating or financing and have remaining terms ranging from 1 to 20 years with the exception of certain ground leases that have terms over 30 years. For leases with initial terms greater than one year, a lease liability, measured as the present value of unpaid lease payments, and a corresponding right-of-use asset for the right to use the leased properties are reported on the balance sheet. Lease payments are discounted using Key’s incremental borrowing rate, consistent with what Key would pay to borrow on a collateralized basis over a term similar to each lease. Leases with an initial term of less than one year are not recorded on the balance sheet. The related expense is recognized on a straight-line basis over the lease term.

Certain leases contain options to extend the lease term for up to five years. Some leases give us the option to terminate, for a penalty or at the lessor's discretion. Leases with variable payments are primarily based on adjustments for inflation over the term of the lease based on a contractually defined index. Certain ATM leases include variable payments based on volume of transactions.

Operating lease expense is recognized in "net occupancy" and "equipment" on the income statement. The components of lease expense are summarized as follows:

Dollars in millions	December 31, 2022	December 31, 2021
Operating lease cost	**$ 128**	$ 133
Finance lease cost:		
Amortization of right-of-use assets	**1**	2
Interest on lease liabilities	**—**	—
Variable lease cost	**24**	22
Total lease cost [(a)]	**$ 153**	$ 157

(a) Short-term lease cost was less than $1 million for both the twelve months ended December 31, 2022, and December 31, 2021

Cash flows related to leases are summarized as follows:

Dollars in millions	December 31, 2022	December 31, 2021
Cash paid for amounts included in the measurement of lease liabilities:		
Operating cash flows from operating leases	**$ 139**	$ 141
Financing cash flows from finance leases	**1**	2
Right-of-use assets obtained in exchange for lease obligations: [(a)]		
Operating leases	**$ 46**	$ 85

(a) There were no right-of-use assets obtained in exchange for finance lease obligations for either the twelve months ended December 31, 2022 or December 31, 2021.

Additional balance sheet information related to leases is summarized as follows:

Dollars in millions	Balance sheet classification	December 31, 2022	December 31, 2021
Operating lease assets	Accrued income and other assets	**$ 525**	$ 595
Operating lease liabilities	Accrued expense and other liabilities	**601**	676
Finance leases:			
Property and equipment, gross	Premises and equipment	**$ 18**	$ 18
Accumulated depreciation	Premises and equipment	**(14)**	(13)
Property and equipment, net		**4**	5
Finance lease liabilities	Long-term debt	**6**	7

Information pertaining to the lease term and weighted-average discount rate is summarized as follows:

	December 31, 2022	December 31, 2021
Weighted-average remaining lease term:		
Operating leases	**6.1**	6.56
Finance leases	**4.53**	5.33
Weighted-average discount rate:		
Operating leases	**2.78 %**	2.78 %
Finance leases	**4.54 %**	4.50 %

Maturities of lease liabilities are summarized as follows:

Dollars in millions	Operating Leases	Finance Leases	Total
2023	$ 134	$ 2	$ 136
2024	123	2	125
2025	104	1	105
2026	87	—	87
2027	72	—	72
Thereafter	137	2	139
Total lease payments	$ 657	$ 7	$ 664
Less imputed interest	56	1	57
Total	$ 601	$ 6	$ 607

Lessor Equipment Leasing

Leases may have fixed or floating rate terms. Variable payments are based on an index or other specified rate and are included in rental payments. Certain leases contain an option to extend the lease term or the option to terminate at the discretion of the lessee. Under certain conditions, lease agreements may also contain the option for a lessee to purchase the underlying asset.

Interest income from sales-type and direct financing leases is recognized in "interest income — loans" on the statement of income. Income related to operating leases is recognized in “operating lease income and other leasing gains” on the income statement. The components of equipment leasing income are summarized in the table below:

Dollars in millions	December 31, 2022	December 31, 2021
Sales-type and direct financing leases		
Interest income on lease receivable	**$ 64**	$ 75
Interest income related to accretion of unguaranteed residual asset	**15**	16
Total sales-type and direct financing lease income	**79**	91
Operating leases		
Operating lease income related to lease payments	**105**	127
Other operating leasing gains and (losses)	**(2)**	21
Total operating lease income and other leasing gains	**103**	148
Total lease income	**$ 182**	$ 239

Equipment leasing receivables relate to sales-type and direct financing leases. The composition of the net investment in sales-type and direct financing leases is as follows:

Dollars in millions	December 31, 2022	December 31, 2021
Lease receivables	**$ 3,170**	$ 3,205
Unearned income	**(253)**	(193)
Unguaranteed residual value	**472**	450
Deferred fees and costs	**5**	14
Net investment in sales-type and direct financing leases	**$ 3,394**	$ 3,476

The residual value component of a lease represents the fair value of the leased asset at the end of the lease term. We rely on industry data, historical experience, independent appraisals and the experience of the equipment leasing asset management team to value lease residuals. Relationships with a number of equipment vendors give the asset management team insight into the life cycle of the leased equipment, pending product upgrades and competing products. Key assesses net investments in leases, including residual values, for impairment and recognizes any impairment losses in accordance with the impairment guidance for financial instruments. The carrying amount of residual assets covered by residual value guarantees at December 31, 2022, and December 31, 2021, was $270 million and $255 million, respectively.

At December 31, 2022, minimum future lease payments to be received for sales-type and direct financing leases are as follows:

Dollars in millions	Sales-type and direct financing lease payments
2023	$ 902
2024	689
2025	486
2026	388
2027	246
Thereafter	499
Total lease payments	$ 3,211

At December 31, 2022, minimum future lease payments to be received for operating leases are as follows:

Dollars in millions	Operating lease payments
2023	$ 80
2024	67
2025	55
2026	39
2027	26
Thereafter	50
Total lease payments	$ 318

The carrying amount of operating lease assets at December 31, 2022 and December 31, 2021, was $505 million and $740 million, respectively.

11. Premises and Equipment

Premises and Equipment

Premises and equipment at December 31, 2022, and December 31, 2021, consisted of the following:

Dollars in millions	**Useful life** *(in years)*	December 31, **2022**	**2021**
Land	Indefinite	**$ 114**	$ 118
Buildings and improvements	15-40	**696**	680
Leasehold improvements	1-15	**615**	616
Furniture and equipment	2-15	**824**	814
Capitalized building leases	1-14 [(a)]	**18**	19
Construction in process	N/A	**41**	70
Total premises and equipment		**2,308**	2,317
Less: Accumulated depreciation and amortization		**(1,672)**	(1,636)
Premises and equipment, net		**$ 636**	$ 681

(a) Capitalized building and equipment leases are amortized over the lesser of the useful life of asset or lease term.

Depreciation and amortization expense related to premises and equipment for the years ended December 31, 2022, December 31, 2021, and December 31, 2020 was $96 million, $107 million, and $115 million, respectively. This includes amortization of assets under capital leases.

Software

Eligible costs related to computer software developed or obtained for internal use that add functionality, improve efficiency or extend the useful life of a system are capitalized. Amortization of capitalized software begins when it is ready for its intended use, which is after all substantial testing is completed. Capitalized costs are amortized using the straight-line or accelerated method over its useful life. Balances are included in “Accrued income and other assets”.

Key had capitalized software assets, including internally-developed and purchased software and costs associated with certain cloud computing arrangements of $447 million and $321 million and related accumulated amortization of $163 million and $86 million as of December 31, 2022, and December 31, 2021, respectively. This includes in-process software that has not started amortizing. Amortization expense related to internal-use software for the years ended December 31, 2022, December 31, 2021, and December 31, 2020, was $77 million, $66 million, and $49 million, respectively.

12. Goodwill and Other Intangible Assets

Our annual goodwill impairment testing is performed as of October 1 each year, or more frequently as events occur or circumstances change that would more-likely-than-not reduce the fair value of a reporting unit below its carrying amount. Additional information pertaining to our accounting policy for goodwill and other intangible assets is summarized in Note 1 (“Summary of Significant Accounting Policies”) under the heading “Goodwill and Other Intangible Assets.”

For our annual test, we conducted a qualitative test as of October 1, 2022. We evaluated numerous factors including economic trends, market capitalization, financial condition, industry performance and internal projections. We concluded goodwill was not impaired.

Changes in the carrying amount of goodwill by reporting segment are presented in the following table:

Dollars in millions	Consumer Bank	Commercial Bank	Total
BALANCE AT DECEMBER 31, 2020	$ 1,752	$ 912	$ 2,664
AQN Strategies acquisition	9	—	9
XUP acquisition measurement period adjustment	—	20	20
BALANCE AT DECEMBER 31, 2021	1,761	932	2,693
XUP acquisition measurement period adjustment	—	1	1
GradFin acquisition	58	—	58
BALANCE AT DECEMBER 31, 2022	**$ 1,819**	**$ 933**	**$ 2,752**

Additional information regarding recent acquisitions is provided in Note 15 (“Acquisitions and Discontinued Operations”).

As of December 31, 2022, we expect goodwill in the amount of $432 million to be deductible for tax purposes in future periods.

There were no accumulated impairment losses related to any of Key’s reporting units at December 31, 2022, December 31, 2021, and December 31, 2020.

The following table shows the gross carrying amount and the accumulated amortization of intangible assets subject to amortization:

	2022		2021	
December 31, *Dollars in millions*	**Gross Carrying Amount**	**Accumulated Amortization**	**Gross Carrying Amount**	**Accumulated Amortization**
Intangible assets subject to amortization:				
Core deposit intangibles	**$ 355**	**$ 303**	$ 355	$ 275
PCCR intangibles	**16**	**14**	16	13
Other intangible assets	**84**	**44**	82	35
Total	**$ 455**	**$ 361**	$ 453	$ 323

The following table presents estimated intangible asset amortization expense for the next five years.

	Estimated				
Dollars in millions	**2023**	**2024**	**2025**	**2026**	**2027**
Intangible asset amortization expense	$ 39	$ 28	$ 19	$ 7	$ 1

13. Variable Interest Entities

A VIE is a partnership, limited liability company, trust, or other legal entity that meets any one of the following criteria:

- The entity does not have sufficient equity to conduct its activities without additional subordinated financial support from another party.
- The entity’s investors lack the power to direct the activities that most significantly impact the entity’s economic performance.
- The entity’s equity at risk holders do not have the obligation to absorb losses or the right to receive residual returns.
- The voting rights of some investors are not proportional to their economic interests in the entity, and substantially all of the entity’s activities involve, or are conducted on behalf of, investors with disproportionately few voting rights.

Our significant VIEs are summarized below. We define a “significant interest” in a VIE as a subordinated interest that exposes us to a significant portion, but not the majority, of the VIE’s expected losses or residual returns, even

though we do not have the power to direct the activities that most significantly impact the entity's economic performance.

LIHTC investments. Through KCDC, we have made investments directly and indirectly in LIHTC operating partnerships formed by third parties. As a limited partner in these operating partnerships, we are allocated tax credits and deductions associated with the underlying properties. We have determined that we are not the primary beneficiary of these investments because the general partners have the power to direct the activities that most significantly influence the economic performance of their respective partnerships and have the obligation to absorb expected losses and the right to receive residual returns. As we are not the primary beneficiary of these investments, we do not consolidate them.

Through KCIC, formed as a wholly-owned subsidiary of KeyBank National Association, we create funds that hold interests in LIHTC investments. KCIC is the managing member of the fund. We have determined that we are not the primary beneficiary of the fund because although we have the power to direct the activities that most significantly influence its economic performance, we do not have benefits that could potentially be deemed significant to the fund. Therefore, we do not consolidate the fund.

Our maximum exposure to loss in connection with these partnerships consists of our unamortized investment balance plus any unfunded equity commitments and tax credits claimed but subject to recapture. We had $1.9 billion and $1.6 billion of investments in LIHTC operating partnerships at December 31, 2022, and December 31, 2021, respectively. These investments are recorded in "accrued income and other assets" on our Consolidated Balance Sheets. We do not have any loss reserves recorded related to these investments because we believe the likelihood of any loss is remote. For all legally binding unfunded equity commitments, we increase our recognized investment and recognize a liability. As of December 31, 2022, and December 31, 2021, we had liabilities of $957 million and $675 million, respectively, related to investments in qualified affordable housing projects, which are recorded in "accrued expense and other liabilities" on our Consolidated Balance Sheets. We continue to invest in these LIHTC operating partnerships.

The assets and liabilities presented in the table below convey the size of KCDC's direct and indirect investments at December 31, 2022, and December 31, 2021. As these investments represent unconsolidated VIEs, the assets and liabilities of the investments themselves are not recorded on our Consolidated Balance Sheets.

	Unconsolidated VIEs		
Dollars in millions	Total Assets	Total Liabilities	Maximum Exposure to Loss
December 31, 2022			
LIHTC investments	**$ 8,227**	**$ 3,091**	**$ 2,370**
December 31, 2021			
LIHTC investments	$ 7,839	$ 3,252	$ 1,985

We amortize our LIHTC investments over the period that we expect to receive the tax benefits. In 2022, we recognized $190 million of amortization and $187 million of tax credits associated with these investments within "income taxes" on our income statement. In 2021, we recognized $192 million of amortization and $184 million of tax credits associated with these investments within "income taxes" on our income statement.

Principal investments. Through our principal investing entity, KCC, we have made investments in private equity funds engaged in venture- and growth-oriented investing. As a limited partner to these funds, KCC records these investments at fair value and receives distributions from the funds in accordance with the funds' partnership agreements. We are not the primary beneficiary of these investments as we do not hold the power to direct the activities that most significantly affect the funds' economic performance. Such power rests with the funds' general partners. In addition, we neither have the obligation to absorb the funds' expected losses nor the right to receive their residual returns. Our voting rights are also disproportionate to our economic interests, and substantially all of the funds' activities are conducted on behalf of investors with disproportionately few voting rights. Because we are not the primary beneficiary of these investments, we do not consolidate them.

Our maximum exposure to loss associated with indirect principal investments consists of the investments' fair value plus any unfunded equity commitments. The fair value of our indirect principal investments totaled $34 million and $45 million at December 31, 2022, and December 31, 2021, respectively. These investments are recorded in "other investments" on our Consolidated Balance Sheets. Additional information on indirect principal investments is

provided in Note 6 (“Fair Value Measurements”). The table below reflects the size of the private equity funds in which KCC was invested as well as our maximum exposure to loss in connection with these investments at December 31, 2022.

	Unconsolidated VIEs		
Dollars in millions	Total Assets	Total Liabilities	Maximum Exposure to Loss
December 31, 2022			
Indirect investments	**$ 6,636**	**$ 90**	**$ 43**
December 31, 2021			
Indirect investments	$ 8,437	$ 178	$ 57

Through our principal investing entities, we have formed and funded operating entities that provide management and other related services to our investment company funds, which directly invest in portfolio companies. In return for providing services to our direct investment funds, these entities’ receive a minority equity interest in the funds. This minority equity ownership is recorded at fair value on the entities’ financial statements. Additional information on our direct principal investments is provided in Note 6 (“Fair Value Measurements”). While other equity investors manage the daily operations of these entities, we retain the power, through voting rights, to direct the activities of the entities that most significantly impact their economic performance. In addition, we have the obligation to absorb losses and the right to receive residual returns that could potentially be significant to these entities. As a result, we have determined that we are the primary beneficiary of these funds and have consolidated them since formation. The entities had no liabilities at December 31, 2022, and December 31, 2021, and other equity investors have no recourse to our general credit.

Other unconsolidated VIEs. We are involved with other various entities in the normal course of business which we have determined to be VIEs. We have determined that we are not the primary beneficiary of these VIEs because we do not have the power to direct the activities that most significantly impact their economic performance or hold a variable interest that could potentially be significant. The table below shows our assets and liabilities associated with these unconsolidated VIEs at December 31, 2022, and December 31, 2021. These assets are recorded in “accrued income and other assets,” “other investments,” “securities available for sale,” “held-to-maturity securities,” and “loans, net of unearned income” on our Consolidated Balance Sheets. These liabilities are recorded in “accrued expenses and other liabilities” on our Consolidated Balance Sheets. Of the total balance as of December 31, 2022, $1.4 billion related to the purchase of senior notes from a securitization collateralized by sold indirect auto loans. In addition, where we only have a lending arrangement in the normal course of business with unconsolidated VIEs we present the balances related to the lending arrangements in Note 5 (“Asset Quality”).

	Other unconsolidated VIEs	
Dollars in millions	Total Assets	Total Liabilities
December 31, 2022		
Other unconsolidated VIEs	**$ 1,798**	**$ 1**
December 31, 2021		
Other unconsolidated VIEs	$ 2,827	$ 1

14. Income Taxes

Income taxes included in the income statement are summarized below. We file a consolidated federal income tax return.

Year ended December 31, *Dollars in millions*	2022	2021	2020
Currently payable:			
Federal	**$ 368**	$ 423	$ 336
State	**80**	73	83
Total currently payable	**$ 448**	$ 496	$ 419
Deferred:			
Federal	**$ (14)**	$ 119	$ (156)
State	**(12)**	27	(36)
Total deferred	**(26)**	146	(192)
Total income tax (benefit) expense [(a)]	**$ 422**	$ 642	$ 227

(a) There was income tax (benefit) expense on securities transactions of $2 million in 2022, $(2) million in 2021, and $1 million in 2020. Income tax expense excludes equity- and gross receipts-based taxes, which are assessed in lieu of an income tax in certain states in which we operate. These non-income taxes, which are recorded in “noninterest expense” on the income statement, totaled $33 million in 2022, $33 million in 2021, and $30 million in 2020.

Significant components of our deferred tax assets and liabilities included in “accrued income and other assets” on our Consolidated Balance Sheets, are as follows:

December 31, *Dollars in millions*	**2022**	**2021**
Allowance for loan and lease losses	**$ 380**	$ 296
Employee benefits	**187**	203
Net unrealized securities losses	**1,959**	102
Federal net operating losses and credits	**4**	6
Non-tax accruals	**61**	73
Operating lease liabilities[a]	**149**	165
State net operating losses and credits	**1**	1
Partnership investments	**90**	82
Other	**164**	184
Gross deferred tax assets	**2,995**	1,112
Less: Valuation Allowance	**11**	12
Total deferred tax assets	**$ 2,984**	$ 1,100
Leasing transactions	**$ 521**	$ 521
State taxes	**86**	28
Operating lease right-of-use assets [a]	**130**	145
Goodwill	**139**	121
Other	**86**	96
Total deferred tax liabilities	**962**	911
Net deferred tax assets (liabilities) [b]	**$ 2,022**	$ 189

(a) A separate deferred tax asset and liability is recognized for each operating lease item resulting from the adoption of ASC 842 in 2019.
(b) From continuing operations.

We conduct quarterly assessments of all available evidence to determine the amount of deferred tax assets that are more-likely-than-not to be realized, and therefore recorded. The available evidence used in connection with these assessments includes taxable income in prior periods, projected future taxable income, potential tax-planning strategies, and projected future reversals of deferred tax items. These assessments involve a degree of subjectivity and may undergo significant change.

At December 31, 2022, we had net capital loss carryforwards of $11 million for which we have recorded $11 million of valuation allowances. The capital loss carryforward if not utilized, will expire in 2025. Realization of this tax benefit is dependent upon Key's ability to generate sufficient capital gain in an appropriate tax year to offset the capital loss carryforward. Currently, generation of sufficient gain income is uncertain.

At December 31, 2022, we had federal net operating loss carryforwards of $14 million and federal credit carryforwards of $1 million. The federal net operating loss carryforwards are from prior acquisitions by First Niagara and are subject to annual limitations under the tax code and, if not utilized, will expire in the years beginning 2027. The federal credit carryforward consists of general business credits which expire in 2027, under the Internal Revenue Code. We currently expect to fully utilize these losses and credits.

We had state net operating loss carryforwards of $18 million, resulting in a net state deferred tax asset of $1 million.

The following table shows how our total income tax expense (benefit) and the resulting effective tax rate were derived:

Year ended December 31, *Dollars in millions*	**2022**		**2021**		**2020**	
	Amount	**Rate**	**Amount**	**Rate**	**Amount**	**Rate**
Income (loss) before income taxes times 21% statutory federal tax rate	**$ 490**	**21.0 %**	$ 683	21.0 %	$ 327	21.0 %
Amortization of tax-advantaged investments	**149**	**6.4**	151	4.6	150	9.7
Tax-exempt interest income	**(28)**	**(1.2)**	(26)	(.8)	(28)	(1.8)
Corporate-owned life insurance income	**(28)**	**(1.2)**	(27)	(.8)	(29)	(1.9)
State income tax, net of federal tax benefit	**53**	**2.3**	79	2.4	37	2.4
Tax credits	**(204)**	**(8.8)**	(218)	(6.7)	(218)	(14.0)
Other	**(10)**	**(.4)**	—	—	(12)	(.8)
Total income tax expense (benefit)	**$ 422**	**18.1 %**	$ 642	19.7 %	$ 227	14.6 %

Liability for Unrecognized Tax Benefits

The change in our liability for unrecognized tax benefits is as follows:

Year ended December 31, Dollars in millions	2022	2021
Balance at beginning of year	**$ 50**	$ 58
Increase for other tax positions of prior years	**4**	—
Decrease for payments and settlements	**—**	—
Decrease related to tax positions taken in prior years	**(14)**	(8)
Balance at end of year	**$ 40**	$ 50

Each quarter, we review the amount of unrecognized tax benefits recorded in accordance with the applicable accounting guidance. Any adjustment to unrecognized tax benefits is recorded in income tax expense. The amount of unrecognized tax benefits that, if recognized, would affect our effective tax rate was $40 million at December 31, 2022, and $50 million at December 31, 2021. It is reasonably possible that the balance of unrecognized tax benefits could decrease in the next twelve months due to examinations by various tax authorities or the expiration of statutes of limitations.

As permitted under the applicable accounting guidance, it is our policy to record interest and penalties related to unrecognized tax benefits in income tax expense. We recorded net interest benefit of $1.5 million, $0.1 million, and $0.2 million in 2022, 2021, and 2020, respectively. We did not recover any state tax penalties in 2022, 2021, or 2020. At December 31, 2022, we had no accrued interest payable, compared to $2 million at December 31, 2021. There was no liability for accrued state tax penalties at December 31, 2022, and December 31, 2021.

There were no unrecognized tax benefits presented in the financial statements as a reduction to a deferred tax asset for a net operating loss carryforward, a similar tax loss or a tax credit carryforward, at December 31, 2022 and December 31, 2021, respectively.

We file federal income tax returns, as well as returns in various state and foreign jurisdictions. We are subject to income tax examination by the IRS for the tax years 2016, and 2019 and forward. Currently, we are under IRS audit for tax year 2016. We are not subject to income tax examinations by other tax authorities for years prior to 2014.

Pre-1988 Bank Reserves acquired in a business combination

Retained earnings of KeyBank included approximately $92 million of allocated bad debt deductions for which no income taxes have been recorded. Under current federal law, these reserves are subject to recapture into taxable income if KeyBank, or any successor, fails to maintain its bank status under the Internal Revenue Code or makes non-dividend distributions or distributions greater than its accumulated earnings and profits. No deferred tax liability has been established as these events are not expected to occur in the foreseeable future.

15. Acquisitions and Discontinued Operations

Acquisitions

XUP Payments. On November 19, 2021, KeyBank acquired XUP Payments, a B2B focused digital platform. The acquisition was accounted for as a business combination. As a result of the acquisition, we recognized goodwill of $20.6 million and no separately identified intangible assets were recorded. Other acquired assets and liabilities of XUP were immaterial. The valuation was final as of March 31, 2022.

GradFin. On May 2, 2022, KeyBank acquired GradFin, a public service loan forgiveness counseling provider. The acquisition was accounted for as a business combination. Consideration paid totaled $72 million consisting of $62 million in cash and $10 million in contingent consideration. As a result of the acquisition, we recognized goodwill of $58 million and other intangible assets of $12 million, with remaining assets acquired consisting primarily of cash. Other acquired assets and liabilities of GradFin were immaterial. The valuation was final as of September 30, 2022.

Discontinued operations

Discontinued operations includes our government-guaranteed and private education lending business. At December 31, 2022, and December 31, 2021, approximately $434 million and $567 million, respectively, of education loans are included in discontinued assets on our Consolidated Balance Sheets. Net interest income after provision for credit losses for this business is not material and is included in income (loss) from discontinued operations, net of taxes on the consolidated statements of income.

16. Securities Financing Activities

The following table summarizes our securities financing agreements at December 31, 2022, and December 31, 2021:

	December 31, 2022				December 31, 2021			
Dollars in millions	Gross Amount Presented in Balance Sheet	Netting Adjustments [a]	Collateral [b]	Net Amounts	Gross Amount Presented in Balance Sheet	Netting Adjustments [a]	Collateral [b]	Net Amounts
Offsetting of financial assets:								
Reverse repurchase agreements	$ 8	$ (8)	$ —	$ —	$ 11	$ (6)	$ (5)	$ —
Securities borrowed	—	—	—	—	500	—	(500)	—
Total	$ 8	$ (8)	$ —	$ —	$ 511	$ (6)	$ (505)	$ —
Offsetting of financial liabilities:								
Repurchase agreements [c]	$ 71	$ (8)	$ (63)	$ —	$ 173	$ (6)	$ (167)	$ —
Total	$ 71	$ (8)	$ (63)	$ —	$ 173	$ (6)	$ (167)	$ —

(a) Netting adjustments take into account the impact of master netting agreements that allow us to settle with a single counterparty on a net basis.
(b) These adjustments take into account the impact of bilateral collateral agreements that allow us to offset the net positions with the related collateral. The application of collateral cannot reduce the net position below zero. Therefore, excess collateral, if any, is not reflected above.
(c) Repurchase agreements are collateralized by mortgaged-backed agency securities and are contracted on an overnight or continuous basis.

As of December 31, 2022, the carrying amount of assets pledged as collateral against repurchase agreements totaled $110 million. Assets pledged as collateral are reported in “available for sale” and “held-to-maturity” securities on the Consolidated Balance Sheets. At December 31, 2022, the liabilities associated with collateral pledged were solely comprised of customer sweep financing activity and had a carrying value of $63 million. The collateral pledged under customer sweep repurchase agreements is posted to a third-party custodian and cannot be sold or repledged by the secured party. The risk related to a decline in the market value of collateral pledged is minimal given the collateral's high credit quality and the overnight duration of the repurchase agreements.

Like other financing transactions, securities financing agreements contain an element of credit risk. To mitigate and manage credit risk exposure, we generally enter into master netting agreements and other collateral arrangements that give us the right, in the event of default, to liquidate collateral held and to offset receivables and payables with the same counterparty. Additionally, we establish and monitor limits on our counterparty credit risk exposure by product type. For the reverse repurchase agreements, we monitor the value of the underlying securities we received from counterparties and either request additional collateral or return a portion of the collateral based on the value of those securities. We generally hold collateral in the form of highly rated securities issued by the U.S. Treasury and fixed income securities. In addition, we may need to provide collateral to counterparties under our repurchase agreements. With the exception of collateral pledged against customer sweep repurchase agreements, the collateral we pledge and receive can generally be sold or repledged by the secured parties.

17. Stock-Based Compensation

We maintain several stock-based compensation plans, which are described below. Total compensation expense for these plans was $120 million for 2022, $104 million for 2021, and $101 million for 2020. The total income tax benefit recognized in the income statement for these plans was $29 million for 2022, $25 million for 2021, and $24 million for 2020.

Our compensation plans allow us to grant stock options, stock appreciation rights, restricted stock, restricted stock units, performance shares, performance units, or other awards which may be denominated or payable in or valued by reference to our Common Shares or other factors, discounted stock purchases, and deferred compensation to eligible employees and directors. At December 31, 2022, we had 22,313,039 Common Shares available for future grant under our compensation plans. In accordance with a resolution adopted by the Compensation and

Organization Committee of KeyCorp's Board of Directors, we may not grant options to purchase Common Shares, restricted stock or other shares under any long-term compensation plan in an aggregate amount that exceeds 6% of our outstanding Common Shares in any rolling three-year period.

Stock Options

Stock options granted to employees generally become exercisable at the rate of 25% per year. No option granted by KeyCorp will be exercisable less than one year after, or expire later than ten years from, the grant date. The exercise price is 100-110% of the closing price of our Common Shares on the grant date (or the prior business day if the grant date is not a business day).

We determine the fair value of options granted using the Black-Scholes option-pricing model. This model was originally developed to determine the fair value of exchange-traded equity options, which (unlike employee stock options) have no vesting period or transferability restrictions. Because of these differences, the Black-Scholes model does not precisely value an employee stock option, but it is commonly used for this purpose. The model assumes that the estimated fair value of an option is amortized as compensation expense over the option's vesting period.

The Black-Scholes model requires several assumptions, which we developed and update based on historical trends and current market observations. Our determination of the fair value of options is only as accurate as the underlying assumptions. The assumptions pertaining to options issued during 2022, 2021, and 2020 are shown in the following table.

Year ended December 31,	2022	2021	2020
Average option life	**6.5 years**	6.6 years	6.5 years
Future dividend yield	**3.01 %**	3.88 %	3.90 %
Historical share price volatility	**.341**	.335	.267
Weighted-average risk-free interest rate	**2.0 %**	0.8 %	1.3 %

In 2019, shareholders approved the 2019 Equity Compensation Plan, under which 71,600,000 shares may be issued as equity awards. The Compensation and Organization Committee has authority to approve all stock option grants but may delegate some of its authority to grant awards from time to time. The committee has delegated to our Chief Executive Officer the authority to grant equity awards, including stock options, to any employee who is not designated an "officer" for purposes of Section 16 of the Exchange Act. No more than 3,000,000 Common Shares may be issued under this authority.

The following table summarizes activity, pricing and other information for our stock options for the year ended December 31, 2022:

	Number of Options	Weighted-Average Exercise Price Per Option	Weighted-Average Remaining Life (in years)	Aggregate Intrinsic Value[(a)]
Outstanding at December 31, 2021	4,587,632	$ 16.23	5.1	$ 32
Granted	408,297	28.50		
Exercised	(484,521)	12.83		
Lapsed or canceled	(15,076)	15.65		
Outstanding at December 31, 2022	**4,496,332**	**$ 17.71**	**4.8**	**$ 8**
Expected to vest	1,184,816	22.46	7.7	—
Exercisable at December 31, 2022	**3,246,175**	**$ 15.84**	**3.7**	**$ 8**

(a) The intrinsic value of a stock option is the amount by which the fair value of the underlying stock exceeds the exercise price of the option.

The weighted-average grant-date fair value of options was $5.78 for options granted during 2022, $3.38 for options granted during 2021, and $2.96 for options granted during 2020. Stock option exercises numbered 484,521 in 2022, 2,319,438 in 2021, and 821,916 in 2020. The aggregate intrinsic value of exercised options was $5 million for 2022, $22 million for 2021, and $5 million for 2020. As of December 31, 2022, unrecognized compensation cost related to nonvested options under the plans totaled $1 million. We expect to recognize this cost over a weighted-average period of 2.3 years.

Cash received from options exercised was $6 million, $27 million, and $8 million in 2022, 2021, and 2020, respectively. The actual tax benefit realized for the tax deductions from options exercised was less than $1 million in 2022 and $1 million in 2021.

Long-Term Incentive Compensation Program

Our Long-Term Incentive Compensation Program (the "Program") rewards senior executives and other employees critical to our long-term financial success. Awards are granted annually in a variety of forms:

- deferred cash payments that generally vest and are payable at the rate of 25% per year;
- time-lapsed (service condition) restricted stock units payable in stock, which generally vest at the rate of 25% per year;
- performance units payable in stock, which vest at the end of the three-year performance cycle and will not vest unless Key attains defined performance levels and the service condition is met; and
- performance units payable in cash, which vest at the end of the three-year performance cycle and will not vest unless Key attains defined performance levels and the service condition is met.

During 2022, 30,055 performance units vested that were payable in stock and 2,224,127 performance units vested that were payable in cash. The total fair value of the performance units that vested in stock and cash during 2022 totaled $1 million and $55 million, respectively. During 2021, no performance units vested that were payable in stock and 1,278,629 performance units vested that were payable in cash. The payable in cash fair value of the performance units totaled $23 million.

The following table summarizes activity and pricing information for the nonvested shares in the Program for the year ended December 31, 2022.

	Vesting Contingent on Service Conditions		Vesting Contingent on Performance and Service Conditions - Payable in Stock		Vesting Contingent on Performance and Service Conditions - Payable in Cash	
	Number of Nonvested Shares	Weighted-Average Grant-Date Fair Value	Number of Nonvested Shares	Weighted-Average Grant-Date Fair Value	Number of Nonvested Shares	Weighted-Average Grant-Date Fair Value
Outstanding at December 31, 2021	12,000,384	$ 19.00	88,386	$ 18.47	5,080,523	$ 23.18
Granted	5,087,882	25.91	—	—	2,100,203	17.30
Vested	(4,635,749)	19.13	(30,055)	17.37	(2,224,127)	24.64
Forfeited	(527,732)	22.44	—	—	(48,803)	19.29
Outstanding at December 31, 2022	**11,924,785**	**$ 21.56**	**58,331**	**$ 19.02**	**4,907,796**	**$ 17.42**

The compensation cost of time-lapsed and performance-based restricted stock or unit awards granted under the Program is calculated using the closing trading price of our Common Shares on the grant date (or the prior business day if the grant date is not a business day).

Unlike time-lapsed and performance-based restricted stock or units, we do not pay dividends during the vesting period for performance shares or units that may become payable in excess of targeted performance.

The weighted-average grant-date fair value of awards granted under the Program was $23.39 during 2022, $20.06 during 2021, and $18.68 during 2020. As of December 31, 2022, unrecognized compensation cost related to nonvested shares under the Program totaled $101 million. We expect to recognize this cost over a weighted-average period of 2.4 years. The total fair value of shares vested was $144 million in 2022, $105 million in 2021, and $89 million in 2020.

Deferred Compensation and Other Restricted Stock Awards

Our deferred compensation arrangements include voluntary and mandatory deferral programs for Common Shares awarded to certain employees and directors. Mandatory deferred incentive awards vest at the rate of 25% per year beginning one year after the deferral date. Deferrals under the voluntary programs are immediately vested.

We also may grant, upon approval by the Compensation and Organization Committee (or our Chief Executive Officer with respect to their delegated authority), other time-lapsed restricted stock or unit awards under various programs to recognize outstanding performance.

The following table summarizes activity and pricing information for the nonvested shares granted under our deferred compensation plans and these other restricted stock or unit award programs for the year ended December 31, 2022.

	Number of Nonvested Shares	Weighted-Average Grant-Date Fair Value
Outstanding at December 31, 2021	2,948,957	$ 18.65
Granted	1,255,209	20.11
Vested	(1,128,325)	18.57
Forfeited	(52,870)	16.96
Outstanding at December 31, 2022	**3,022,971**	**$ 18.82**

The weighted-average grant-date fair value of awards granted was $20.11 during 2022, $21.25 during 2021, and $16.22 during 2020. As of December 31, 2022, unrecognized compensation cost related to nonvested shares granted under our deferred compensation plans and the other restricted stock or unit award programs totaled $21 million. We expect to recognize this cost over a weighted-average period of 2.6 years. The total fair value of shares vested was $21 million in 2022, $16 million in 2021, and $18 million in 2020.

Discounted Stock Purchase Plan

Our Discounted Stock Purchase Plan provides employees the opportunity to purchase our Common Shares at a 10% discount through payroll deductions. Purchases are limited to $10,000 in any month and $50,000 in any calendar year, and are immediately vested. To accommodate employee purchases, we issue treasury shares on or around the fifteenth day of the month following the month employee payments are received. We issued 422,844 Common Shares at a weighted-average cost to employees of $17.46 during 2022, 335,951 Common Shares at a weighted-average cost to employees of $19.28 during 2021, and 500,508 Common Shares at a weighted-average cost to employees of $11.76 during 2020.

Information pertaining to our method of accounting for stock-based compensation is included in Note 1 (“Summary of Significant Accounting Policies”) under the heading “Stock-Based Compensation.”

18. Employee Benefits

Pension Plans

Key maintains a cash balance pension plan and other defined benefit plans. These plans are frozen and closed to new employees. We continue to credit participants’ existing account balances for interest until they receive their plan benefits. Plans provide benefits based upon length of service and compensation levels.

Key utilizes its fiscal year-end as the measurement date for its pension and other postretirement employee benefit plans. Actuarial gains and losses are deferred and amortized over the future service periods of active employees. We determine the expected return on plan assets using a calculated market-related value of plan assets. Gain or loss amounts in AOCI are only amortized to the extent that they exceed 10% of the greater of the market-related value or the projected benefit obligation.

Pre-tax AOCI not yet recognized as net pension cost was $385 million at December 31, 2022, and $381 million at December 31, 2021, consisting entirely of net unrecognized losses.

During 2022, 2021, and 2020, we recognized a settlement loss for lump sum payments made under certain pension plans. In accordance with the applicable accounting guidance for defined benefit plans, we performed a remeasurement of the affected plans in conjunction with the settlement and recognized the settlement loss as reflected in the following table.

The components of net pension cost and the amount recognized in OCI for all funded and unfunded plans are as follows:

Year ended December 31, *Dollars in millions*	2022	2021	2020
Interest cost on PBO	**$ 27**	$ 25	$ 34
Expected return on plan assets	**(27)**	(28)	(38)
Amortization of losses	**15**	18	17
Settlement loss	**12**	9	9
Net pension cost	**$ 27**	$ 24	$ 22
Other changes in plan assets and benefit obligations recognized in OCI:			
Net (gain) loss	**$ 31**	$ (19)	$ (18)
Amortization of gains	**(27)**	(27)	(26)
Total recognized in comprehensive income	**$ 4**	$ (46)	$ (44)
Total recognized in net pension cost and comprehensive income	**$ 31**	$ (22)	$ (22)

The information related to our pension plans presented in the following tables is based on current actuarial reports using measurement dates of December 31, 2022, and December 31, 2021.

The following table summarizes changes in the PBO related to our pension plans. Actuarial gains in 2022 were primarily driven by an increase in discount rate.

Year ended December 31, *Dollars in millions*	2022	2021
PBO at beginning of year	**$ 1,156**	$ 1,248
Interest cost	**27**	25
Actuarial losses (gains)	**(133)**	(31)
Benefit payments	**(85)**	(86)
PBO at end of year	**$ 965**	$ 1,156

The following table summarizes changes in the FVA.

Year ended December 31, *Dollars in millions*	2022	2021
FVA at beginning of year	**$ 1,096**	$ 1,153
Actual return on plan assets	**(138)**	16
Employer contributions	**13**	13
Benefit payments	**(85)**	(86)
FVA at end of year	**$ 886**	$ 1,096

The following table summarizes the funded status of the pension plans, which equals the amounts recognized in the balance sheets at December 31, 2022, and December 31, 2021.

December 31, *Dollars in millions*	2022	2021
Funded status [(a)]	**$ (78)**	$ (60)
Net prepaid pension cost recognized consists of:		
Noncurrent assets	**$ 58**	$ 106
Current liabilities	**(13)**	(14)
Noncurrent liabilities	**(123)**	(152)
Net prepaid pension cost recognized [(b)]	**$ (78)**	$ (60)

(a) The shortage of the FVA under the PBO.
(b) Represents the accrued benefit liability of the pension plans.

At December 31, 2022, our primary qualified cash balance pension plan was sufficiently funded under the requirements of ERISA. Consequently, we are not required to make a minimum contribution to that plan in 2023. We also do not expect to make any significant discretionary contributions during 2023.

At December 31, 2022, we expect to pay the benefits from all funded and unfunded pension plans as follows: 2023 — $92 million; 2024— $90 million; 2025 — $88 million; 2026 — $85 million; 2027 — $82 million and $368 million in the aggregate from 2028 through 2032.

The ABO for all of our pension plans was $965 million at December 31, 2022, and $1.2 billion at December 31, 2021. As indicated in the table below, collectively our plans had an ABO in excess of plan assets as follows:

December 31,	2022		2021	
Dollars in millions	Cash Balance Pension Plan	Other Defined Benefit Plans	Cash Balance Pension Plan	Other Defined Benefit Plans
PBO	**$ 828**	**$ 137**	$ 991	$ 166
ABO	**828**	**137**	991	166
Fair value of plan assets	**886**	**—**	1,096	—

To determine the actuarial present value of benefit obligations, we assumed the following weighted-average rates.

December 31,	2022	2021
Discount rate	**4.85 %**	2.43 %
Compensation increase rate	**N/A**	N/A
Weighted-average interest crediting rate	**3.97 %**	1.90 %

To determine net pension cost, we assumed the following weighted-average rates.

Year ended December 31,	2022	2021	2020
Discount rate	**2.43 %**	2.05 %	2.89 %
Compensation increase rate	**N/A**	N/A	N/A
Expected return on plan assets	**2.75 %**	2.75 %	3.75 %

We estimate that we will recognize $12 million in net pension cost for 2023.

We estimate that a 25 basis point increase or decrease in the expected return on plan assets would change our net pension cost for 2023 by approximately $2 million. Pension cost also is affected by an assumed discount rate. We estimate that a 25 basis point change in the assumed discount rate would change net pension cost for 2023 by approximately $2 million.

The expected return on plan assets is determined by considering a number of factors, the most significant of which are:

- Our expectations for returns on plan assets over the long term, weighted for the investment mix of the assets. These expectations consider, among other factors, historical capital market returns of equity, fixed income, convertible, and other securities, and forecasted returns that are modeled under various economic scenarios.
- Historical returns on our plan assets. Based on an annual reassessment of current and expected future capital market returns, our expected return on plan assets was 4.5% for 2022, 2.75% for 2021 and 3.75% for 2020. We deemed a rate of 4.50% to be appropriate in estimating 2022 pension cost.

The investment objectives of the pension fund are developed to reflect the characteristics of the plan, such as pension formulas, cash lump sum distribution features, and the liability profiles of the plan's participants. An executive oversight committee reviews the plan's investment performance at least quarterly, and compares performance against appropriate market indices. The pension fund's investment objectives are to balance total return objectives with a continued management of plan liabilities, and to minimize the mismatch between assets and liabilities. The following table shows the asset target allocations prescribed by the pension fund's investment policies based on the plan's funded status at December 31, 2022.

	Target Allocation
Asset Class	2022
Global equity	16 %
Fixed income	84
Total	100 %

Investments consist of mutual funds, collective investment funds, insurance investments and other assets that invest in underlying assets in accordance with the target asset allocations shown above.

Although the pension funds' investment policies conditionally permit the use of derivative contracts, we have not entered into any such contracts, and we do not expect to employ such contracts in the future.

The valuation methodologies used to measure the fair value of pension plan assets vary depending on the type of asset, as described below. For an explanation of the fair value hierarchy, see Note 1 ("Summary of Significant Accounting Policies") under the heading "Fair Value Measurements."

Mutual funds. Exchange-traded mutual funds listed or traded on securities exchanges are valued at the closing price on the exchange or system where the security is principally traded. These securities are classified as Level 1

because quoted prices for identical securities in active markets are available. Non exchange-traded mutual funds are classified as Level 2.

Collective investment funds. Investments in collective investment funds are valued using the net asset value practical expedient and are not classified within the fair value hierarchy. Fair value is determined based on Key's proportionate share of total net assets in the fund.

Insurance investment contracts and pooled separate accounts. Deposits under insurance investment contracts and pooled separate accounts with insurance companies do not have readily determinable fair values and are valued using a methodology that is consistent with accounting guidance that allows the plan to estimate fair value based upon net asset value per share (or its equivalent, such as member units or an ownership in partners' capital to which a proportionate share of net assets is attributed); thus, these investments are not classified within the fair value hierarchy.

Other assets. Other assets include an investment in a multi-strategy investment fund and an investment in a limited partnership. These investments do not have readily determinable fair values and are valued using a methodology consistent with accounting guidance that allows the plan to estimate fair value based upon net asset value per share (or its equivalent, such as member units or an ownership in partners' capital to which a proportionate share of net assets is attributed); thus, these investments are not classified within the fair value hierarchy.

The following tables show the fair values of our pension plan assets by asset class at December 31, 2022, and December 31, 2021.

December 31, 2022

Dollars in millions	Level 1	Level 2	Level 3	Total
ASSET CLASS				
Mutual funds:				
Fixed income — U.S.	$ —	$ 359	$ —	$ 359
Collective investment funds (measured at NAV) [(a)]	—	—	—	507
Insurance investment contracts and pooled separate accounts (measured at NAV) [(a)]	—	—	—	20
Other assets (measured at NAV) [(a)]	—	—	—	—
Total net assets at fair value	$ —	$ 359	$ —	$ 886

(a) Certain investments that are measured at fair value using the net asset value per share (or its equivalent) practical expedient have not been classified in the fair value hierarchy. The fair value amounts presented in this table are intended to permit reconciliation of the fair value hierarchy to the fair value of plan assets presented elsewhere within this footnote.

December 31, 2021

Dollars in millions	Level 1	Level 2	Level 3	Total
ASSET CLASS				
Mutual funds:				
Fixed income — U.S.	$ —	$ 454	$ —	$ 454
Collective investment funds (measured at NAV) [(a)]	—	—	—	622
Insurance investment contracts and pooled separate accounts (measured at NAV) [(a)]	—	—	—	19
Other assets (measured at NAV) [(a)]	—	—	—	1
Total net assets at fair value	$ —	$ 454	$ —	$ 1,096

(a) Certain investments that are measured at fair value using the net asset value per share (or its equivalent) practical expedient have not been classified in the fair value hierarchy. The fair value amounts presented in this table are intended to permit reconciliation of the fair value hierarchy to the fair value of plan assets presented elsewhere within this footnote.

Other Postretirement Benefit Plans

We sponsor a retiree healthcare plan in which all employees age 55 with five years of service (or employees age 50 with 15 years of service who are terminated under conditions that entitle them to a severance benefit) are eligible to participate. Participant contributions are adjusted annually. Key may provide a subsidy toward the cost of coverage for certain employees hired before 2001 with a minimum of 15 years of service at the time of termination. We use a separate VEBA trust to fund the retiree healthcare plan.

The components of pre-tax AOCI not yet recognized as net postretirement benefit cost are shown below.

December 31,

Dollars in millions	2022	2021
Net unrecognized losses (gains)	$ (9)	$ (9)
Net unrecognized prior service credit	(12)	(14)
Total unrecognized AOCI	$ (21)	$ (23)

The components of net postretirement benefit cost and the amount recognized in OCI for all funded and unfunded plans are as follows:

December 31, *Dollars in millions*	2022	2021	2020
Interest cost on APBO	**$ 2**	$ 2	$ 2
Expected return on plan assets	**(2)**	(2)	(2)
Amortization of prior service credit	**(1)**	(1)	(1)
Amortization of gains	**(1)**	(1)	—
Net postretirement benefit	**$ (2)**	$ (2)	$ (1)
Other changes in plan assets and benefit obligations recognized in OCI:			
Net (gain) loss	**$ 1**	$ 1	$ 1
Amortization of prior service credit	**1**	1	—
Total recognized in comprehensive income	**$ 2**	$ 2	$ 1
Total recognized in net postretirement benefit cost and comprehensive income	**$ —**	$ —	$ —

The information related to our postretirement benefit plans presented in the following tables is based on current actuarial reports using measurement dates of December 31, 2022, and December 31, 2021.

The following table summarizes changes in the APBO. Actuarial losses are a result of asset performance.

Year ended December 31, *Dollars in millions*	2022	2021
APBO at beginning of year	**$ 57**	$ 52
Service cost	**—**	—
Interest cost	**2**	2
Plan participants' contributions	**1**	2
Actuarial losses (gains)	**(5)**	11
Benefit payments	**(15)**	(10)
Plan amendments	**—**	—
APBO at end of year	**$ 40**	$ 57

The following table summarizes changes in FVA.

Year ended December 31, *Dollars in millions*	2022	2021
FVA at beginning of year	$ 57	$ 52
Employer contributions	—	—
Plan participants' contributions	1	2
Benefit payments	(15)	(10)
Actual return on plan assets	(3)	13
FVA at end of year	$ 40	$ 57

The postretirement plans were fully funded at December 31, 2022, and December 31, 2021. Therefore, no liabilities were recognized on our Consolidated Balance Sheets.

There are no regulations that require contributions to the VEBA trust that funds our retiree healthcare plan, so there is no minimum funding requirement. We are permitted to make discretionary contributions to the VEBA trust, subject to certain IRS restrictions and limitations. We anticipate that our discretionary contributions in 2023, if any, will be minimal.

At December 31, 2022, we expect to pay the benefits from other postretirement plans as follows: 2023 — $5 million; 2024 — $5 million; 2025 — $5 million; 2026 — $5 million; 2027 — $4 million; and $20 million in the aggregate from 2028 through 2032.

To determine the APBO, we assumed discount rates of 4.5% at December 31, 2022, and 4.5% at December 31, 2021.

To determine net postretirement benefit cost, we assumed the following weighted-average rates.

Year ended December 31,	2022	2021	2020
Discount rate	**4.50 %**	4.50 %	4.50 %
Expected return on plan assets	**4.50**	4.50	4.50

The realized net investment income for the postretirement healthcare plan VEBA trust is subject to federal income taxes, which are reflected in the weighted-average expected return on plan assets shown above.

Assumed healthcare cost trend rates do not have a material impact on net postretirement benefit cost or obligations since the postretirement plan has cost-sharing provisions and benefit limitations.

We expect to recognize a $2 million credit in net postretirement benefit cost for 2023.

We estimate the expected returns on plan assets for the VEBA trust much the same way we estimate returns on our pension funds. The primary investment objectives of the VEBA trust are to obtain a market rate of return, take into consideration the safety and/or risk of the investment, and to diversify the portfolio in order to satisfy the trust's anticipated liquidity requirements. The following table shows the asset target allocations prescribed by the trust's investment policy.

Asset Class	Target Allocation 2022
U.S. equity securities	64 %
International equity securities	16
Fixed income securities	20
Total	100 %

Investments consist of mutual funds, collective investment funds and other assets that invest in underlying assets in accordance with the target asset allocations shown above. Exchange-traded mutual funds are valued using quoted prices and, therefore, are classified as Level 1. Investments in collective investment funds are valued using the Net Asset Value practical expedient and are not classified within the fair value hierarchy.

The following tables show the fair values of our postretirement plan assets by asset class at December 31, 2022, and December 31, 2021.

December 31, 2022

Dollars in millions	Level 1	Level 2	Level 3	Total
ASSET CLASS				
Mutual funds:				
Equity — U.S.	**$ 24**	**— $**	**— $**	**24**
Equity — International	**7**	**—**	**—**	**7**
Fixed income — U.S.	**8**	**—**	**—**	**8**
Collective investment funds:				
Equity — U.S.[(a)]	**—**	**—**	**—**	**—**
Other assets (measured at NAV)[(a)]	**—**	**—**	**—**	**1**
Total net assets at fair value	**$ 39**	**— $**	**— $**	**40**

(a) Certain investments that are measured at fair value using the net asset value per share (or its equivalent) practical expedient have not been classified in the fair value hierarchy. The fair value amounts presented in this table are intended to permit reconciliation of the fair value hierarchy to the fair value of plan assets presented elsewhere within this footnote.

December 31, 2021

Dollars in millions	Level 1	Level 2	Level 3	Total
ASSET CLASS				
Mutual funds:				
Equity — U.S.	$ 21	— $	— $	21
Equity — International	10	—	—	10
Fixed income — U.S.	7	—	—	7
Fixed income — International	—	—	—	1
Collective investment funds:				
Equity — U.S. [(a)]	—	—	—	17
Other assets (measured at NAV)	—	—	—	1
Total net assets at fair value	$ 38	— $	— $	57

(a) Certain investments that are measured at fair value using the net asset value per share (or its equivalent) practical expedient have not been classified in the fair value hierarchy. The fair value amounts presented in this table are intended to permit reconciliation of the fair value hierarchy to the fair value of plan assets presented elsewhere within this footnote.

The Medicare Prescription Drug, Improvement and Modernization Act of 2003 introduced a prescription drug benefit under Medicare and prescribes a federal subsidy to sponsors of retiree healthcare benefit plans that offer prescription drug coverage that is "actuarially equivalent" to the benefits under Medicare Part D. Based on our application of the relevant regulatory formula, we determined that the prescription drug coverage related to our retiree healthcare benefit plan is not actuarially equivalent to the Medicare benefit for the vast majority of retirees. For the years ended December 31, 2022, and December 31, 2021, we did not receive federal subsidies.

Employee 401(k) Savings Plan

A substantial number of our employees are covered under a savings plan that is qualified under Section 401(k) of the Internal Revenue Code. The plan permits employees to contribute from 1% to 100% of eligible compensation, with up to 6% being eligible for matching contributions in 2022. The plan also permits us to provide a discretionary annual profit sharing contribution to eligible employees who have at least one year of service. We did not accrue a profit sharing contribution for 2022. We made contributions of 1% for both 2021 and 2020, on eligible compensation for employees eligible on the last business day of the respective plan years. We also maintain a deferred savings plan that provides certain employees with benefits they otherwise would not have been eligible to receive under the qualified plan once their compensation for the plan year reached the IRS contribution limits. Total expense associated with the above plans was $82 million in 2022, $119 million in 2021, and $106 million in 2020.

19. Short-Term Borrowings

Selected financial information pertaining to the components of our short-term borrowings is as follows:

December 31, *Dollars in millions*	2022	2021	2020
FEDERAL FUNDS PURCHASED			
Balance at year end	**$ 4,006**	$ —	$ —
Average during the year	**1,490**	—	455
Maximum month-end balance	**5,872**	—	2,285
Weighted-average rate during the year [(a)]	**2.04 %**	— %	1.24 %
Weighted-average rate at December 31 [(a)]	**4.18**	—	—
SECURITIES SOLD UNDER REPURCHASE AGREEMENTS			
Balance at year end	**$ 71**	$ 173	$ 220
Average during the year	**617**	239	215
Maximum month-end balance	**1,090**	281	267
Weighted-average rate during the year [(a)]	**1.66 %**	.02 %	.11 %
Weighted-average rate at December 31 [(a)]	**3.74**	.01	.04
OTHER SHORT-TERM BORROWINGS			
Balance at year end	**$ 5,386**	$ 588	$ 759
Average during the year	**2,963**	770	1,452
Maximum month-end balance	**11,372**	897	4,606
Weighted-average rate during the year [(a)]	**1.82 %**	1.08 %	0.85 %
Weighted-average rate at December 31 [(a)]	**.50**	1.97	.60

(a) Rates exclude the effects of interest rate swaps and caps, which modify the repricing characteristics of certain short-term borrowings. For more information about such financial instruments, see Note 8 (“Derivatives and Hedging Activities”).

As described below and in Note 20 (“Long-Term Debt”), KeyCorp and KeyBank have a number of programs and facilities that support our short-term financing needs. Certain subsidiaries maintain credit facilities with third parties, which provide alternative sources of funding. KeyCorp is the guarantor of some of the third-party facilities.

Short-term credit facilities. We maintain cash on deposit in our Federal Reserve account, which has reduced our need to obtain funds through various short-term unsecured money market products. This account, which was maintained at $2.2 billion at December 31, 2022, and the unpledged securities in our investment portfolio provide a buffer to address unexpected short-term liquidity needs. We also have secured borrowing facilities at the FHLB and the Federal Reserve Bank of Cleveland to satisfy short-term liquidity requirements. As of December 31, 2022, our unused secured borrowing capacity was $33.8 billion at the Federal Reserve Bank of Cleveland and $6.7 billion at the FHLB.

20. Long-Term Debt

The following table presents the components of our long-term debt, net of unamortized discounts and adjustments related to hedging with derivative financial instruments. We use interest rate swaps and caps, which modify the repricing characteristics of certain long-term debt, to manage interest rate risk. For more information about such financial instruments, see Note 8 (“Derivatives and Hedging Activities”).

December 31, *Dollars in millions*	**2022**	**2021**
Senior medium-term notes due through 2033 [a]	**$ 3,789**	$ 2,820
3.017% Subordinated notes due 2028 [b]	**162**	162
6.875% Subordinated notes due 2029 [b]	**99**	107
7.75% Subordinated notes due 2029 [b]	**112**	139
Other subordinated notes [b][d]	**77**	75
Total parent company	**4,239**	3,303
Senior medium-term notes due through 2039 [e]	**6,411**	6,582
4.39% Senior remarketable notes due 2027 [f]	**191**	242
3.40% Subordinated notes due 2026 [g]	**555**	602
6.95% Subordinated notes due 2028 [g]	**281**	299
3.90% Subordinated notes due 2029 [g]	**327**	376
4.90% Subordinated notes due 2032 [g]	**685**	—
Secured borrowing due through 2025 [h]	**6**	13
Federal Home Loan Bank advances due through 2038 [i]	**6,594**	604
Investment Fund Financing due through 2052 [j]	**10**	10
Key Govt Finance, Inc. Other Long Term Debt-ASR	**2**	3
Obligations under Capital Leases due through 2032 [k]	**6**	8
Total subsidiaries	**15,068**	8,739
Total long-term debt	**$ 19,307**	$ 12,042

(a) Senior medium-term notes had a weighted-average interest rate of 2.3134% at December 31, 2022, and 3.2213% at December 31, 2021. These notes had fixed interest rates at December 31, 2022, and December 31, 2021. These notes may not be redeemed prior to their maturity dates.
(b) See Note 21 (“Trust Preferred Securities Issued by Unconsolidated Subsidiaries”) for a description of these notes.
(c) The First Niagara subordinated debt had a weighted-average interest rate of 7.25% at December 31, 2021. This holding matured on December 15, 2021.
(d) The First Niagara variable rate trust preferred securities had a weighted-average interest rate of 6.16% at December 31, 2022, and 1.68% at December 31, 2021. These notes may be redeemed prior to their maturity dates.
(e) Senior medium-term notes had weighted-average interest rates of 5.96406% at December 31, 2022, and 2.116% at December 31, 2021. These notes are a combination of fixed and floating rates. These notes may not be redeemed prior to their maturity dates.
(f) The remarketable senior medium-term notes had a weighted-average interest rate of 4.39% at December 31, 2022, and 3.18% at December 31, 2021. These notes had fixed interest rates at December 31, 2022, and December 31, 2021. These notes may not be redeemed prior to their maturity dates.
(g) These notes are all obligations of KeyBank and may not be redeemed prior to their maturity dates.
(h) The secured borrowing had weighted-average interest rates of 4.445% at December 31, 2022, and 4.445% at December 31, 2021. This borrowing is collateralized by commercial lease financing receivables, and principal reductions are based on the cash payments received from the related receivables. Additional information pertaining to these commercial lease financing receivables is included in Note 4 (“Loan Portfolio”).
(i) Long-term advances from the Federal Home Loan Bank had a weighted-average interest rate of 4.48% at December 31, 2022, and 1.12% at December 31, 2021. These advances, which had fixed interest rates, were secured by real estate loans and securities totaling $6.6 billion at December 31, 2022, and $604 million at December 31, 2021.
(j) Investment Fund Financing had a weighted-average interest rate of 1.34% at December 31, 2022, and 1.34% at December 31, 2021.
(k) These are capital leases acquired in the First Niagara merger with a maturity range from March 2022 through October 2032.

At December 31, 2022, scheduled principal payments on long-term debt were as follows:

Dollars in millions	**Parent**	**Subsidiaries**	**Total**
2023	$ —	$ 3,958	$ 3,958
2024	—	6,035	6,035
2025	581	1,943	2,524
2026	485	566	1,051
2027	695	1,199	1,894
All subsequent years	2,478	1,367	3,845

As described below, KeyBank and KeyCorp have a number of programs that support our long-term financing needs.

Global bank note program. On September 28, 2018, KeyBank updated its Bank Note Program authorizing the issuance of up to $20 billion of notes. Under the program, KeyBank is authorized to issue notes with original maturities of seven days or more for senior notes or five years or more for subordinated notes. Notes will be denominated in U.S. dollars. Amounts outstanding under the program and any prior bank note programs are classified as “long-term debt” on our Consolidated Balance Sheets.

In 2020, KeyBank issued the following notes under the 2018 Bank Note Program: on March 10, 2020, $700 million of 1.25% Senior Bank Notes due March 10, 2023; and on December 16, 2020, $750 million Fixed-to-Floating Rate Senior Bank Notes due January 3, 2024 and $350 million Floating Rate Senior Bank Notes due January 3, 2024.

In 2021, KeyBank issued the following notes under the 2018 Bank Note Program: on June 16, 2021, $800 million Fixed-to-Floating Rate Senior Bank Notes due June 14, 2024, and $400 million Floating Rate Senior Bank Notes due June 14, 2024.

On September 29, 2021, KeyBank updated its Bank Note Program authorizing the issuance of up to $20 billion of notes. Under the program, KeyBank is authorized to issue notes with original maturities of seven days or more for senior notes or five years or more for subordinated notes. Notes will be denominated in U.S. dollars. Amounts outstanding under the program and any prior bank note programs are classified as “long-term debt” on our Consolidated Balance Sheets.

On June 14, 2022, KeyBank completed the final remarketing of its Term Enhanced ReMarketable Securities, originally issued in 1998. In connection therewith, KeyBank issued $300 million Fixed Rate Senior Notes due December 14, 2027. Because this issuance was originally authorized under the Bank Note Program in existence in 1998, we would not consider this an issuance against capacity under our current Bank Note Program.

On August 8, 2022, KeyBank issued two notes under the Bank Note Program: $1.25 billion of 4.150% Fixed Rate Senior Bank Notes due August 8, 2025, and $750 million of 4.900% Fixed Rate Subordinated Bank Notes due August 8, 2032.

On November 15, 2022, under the Bank Note Program, KeyBank issued $1.0 billion of 5.850% Fixed Rate Senior Bank Notes due November 15, 2027.

As of December 31, 2022, $17.0 billion remained available for issuance under the Bank Note Program.

KeyCorp shelf registration, including Medium-Term Note Program. On June 9, 2020, KeyCorp updated its shelf registration statement on file with the SEC under rules that allow companies to register various types of debt and equity securities without limitations on the aggregate amounts available for issuance. KeyCorp also maintains a Medium-Term Note Program that permits KeyCorp to issue notes with original maturities of nine months or more.

On February 6, 2020, KeyCorp issued $800 million of 2.25% Senior Notes due April 6, 2027, under the Medium-Term Note Program.

On May 23, 2022, KeyCorp issued $600 million of 3.878% Fixed-to-Floating Senior Notes due May 23, 2025 and $750 million of 4.789% Fixed-to-Floating Senior Notes due June 1, 2033. The fixed rate periods for each issuance are effective through May 23, 2024, and June 1, 2032, respectively.

At December 31, 2022, KeyCorp had authorized and available for issuance up to $3.65 billion of additional debt securities under the Medium-Term Note Program.

Issuances of capital securities or preferred stock by KeyCorp must be approved by the Board and cannot be objected to by the Federal Reserve.

21. Trust Preferred Securities Issued by Unconsolidated Subsidiaries

We own the outstanding common stock of business trusts formed by us that issued corporation-obligated mandatorily redeemable trust preferred securities. The trusts used the proceeds from the issuance of their trust preferred securities and common stock to buy debentures issued by KeyCorp. These debentures are the trusts’ only assets; the interest payments from the debentures finance the distributions paid on the mandatorily redeemable trust preferred securities. The outstanding common stock of these business trusts is recorded in “Other Investments” on our Consolidated Balance Sheets. We unconditionally guarantee the following payments or distributions on behalf of the trusts:

- required distributions on the trust preferred securities;
- the redemption price when a capital security is redeemed; and
- the amounts due if a trust is liquidated or terminated.

The Regulatory Capital Rules require us to treat our mandatorily redeemable trust preferred securities as Tier 2 capital.

The trust preferred securities, common stock, and related debentures are summarized as follows:

Dollars in millions	Trust Preferred Securities, Net of Discount [a]	Common Stock	Principal Amount of Debentures, Net of Discount [b]	Interest Rate of Trust Preferred Securities and Debentures [c]	Maturity of Trust Preferred Securities and Debentures
December 31, 2022					
KeyCorp Capital I	**$ 156**	**$ 6**	**$ 162**	**3.017 %**	**2028**
KeyCorp Capital II	**95**	**4**	**99**	**6.875**	**2029**
KeyCorp Capital III	**108**	**4**	**112**	**7.750**	**2029**
HNC Statutory Trust III	**20**	**1**	**21**	**4.380**	**2035**
Willow Grove Statutory Trust I	**20**	**1**	**21**	**4.062**	**2036**
HNC Statutory Trust IV	**18**	**1**	**19**	**4.603**	**2037**
Westbank Capital Trust II	**8**	**—**	**8**	**5.717**	**2034**
Westbank Capital Trust III	**8**	**—**	**8**	**5.717**	**2034**
Total	**$ 433**	**$ 17**	**$ 450**	**5.321 %**	—
December 31, 2021	$ 466	$ 17	$ 483	4.271 %	—

(a) The trust preferred securities must be redeemed when the related debentures mature, or earlier if provided in the governing indenture. Each issue of trust preferred securities carries an interest rate identical to that of the related debenture. Certain trust preferred securities include debt issuance costs and basis adjustments related to fair value hedges totaling $17 million at December 31, 2022, and $52 million at December 31, 2021. See Note 8 (“Derivatives and Hedging Activities”) for an explanation of fair value hedges.

(b) We have the right to redeem these debentures. If the debentures purchased by KeyCorp Capital I, HNC Statutory Trust III, Willow Grove Statutory Trust I, HNC Statutory Trust IV, Westbank Capital Trust II, or Westbank Capital Trust III are redeemed before they mature, the redemption price will be the principal amount, plus any accrued but unpaid interest. If the debentures purchased by KeyCorp Capital II or KeyCorp Capital III are redeemed before they mature, the redemption price will be the greater of: (i) the principal amount, plus any accrued but unpaid interest, or (ii) the sum of the present values of principal and interest payments discounted at the Treasury Rate (as defined in the applicable indenture), plus 20 basis points for KeyCorp Capital II or 25 basis points for KeyCorp Capital III or 50 basis points in the case of redemption upon either a tax or a capital treatment event for either KeyCorp Capital II or KeyCorp Capital III, plus any accrued but unpaid interest. The principal amount of certain debentures includes debt issuance costs and basis adjustments related to fair value hedges totaling $17 million at December 31, 2022, and $52 million at December 31, 2021. See Note 8 for an explanation of fair value hedges. The principal amount of debentures, net of discounts, is included in “long-term debt” on the balance sheet.

(c) The interest rates for the trust preferred securities issued by KeyCorp Capital II and KeyCorp Capital III are fixed. The trust preferred securities issued by KeyCorp Capital I have a floating interest rate, equal to three-month LIBOR plus 74 basis points, that reprices quarterly. The trust preferred securities issued by HNC Statutory Trust III have a floating interest rate, equal to three-month LIBOR plus 140 basis points, that reprices quarterly. The trust preferred securities issued by Willow Grove Statutory Trust I have a floating interest rate, equal to three-month LIBOR plus 131 basis points, that reprices quarterly. The trust preferred securities issued by HNC Statutory Trust IV have a floating interest rate, equal to three-month LIBOR plus 128 basis points, that reprices quarterly. The trust preferred securities issued by Westbank Capital Trust II and Westbank Capital Trust III each have a floating interest rate, equal to three-month LIBOR plus 219 basis points, that reprices quarterly. The total interest rates are weighted-average rates.

22. Commitments, Contingent Liabilities, and Guarantees

Commitments to Extend Credit or Funding

Loan commitments provide for financing on predetermined terms as long as the client continues to meet specified criteria. These agreements generally carry variable rates of interest and have fixed expiration dates or termination clauses. We typically charge a fee for our loan commitments. Since a commitment may expire without resulting in a loan, our aggregate outstanding commitments may significantly exceed our eventual cash outlay.

Loan commitments involve credit risk not reflected on our Consolidated Balance Sheets. We mitigate exposure to credit risk with internal controls that guide how we review and approve applications for credit, establish credit limits and, when necessary, demand collateral. In particular, we evaluate the creditworthiness of each prospective borrower on a case-by-case basis and, when appropriate, adjust the allowance for credit losses on lending-related commitments. Additional information pertaining to this allowance is included in Note 1 (“Summary of Significant Accounting Policies”) under the heading “Liability for Credit Losses on Lending-Related Commitments,” and in Note 5 (“Asset Quality”).

We also provide financial support to private equity investments, including existing direct portfolio companies and indirect private equity funds, to satisfy unfunded commitments. These unfunded commitments are not recorded on our Consolidated Balance Sheets. Additional information on principal investing commitments is provided in Note 6 (“Fair Value Measurements”). Other unfunded equity investment commitments at December 31, 2022, and December 31, 2021, related to tax credit investments and were primarily attributable to LIHTC investments. Unfunded tax credit investment commitments are recorded on our Consolidated Balance Sheets in “other liabilities.” Additional information on LIHTC commitments is provided in Note 13 (“Variable Interest Entities”).

The following table shows the remaining contractual amount of each class of commitment related to extending credit or funding principal investments as of December 31, 2022, and December 31, 2021. For loan commitments and commercial letters of credit, this amount represents our maximum possible accounting loss on the unused commitment if the borrower were to draw upon the full amount of the commitment and subsequently default on payment for the total amount of the then outstanding loan.

December 31, *Dollars in millions*	2022	2021
Loan commitments:		
Commercial and other	**$ 58,269**	$ 54,614
Commercial real estate and construction	**4,037**	3,180
Home equity	**9,346**	8,888
Credit cards	**7,424**	7,217
Total loan commitments	**79,076**	73,899
Commercial letters of credit	**86**	79
Purchase card commitments	**875**	771
Principal investing commitments	**9**	12
Tax credit investment commitments	**958**	679
Total loan and other commitments	**$ 81,004**	$ 75,440

Legal Proceedings

Litigation. From time to time, in the ordinary course of business, we and our subsidiaries are subject to various litigation, investigations, and administrative proceedings. Private, civil litigation may range from individual actions involving a single plaintiff to putative class action lawsuits with potentially thousands of class members. Investigations may involve both formal and informal proceedings, by both government agencies and self-regulatory bodies. These matters may involve claims for substantial monetary relief. At times, these matters may present novel claims or legal theories. Due to the complex nature of these various other matters, it may be years before some matters are resolved. While it is impossible to ascertain the ultimate resolution or range of financial liability, based on information presently known to us, we do not believe there is any matter to which we are a party, or involving any of our properties that, individually or in the aggregate, would reasonably be expected to have a material adverse effect on our financial condition. We continually monitor and reassess the potential materiality of these litigation matters. We note, however, that in light of the inherent uncertainty in legal proceedings there can be no assurance that the ultimate resolution will not exceed established reserves. As a result, the outcome of a particular matter, or a combination of matters, may be material to our results of operations for a particular period, depending upon the size of the loss or our income for that particular period.

Guarantees

We are a guarantor in various agreements with third parties. The following table shows the types of guarantees that we had outstanding at December 31, 2022. Information pertaining to the basis for determining the liabilities recorded in connection with these guarantees is included in Note 1 (“Summary of Significant Accounting Policies”) under the heading “Contingencies and Guarantees.”

December 31, 2022 *Dollars in millions*	Maximum Potential Undiscounted Future Payments	Liability Recorded
Financial guarantees:		
Standby letters of credit	$ 4,960	$ 92
Recourse agreement with FNMA	6,774	28
Residential mortgage reserve	3,302	13
Written put options [(a)]	3,695	243
Total	$ 18,731	$ 376

(a) The maximum potential undiscounted future payments represent notional amounts of derivatives qualifying as guarantees.

We determine the payment/performance risk associated with each type of guarantee described below based on the probability that we could be required to make the maximum potential undiscounted future payments shown in the preceding table. We use a scale of low (0% to 30% probability of payment), moderate (greater than 30% to 70% probability of payment), or high (greater than 70% probability of payment) to assess the payment/performance risk, and have determined that the payment/performance risk associated with each type of guarantee outstanding at December 31, 2022, is low.

Standby letters of credit. KeyBank issues standby letters of credit to address clients’ financing needs. These instruments obligate us to pay a specified third party when a client fails to repay an outstanding loan or debt instrument or fails to perform some contractual nonfinancial obligation. Any amounts drawn under standby letters of credit are treated as loans to the client; they bear interest (generally at variable rates) and pose the same credit risk

to us as a loan. At December 31, 2022, our standby letters of credit had a remaining weighted-average life of 1.8 years, with remaining actual lives ranging from less than 1 year to as many as 11.9 years.

Recourse agreement with FNMA. At December 31, 2022, the outstanding commercial mortgage loans in this program had a weighted-average remaining term of 7.5 years, and the unpaid principal balance outstanding of loans sold by us as a participant was $22.0 billion. The maximum potential amount of undiscounted future payments that we could be required to make under this program, as shown in the preceding table, is equal to approximately 31% of the principal balance of loans outstanding at December 31, 2022. FNMA delegates responsibility for originating, underwriting, and servicing mortgages, and we assume a limited portion of the risk of loss during the remaining term on each commercial mortgage loan that we sell to FNMA. We maintain a reserve for such potential losses in an amount that we believe approximates the fair value of our liability in addition to the expected credit loss for the guarantee as described in Note 5 (“Asset Quality”).

Residential Mortgage Banking. We often originate and sell residential mortgage loans and retain the servicing rights. Our loan sales activity is generally conducted through loan sales in a secondary market sponsored by FNMA and FHLMC and through the issuance of GNMA mortgage backed securities. Subsequent to the sale of mortgage loans, we do not typically retain any interest in the underlying loans except through our relationship as the servicer of the loans.

As is customary in the mortgage banking industry, we, or banks we have acquired, have made certain representations and warranties related to the sale of residential mortgage loans (including loans sold with servicing rights released) and to the performance of our obligations as servicer. The breach of any such representations or warranties could result in losses for us. Our maximum exposure to loss is equal to the outstanding principal balance of the sold loans; however, any loss would be reduced by any payments received on the loans or through the sale of collateral.

At December 31, 2022, the unpaid principal balance outstanding of loans sold by us was $11.0 billion. The maximum potential amount of undiscounted future payments that we could be required to make under this program, as shown in the preceding table, is equal to approximately 30% of the principal balance of loans outstanding at December 31, 2022.

Our liability for estimated repurchase obligations on loans sold, which is included in other liabilities on our Consolidated Balance Sheets, was $13 million at December 31, 2022.

Written put options. In the ordinary course of business, we “write” put options for clients that wish to mitigate their exposure to changes in interest rates and commodity prices. At December 31, 2022, our written put options had an average life of 1.8 years. These instruments are considered to be guarantees, as we are required to make payments to the counterparty (the client) based on changes in an underlying variable that is related to an asset, a liability, or an equity security that the client holds. We are obligated to pay the client if the applicable benchmark interest rate or commodity price is above or below a specified level (known as the “strike rate”). These written put options are accounted for as derivatives at fair value, as further discussed in Note 8 (“Derivatives and Hedging Activities”). We mitigate our potential future payment obligations by entering into offsetting positions with third parties.

Written put options where the counterparty is a broker-dealer or bank are accounted for as derivatives at fair value but are not considered guarantees since these counterparties typically do not hold the underlying instruments. In addition, we are a purchaser and seller of credit derivatives, which are further discussed in Note 8.

Other Off-Balance Sheet Risk

Other off-balance sheet risk stems from financial instruments that do not meet the definition of a guarantee as specified in the applicable accounting guidance, and from other relationships.

Indemnifications provided in the ordinary course of business. We provide certain indemnifications, primarily through representations and warranties in contracts that we execute in the ordinary course of business in connection with loan and lease sales and other ongoing activities, as well as in connection with purchases and sales of businesses. We maintain reserves, when appropriate, with respect to liability that reasonably could arise as a result of these indemnities.

Intercompany guarantees. KeyCorp, KeyBank, and certain of our affiliates are parties to various guarantees that facilitate the ongoing business activities of other affiliates. These business activities encompass issuing debt, assuming certain lease and insurance obligations, purchasing or issuing investments and securities, and engaging in certain leasing transactions involving clients.

23. Accumulated Other Comprehensive Income

Our changes in AOCI for the years ended December 31, 2022, and December 31, 2021, are as follows:

Dollars in millions	Unrealized gains (losses) on securities available for sale	Unrealized gains (losses) on derivative financial instruments	Foreign currency translation adjustment	Net pension and postretirement benefit costs	Total
Balance at December 31, 2020	$ 567	$ 476	$ —	$ (305)	$ 738
Other comprehensive income before reclassification, net of income taxes	(965)	(137)	—	14	(1,088)
Amounts reclassified from accumulated other comprehensive income, net of income taxes [(a)]	(5)	(251)	—	20	(236)
Net current-period other comprehensive income, net of income taxes	(970)	(388)	—	34	(1,324)
Balance at December 31, 2021	$ (403)	$ 88	$ —	$ (271)	$ (586)
Other comprehensive income before reclassification, net of income taxes	**(4,492)**	**(1,319)**	**—**	**(25)**	**(5,836)**
Amounts reclassified from accumulated other comprehensive income, net of income taxes [(a)]	**—**	**107**	**—**	**20**	**127**
Net current-period other comprehensive income, net of income taxes	**(4,492)**	**(1,212)**	**—**	**(5)**	**(5,709)**
Balance at December 31, 2022	**$ (4,895)**	**$ (1,124)**	**$ —**	**$ (276)**	**$ (6,295)**

(a) See table below for details about these reclassifications.

Our reclassifications out of AOCI for the years ended December 31, 2022, and December 31, 2021, are as follows:

Dollars in millions	Twelve Months Ended December 31, 2022	2021	Affected Line Item in the Consolidated Statement of Income
Unrealized gains (losses) on available for sale securities			
Realized gains	**$ —**	$ 7	Other income
	—	7	Income (loss) from continuing operations before income taxes
	—	2	Income taxes
	$ —	$ 5	Income (loss) from continuing operations
Unrealized gains (losses) on derivative financial instruments			
Interest rate	**$ (146)**	$ 329	Interest income — Loans
Interest rate	**(3)**	(4)	Interest expense — Long-term debt
Interest rate	**9**	4	Investment banking and debt placement fees
	(140)	329	Income (loss) from continuing operations before income taxes
	(33)	78	Income taxes
	$ (107)	$ 251	Income (loss) from continuing operations
Net pension and postretirement benefit costs			
Amortization of losses	**$ (15)**	$ (18)	Other expense
Settlement loss	**(12)**	(9)	Other expense
Amortization of prior service credit	**1**	1	Other expense
	(26)	(26)	Income (loss) from continuing operations before income taxes
	(6)	(6)	Income taxes
	$ (20)	$ (20)	Income (loss) from continuing operations

24. Shareholders' Equity

Comprehensive Capital Plan

As part of our previous 2021 capital plan, which was effective through the third quarter of 2022, the Board had authorized the repurchase of up to $1.5 billion of our Common Shares. In September 2022, the Board approved the extension of the previous authorization through the third quarter of 2023. As of December 31, 2022, approximately $790 million remained available for repurchase under the authorization.

During 2021, we repurchased a total of $1.1 billion of Common Share under our previous capital plan authorizations. Of the total common shares repurchased throughout 2021, $585 million were part of an ASR program entered into with Goldman Sachs & Co. LLC (Goldman Sachs) and $559 million were repurchased in the open market. In addition, $32 million in repurchase activity was related to employee equity compensation programs.

Under the ASR program, we made a cash payment of $585 million to Goldman Sachs and received an initial delivery of 23.6 million shares of our common stock from Goldman Sachs based on the then current market price of $19.87 as of September 10, 2021. As previously reported during the third quarter of 2021, there was a $117 million reduction to our capital surplus balance, which reflected the value of common stock held back by Goldman Sachs pending final settlement of the ASR program. On December 21, 2021, we received a final delivery of 2.5 million of our common shares from Goldman Sachs based on the volume-weighted average share price of our common stock during the term of the ASR agreement, less a discount, and other adjustments provided for by the agreement. The volume-weighted share price less discount totaled $22.48 for the total 26 million common shares purchased between the up front delivery and the final settlement.

During 2022, no common shares were repurchased under the previous or current authorization. Activity was limited to $44 million in repurchases related to employee equity compensation programs.

Consistent with our capital plan, the Board declared a quarterly dividend of $.195 per common share for the first three quarters in 2022. During the fourth quarter of 2022, the Board declared a dividend of $.205 per common share. These quarterly dividend payments brought our annual dividend to $.79 per common share for 2022.

Preferred Stock

The following table summarizes our preferred stock at December 31, 2022:

Preferred stock series	Amount outstanding (in millions)	Shares authorized and outstanding	Par value	Liquidation preference	Ownership interest per depositary share	Liquidation preference per depositary share	2022 dividends paid per depositary share
Fixed-to-Floating Rate Perpetual Noncumulative Series D	$ 525	21,000	$ 1	$ 25,000	1/25th	$ 1,000	$ 50.00
Fixed-to-Floating Rate Perpetual Noncumulative Series E	500	500,000	1	1,000	1/40th	25	1.531252
Fixed Rate Perpetual Noncumulative Series F	425	425,000	1	1,000	1/40th	25	1.412500
Fixed Rate Perpetual Noncumulative Series G	450	450,000	1	1,000	1/40th	25	1.406252
Fixed Rate Perpetual Noncumulative Series H	600	600,000	1	1,000	1/40th	25	0.477917

Capital Adequacy

KeyCorp and KeyBank (consolidated) must meet specific capital requirements imposed by federal banking regulators. Sanctions for failure to meet applicable capital requirements may include regulatory enforcement actions that restrict dividend payments, require the adoption of remedial measures to increase capital, terminate FDIC deposit insurance, and mandate the appointment of a conservator or receiver in severe cases. In addition, failure to maintain a “well capitalized” status affects how regulators evaluate applications for certain endeavors, including acquisitions, continuation and expansion of existing activities, and commencement of new activities, and could make clients and potential investors less confident. As of December 31, 2022, KeyCorp and KeyBank (consolidated) met all regulatory capital requirements.

KeyBank (consolidated) qualified for the “well capitalized” prompt corrective action capital category at December 31, 2022, because its capital and leverage ratios exceeded the prescribed threshold ratios for that capital category and

it was not subject to any written agreement, order, or directive to meet and maintain a specific capital level for any capital measure. Since that date, we believe there has been no change in condition or event that has occurred that would cause the capital category for KeyBank (consolidated) to change.

BHCs are not assigned to any of the five prompt corrective action capital categories applicable to insured depository institutions. If, however, those categories applied to BHCs, we believe that KeyCorp would satisfy the criteria for a "well capitalized" institution at December 31, 2022, and since that date, we believe there has been no change in condition or event that has occurred that would cause such capital category to change.

Because the regulatory capital categories under the prompt corrective action regulations serve a limited supervisory function, investors should not use them as a representation of the overall financial condition or prospects of KeyBank or KeyCorp.

At December 31, 2022, Key and KeyBank (consolidated) had regulatory capital in excess of all current minimum risk-based capital (including all adjustments for market risk) and leverage ratio requirements as shown in the following table.

	Actual		To Meet Minimum Capital Adequacy Requirements		To Qualify as Well Capitalized Under Federal Deposit Insurance Act	
Dollars in millions	Amount	Ratio	Amount	Ratio	Amount	Ratio
December 31, 2022						
TOTAL CAPITAL TO NET RISK-WEIGHTED ASSETS						
Key	**$ 20,776**	**12.79 %**	**$ 12,998**	**8.00 %**	**N/A**	**N/A**
KeyBank (consolidated)	**19,903**	**12.39**	**12,850**	**8.00**	**$ 16,063**	**10.00 %**
TIER 1 CAPITAL TO NET RISK-WEIGHTED ASSETS						
Key	**$ 17,225**	**10.60 %**	**$ 9,748**	**6.00 %**	**N/A**	**N/A**
KeyBank (consolidated)	**16,801**	**10.46**	**9,638**	**6.00**	**$ 12,850**	**8.00 %**
TIER 1 CAPITAL TO AVERAGE QUARTERLY TANGIBLE ASSETS						
Key	**$ 17,225**	**8.88 %**	**$ 7,759**	**4.00 %**	**N/A**	**N/A**
KeyBank (consolidated)	**16,801**	**8.78**	**7,657**	**4.00**	**$ 9,572**	**5.00 %**
December 31, 2021						
TOTAL CAPITAL TO NET RISK-WEIGHTED ASSETS						
Key	$ 18,030	12.49 %	$ 11,552	8.00 %	N/A	N/A
KeyBank (consolidated)	17,211	12.21	11,274	8.00	$ 14,093	10.00 %
TIER 1 CAPITAL TO NET RISK-WEIGHTED ASSETS						
Key	$ 15,549	10.77 %	$ 8,664	6.00 %	N/A	N/A
KeyBank (consolidated)	15,143	10.75	8,456	6.00	$ 11,274	8.00 %
TIER 1 CAPITAL TO AVERAGE QUARTERLY TANGIBLE ASSETS						
Key	$ 15,549	8.47 %	$ 7,344	4.00 %	N/A	N/A
KeyBank (consolidated)	15,143	8.37	7,241	4.00	$ 9,051	5.00 %

25. Business Segment Reporting

The following is a description of the segments and their primary businesses at December 31, 2022.

Consumer Bank

The Consumer Bank serves individuals and small businesses throughout our 15-state branch footprint as well as healthcare professionals nationally through our Laurel Road digital brand by offering a variety of deposit and investment products, personal finance and financial wellness services, lending, mortgage and home equity, student loan refinancing, credit card, treasury services, and business advisory services. In addition, wealth management and investment services are offered to assist institutional, non-profit, and high-net-worth clients with their banking, trust, portfolio management, charitable giving, and related needs.

Commercial Bank

The Commercial Bank is an aggregation of our Institutional and Commercial operating segments. The Commercial operating segment is a full-service corporate bank focused principally on serving the borrowing, cash management, and capital markets needs of middle market clients within Key's 15-state branch footprint. It is also a significant, national, commercial real estate lender and third-party servicer of commercial mortgage loans and a special servicer of CMBS. The Institutional operating segment operates nationally in providing lending, equipment financing, and banking products and services to large corporate and institutional clients. The industry coverage and product teams have established expertise in the following sectors: Consumer, Energy, Healthcare, Industrial, Public Sector, Real Estate, and Technology. The operating segment includes the KBCM platform which provides a broad suite of capital markets products and services including syndicated finance, debt and equity capital markets, derivatives, foreign exchange, financial advisory, and public finance. Additionally, KBCM provides fixed income and equity sales and trading services to investor clients.

Other

Other includes various corporate treasury activities such as management of our investment securities portfolio, long-term debt, short-term liquidity and funding activities, and balance sheet risk management, our principal investing unit, and various exit portfolios as well as reconciling items, which primarily represent the unallocated portion of nonearning assets of corporate support functions. Charges related to the funding of these assets are part of net interest income and are allocated to the business segments through noninterest expense. Reconciling items also include intercompany eliminations and certain items that are not allocated to the business segments because they do not reflect their normal operations.

The table on the following page shows selected financial data for our major business segments for the years ended December 31, 2022, 2021, and 2020.

The information was derived from the internal financial reporting system that we use to monitor and manage our financial performance. GAAP guides financial accounting, but there is no authoritative guidance for "management accounting" — the way we use our judgment and experience to make reporting decisions. Consequently, the line of business results we report may not be comparable to line of business results presented by other companies.

The selected financial data is based on internal accounting policies designed to compile results on a consistent basis and in a manner that reflects the underlying economics of the businesses. In accordance with our policies:

- Net interest income is determined by assigning a standard cost for funds used or a standard credit for funds provided based on their assumed maturity, prepayment, and/or repricing characteristics.
- Indirect expenses, such as computer servicing costs and corporate overhead, are allocated based on assumptions regarding the extent that each line of business actually uses the services.
- The consolidated provision for credit losses is allocated among the lines of business primarily based on their actual net loan charge-offs, adjusted periodically for loan growth and changes in risk profile. The amount of the consolidated provision is based on the methodology that we use to estimate our consolidated ALLL. This methodology is described in Note 1 ("Summary of Significant Accounting Policies") under the heading "Allowance for Loan and Lease Losses."
- Capital is assigned to each line of business based on economic equity.

Developing and applying the methodologies that we use to allocate items among our lines of business is a dynamic process. Accordingly, financial results may be revised periodically to reflect enhanced alignment of expense base allocation drivers, changes in the risk profile of a particular business, or changes in our organizational structure.

Year ended December 31,	Consumer Bank			Commercial Bank		
Dollars in millions	2022	2021	2020	2022	2021	2020
SUMMARY OF OPERATIONS						
Net interest income (TE)	$ 2,419	$ 2,359	$ 2,403	$ 1,867	$ 1,650	$ 1,725
Noninterest income	995	1,067	999	1,600	1,990	1,524
Total revenue (TE) [a]	3,414	3,426	3,402	3,467	3,640	3,249
Provision for credit losses	193	(118)	284	317	(279)	741
Depreciation and amortization expense	87	84	77	113	134	144
Other noninterest expense	2,618	2,307	2,185	1,621	1,731	1,606
Income (loss) from continuing operations before income taxes (TE)	516	1,153	856	1,416	2,054	758
Allocated income taxes (benefit) and TE adjustments	124	277	203	270	412	107
Income (loss) from continuing operations	392	876	653	1,146	1,642	651
Income (loss) from discontinued operations, net of taxes	—	—	—	—	—	—
Net income (loss)	392	876	653	1,146	1,642	651
Less: Net income (loss) attributable to noncontrolling interests	—	—	—	—	—	—
Net income (loss) attributable to Key	$ 392	$ 876	$ 653	$ 1,146	$ 1,642	$ 651
AVERAGE BALANCES [b]						
Loans and leases	$ 41,315	$ 39,422	$ 37,842	$ 69,549	$ 60,486	$ 64,543
Total assets [a]	44,395	42,637	41,152	80,068	70,051	74,225
Deposits	90,008	88,352	79,528	54,672	55,598	47,145
OTHER FINANCIAL DATA						
Expenditures for additions to long-lived assets [a], [b]	$ 52	$ 39	$ 40	$ 4	$ 12	$ 1
Net loan charge-offs [b]	83	126	135	84	81	308
Return on average allocated equity [b]	11.13 %	24.54 %	18.97 %	12.59 %	19.22 %	12.99 %
Return on average allocated equity	11.13	24.54	18.97	12.59	19.22	12.99
Average full-time equivalent employees [c]	8,041	8,000	8,186	2,454	2,370	2,291

Year ended December 31,	Other			Key		
Dollars in millions	2022	2021	2020	2022	2021	2020
SUMMARY OF OPERATIONS						
Net interest income (TE)	$ 268	$ 89	$ (65)	$ 4,554	$ 4,098	$ 4,063
Noninterest income	123	137	129	2,718	3,194	2,652
Total revenue (TE) [a]	391	226	64	7,272	7,292	6,715
Provision for credit losses	(8)	(21)	(4)	502	(418)	1,021
Depreciation and amortization expense	71	80	82	271	298	303
Other noninterest expense	(100)	93	15	4,139	4,131	3,806
Income (loss) from continuing operations before income taxes (TE)	428	74	(29)	2,360	3,281	1,585
Allocated income taxes (benefit) and TE adjustments	55	(20)	(54)	449	669	256
Income (loss) from continuing operations	373	94	25	1,911	2,612	1,329
Income (loss) from discontinued operations, net of taxes	6	13	14	6	13	14
Net income (loss)	379	107	39	1,917	2,625	1,343
Less: Net income (loss) attributable to noncontrolling interests	—	—	—	—	—	—
Net income (loss) attributable to Key	$ 379	$ 107	$ 39	$ 1,917	$ 2,625	$ 1,343
AVERAGE BALANCES [b]						
Loans and leases	$ 438	$ 361	$ 304	$ 111,302	$ 100,269	$ 102,689
Total assets [a]	61,423	66,231	46,678	185,886	178,919	162,055
Deposits	2,182	1,085	613	146,862	145,035	127,286
OTHER FINANCIAL DATA						
Expenditures for additions to long-lived assets [a], [b]	$ 198	$ 63	$ 120	$ 254	$ 114	$ 161
Net loan charge-offs [b]	(6)	(23)	1	161	184	444
Return on average allocated equity [b]	17.74 %	1.69 %	.27 %	12.97 %	14.79 %	7.54 %
Return on average allocated equity	18.02	1.93	.42	13.01	14.86	7.62
Average full-time equivalent employees [c]	7,165	6,604	6,349	17,660	16,974	16,826

(a) Substantially all revenue generated by our major business segments is derived from clients that reside in the United States. Substantially all long-lived assets, including premises and equipment, capitalized software, and goodwill held by our major business segments, are located in the United States.
(b) From continuing operations.
(c) The number of average full-time equivalent employees was not adjusted for discontinued operations.

26. Condensed Financial Information of the Parent Company

CONDENSED BALANCE SHEETS

December 31, *Dollars in millions*	2022	2021
ASSETS		
Cash and due from banks	**$ 3,146**	$ 2,293
Short-term investments	**15**	24
Securities available for sale	**—**	—
Other investments	**78**	77
Loans to:		
Banks	**250**	50
Nonbank subsidiaries	**16**	16
Total loans	**266**	66
Investment in subsidiaries:		
Banks	**13,033**	17,019
Nonbank subsidiaries	**928**	1,015
Total investment in subsidiaries	**13,961**	18,034
Goodwill	**167**	167
Corporate-owned life insurance	**209**	212
Derivative assets	**111**	76
Accrued income and other assets	**248**	309
Total assets	**$ 18,201**	$ 21,258
LIABILITIES		
Accrued expense and other liabilities	**$ 508**	$ 532
Long-term debt due to:		
Subsidiaries	**450**	483
Unaffiliated companies	**3,789**	2,820
Total long-term debt	**4,239**	3,303
Total liabilities	**4,747**	3,835
SHAREHOLDERS' EQUITY [(a)]	**13,454**	17,423
Total liabilities and shareholders' equity	**$ 18,201**	$ 21,258

(a) See Key's Consolidated Statements of Changes in Equity.

CONDENSED STATEMENTS OF INCOME

Year ended December 31, *Dollars in millions*	2022	2021	2020
INCOME			
Dividends from subsidiaries:			
Bank subsidiaries	**$ 475**	$ 1,925	$ 1,250
Nonbank subsidiaries	**100**	50	—
Interest income from subsidiaries	**4**	1	4
Other income	**7**	36	8
Total income	**586**	2,012	1,262
EXPENSE			
Interest on long-term debt with subsidiary trusts	**19**	13	18
Interest on other borrowed funds	**130**	65	114
Personnel and other expense	**101**	101	63
Total expense	**250**	179	195
Income (loss) before income taxes and equity in net income (loss) less dividends from subsidiaries	**336**	1,833	1,067
Income tax (expense) benefit	**60**	38	38
Income (loss) before equity in net income (loss) less dividends from subsidiaries	**396**	1,871	1,105
Equity in net income (loss) less dividends from subsidiaries	**1,521**	754	238
NET INCOME (LOSS)	**1,917**	2,625	1,343
Less: Net income attributable to noncontrolling interests	**—**	—	—
NET INCOME (LOSS) ATTRIBUTABLE TO KEY	**$ 1,917**	$ 2,625	$ 1,343

CONDENSED STATEMENTS OF CASH FLOWS

Year ended December 31, *Dollars in millions*	2022	2021	2020
OPERATING ACTIVITIES			
Net income (loss) attributable to Key	**$ 1,917**	$ 2,625	$ 1,343
Adjustments to reconcile net income (loss) to net cash provided by (used in) operating activities:			
Deferred income taxes (benefit)	**6**	(22)	2
Stock-based compensation expense	**117**	9	11
Equity in net (income) loss less dividends from subsidiaries	**(1,521)**	(754)	(238)
Net (increase) decrease in other assets	**23**	13	(66)
Net increase (decrease) in other liabilities	**(24)**	48	12
Other operating activities, net	**(480)**	(414)	131
NET CASH PROVIDED BY (USED IN) OPERATING ACTIVITIES	**38**	1,505	1,195
INVESTING ACTIVITIES			
Net (increase) decrease in securities available for sale and in short-term and other investments	**(26)**	(15)	(7)
Proceeds from sales, prepayments and maturities of securities available for sale	**—**	—	—
Net (increase) decrease in loans to subsidiaries	**(200)**	—	—
NET CASH PROVIDED BY (USED IN) INVESTING ACTIVITIES	**(226)**	(15)	(7)
FINANCING ACTIVITIES			
Net proceeds from issuance of long-term debt	**1,350**	—	800
Payments on long-term debt	**—**	(997)	(1,003)
Repurchase of Treasury Shares	**(44)**	(1,176)	(170)
Net cash from the issuance (redemption) of Common Shares and preferred stock	**590**	—	—
Cash dividends paid	**(855)**	(823)	(829)
NET CASH PROVIDED BY (USED IN) FINANCING ACTIVITIES	**1,041**	(2,996)	(1,202)
NET INCREASE (DECREASE) IN CASH AND DUE FROM BANKS	**853**	(1,506)	(14)
CASH AND DUE FROM BANKS AT BEGINNING OF YEAR	**2,293**	3,799	3,813
CASH AND DUE FROM BANKS AT END OF YEAR	**$ 3,146**	$ 2,293	$ 3,799

KeyCorp paid interest on borrowed funds totaling $137 million in 2022, $130 million in 2021, and $204 million in 2020.

27. Revenue from Contracts with Customers

The following table represents a disaggregation of revenue from contracts with customers, by line of business, for the twelve months ended December 31, 2022, and December 31, 2021:

Year ended December 31,	2022			2021		
Dollars in millions	**Consumer Bank**	**Commercial Bank**	**Total Contract Revenue**	**Consumer Bank**	**Commercial Bank**	**Total Contract Revenue**
NONINTEREST INCOME						
Trust and investment services income	$ 403	$ 69	$ 472	$ 417	$ 67	$ 484
Investment banking and debt placement fees	—	430	430	—	586	586
Services charges on deposit accounts	211	139	350	201	136	337
Cards and payments income	177	154	331	181	226	407
Other noninterest income	11	—	11	7	2	9
Total revenue from contracts with customers	$ 802	$ 792	$ 1,594	$ 806	$ 1,017	$ 1,823
Other noninterest income [(a)]			$ 1,001			$ 1,234
Noninterest income from other segments [(b)]			123			137
Total noninterest income			$ 2,718			$ 3,194

(a) Noninterest income considered earned outside the scope of contracts with customers.
(b) Other includes other segments that consists of corporate treasury, our principal investing unit, and various exit portfolios as well as reconciling items which primarily represents the unallocated portion of nonearning assets of corporate support functions. Charges related to the funding of these assets are part of net interest income and are allocated to the business segments through noninterest expense. Reconciling items also includes intercompany eliminations and certain items that are not allocated to the business segments because they do not reflect their normal operations. Refer to Note 25 (“Business Segment Reporting”) for more information.

We had no material contract assets or contract liabilities for the twelve months ended December 31, 2022, and December 31, 2021.

ITEM 9. CHANGES IN AND DISAGREEMENTS WITH ACCOUNTANTS ON ACCOUNTING AND FINANCIAL DISCLOSURE

None.

ITEM 9A. CONTROLS AND PROCEDURES

Evaluation of Disclosure Controls and Procedures

As of the end of the period covered by this report, KeyCorp carried out an evaluation, under the supervision and with the participation of KeyCorp's management, including our Chief Executive Officer and Chief Financial Officer, of the effectiveness of the design and operation of KeyCorp's disclosure controls and procedures (as defined in Rule 13a-15(e) under the Securities Exchange Act of 1934 (the "Exchange Act")), to ensure that information required to be disclosed by KeyCorp in reports that it files or submits under the Exchange Act, is recorded, processed, summarized and reported within the time periods specified in the SEC's rules and forms, and that such information is accumulated and communicated to KeyCorp's management, including its Chief Executive Officer and Chief Financial Officer, as appropriate, to allow for timely decisions regarding required disclosure. Based upon that evaluation, KeyCorp's Chief Executive Officer and Chief Financial Officer concluded that the design and operation of these disclosure controls and procedures were effective, in all material respects, as of the end of the period covered by this report. No changes were made to KeyCorp's internal control over financial reporting (as defined in Rule 13a-15(f) under the Exchange Act) during the last year that materially affected, or are reasonably likely to materially affect, KeyCorp's internal control over financial reporting.

Reports Regarding Internal Controls

Management's Annual Report on Internal Control over Financial Reporting, the Report of Independent Registered Public Accounting Firm on Internal Control over Financial Reporting, and the Report of Independent Registered Public Accounting Firm are included in Item 8 on pages 96, 97, and 98, respectively.

ITEM 9B. OTHER INFORMATION

Not applicable.

ITEM 9C. DISCLOSURE REGARDING FOREIGN JURISDICTIONS THAT PREVENT INSPECTIONS

Not applicable.

PART III

ITEM 10. DIRECTORS, EXECUTIVE OFFICERS AND CORPORATE GOVERNANCE

The names of our executive officers, and biographical information for each, is set forth in Item 1. Business of this report.

The other information required by this item will be set forth in the following sections of KeyCorp's Definitive Proxy Statement for the 2023 Annual Meeting of Shareholders to be held May 11, 2023 (the "2023 Proxy Statement"), and these sections are incorporated herein by reference:

- "Proposal One: Election of Directors"
- "Corporate Governance Documents — Code of Business Conduct and Ethics"
- "The Board of Directors and Its Committees — Board and Committee Responsibilities — Audit Committee"
- "Additional Information — Other Proposals and Director Nominations for the 2024 Annual Meeting of Shareholders"

KeyCorp expects to file the 2023 Proxy Statement with the SEC on or about March 24, 2023.

Any amendment to, or waiver from a provision of, the Code of Business Conduct and Ethics that applies to KeyCorp's Chief Executive Officer, Chief Financial Officer, and Chief Accounting Officer, or any other executive officer or director, will be promptly disclosed on KeyCorp's website (www.key.com/ir) as required by laws, rules and regulations of the SEC.

ITEM 11. EXECUTIVE COMPENSATION

The information required by this item will be set forth in the following sections of the 2023 Proxy Statement and these sections are incorporated herein by reference:

- "Compensation Discussion and Analysis"
- "Compensation of Executive Officers and Directors"
- "Compensation and Organization Committee Report"
- "The Board of Directors and Its Committees — Oversight of Compensation Related Risks"

ITEM 12. SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT AND RELATED STOCKHOLDER MATTERS

The information required by this item will be set forth in the section captioned "Ownership of KeyCorp Equity Securities" contained in the 2023 Proxy Statement, and is incorporated herein by reference.

ITEM 13. CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS, AND DIRECTOR INDEPENDENCE

The information required by this item will be set forth in the following sections of the 2023 Proxy Statement and these sections are incorporated herein by reference:

- "The Board of Directors and Its Committees — Director Independence"
- "The Board of Directors and Its Committees — Related Party Transactions"

ITEM 14. PRINCIPAL ACCOUNTANT FEES AND SERVICES

The information required by this item will be set forth in the sections captioned "Audit Matters — Ernst & Young's Fees" and "Audit Matters — Pre-Approval Policies and Procedures" contained in the 2023 Proxy Statement, and is incorporated herein by reference.

PART IV

ITEM 15. EXHIBITS AND FINANCIAL STATEMENT SCHEDULES

(a) (1) Financial Statements

The following financial statements of KeyCorp and its subsidiaries, and the auditor's report thereon are filed as part of this report under Item 8. Financial Statements and Supplementary Data:

	Page Number
Report of Independent Registered Public Accounting Firm (PCAOB ID: 42)	98
Consolidated Financial Statements	100
Consolidated Balance Sheets at December 31, 2022, and 2021	100
Consolidated Statements of Income for the Years Ended December 31, 2022, 2021, and 2020	101
Consolidated Statements of Comprehensive Income for the Years Ended December 31, 2022, 2021, and 2020	102
Consolidated Statements of Changes in Equity for the Years Ended December 31, 2022, 2021, and 2020	103
Consolidated Statements of Cash Flows for the Years Ended December 31, 2022, 2021, and 2020	104
Notes to Consolidated Financial Statements	105

(a) (2) Financial Statement Schedules

All financial statement schedules for KeyCorp and its subsidiaries have been included in this Form 10-K in the consolidated financial statements or the related footnotes, or they are either inapplicable or not required.

(a) (3) Exhibits*

3.1	Third Amended and Restated Articles of Incorporation of KeyCorp, effective May 23, 2019, filed as Exhibit 3.2 to Form 8-K on May 24, 2019.*
3.2	Certificate of Amendment to the Third Amended and Restated Articles of Incorporation of the Company with respect to Fixed Rate Reset Perpetual Non-Cumulative Preferred Stock, Series H, filed August 22, 2022, filed as Exhibit 4.1 to Form 8-K on August 24, 2022.*
3.3	Third Amended and Restated Regulations of KeyCorp, effective May 23, 2019, filed as Exhibit 3.2 to Form 10-Q for the quarterly period ended June 30, 2019.*
3.4	First Amendment to the Third Amended and Restated Regulations, effective May 13, 2021, filed as Exhibit 3.1 to Form 8-K on May 14, 2021.*
4.1	Description of KeyCorp's Securities Registered Pursuant to Section 12 of the Securities Exchange Act of 1934.
4.2	Form of Certificate representing Fixed-to-Floating Rate Perpetual Non-Cumulative Preferred Stock, Series D, filed as Exhibit 4.2 to Form 8-K on September 9, 2016.*
4.3	Deposit Agreement, dated as of September 9, 2016, among KeyCorp, Computershare Inc. and Computershare Trust Company, N.A., jointly as depositary, and the holders from time to time of the depositary receipts described therein, filed as Exhibit 4.3 to Form 8-K on September 9, 2016.*
4.4	Form of Depositary Receipt related to Series D Preferred Stock (included as part of Exhibit 4.3), filed as Exhibit 4.4 to Form 8-K on September 9, 2016.*
4.5	Form of Certificate representing Fixed-to-Floating Rate Perpetual Non-Cumulative Preferred Stock, Series E, filed as Exhibit 4.2 to Form 8-K on December 12, 2016.*
4.6	Deposit Agreement, dated as of December 12, 2016, among KeyCorp, Computershare Inc. and Computershare Trust Company, N.A., jointly as depositary, and the holders from time to time of the depositary receipts described therein, filed as Exhibit 4.3 to Form 8-K on December 12, 2016.*
4.7	Form of Depositary Receipt related to Series E Preferred Stock (included as part of Exhibit 4.6), filed as Exhibit 4.4 to Form 8-K on December 12, 2016.*
4.8	Form of Certificate representing Fixed Rate Perpetual Non-Cumulative Preferred Stock, Series F, filed as Exhibit 4.2 to Form 8-K on July 30, 2018.*
4.9	Deposit Agreement, dated as of July 30, 2018, among KeyCorp, Computershare Inc. and Computershare Trust Company, N.A., jointly as depositary, and the holders from time to time of the depositary receipts described therein, filed as Exhibit 4.3 to Form 8-K on July 30, 2018.*
4.10	Form of Depositary Receipt related to Series F Preferred Stock (included as part of Exhibit 4.9), filed as Exhibit 4.4 to Form 8-K on July 30, 2018.*
4.11	Form of Certificate representing Fixed Rate Perpetual Non-Cumulative Preferred Stock, Series G, filed as Exhibit 4.2 to Form 8-K on April 29, 2019.*
4.12	Deposit Agreement, dated as of April 29, 2019, among KeyCorp, Computershare Inc. and Computershare Trust Company, N.A., jointly as depositary, and the holders from time to time of the depositary receipts described therein, filed as Exhibit 4.3 to Form 8-K on April 29, 2019.*
4.13	Form of Depositary Receipt related to Series G Preferred Stock (included as part of Exhibit 4.12), filed as Exhibit 4.4 to Form 8-K on April 29, 2019.*
4.14	Form of Certificate representing Fixed Rate Reset Perpetual Non-Cumulative Preferred Stock, Series H, filed as Exhibit 4.2 to Form 8-K on August 24, 2022.*
4.15	Deposit Agreement, dated as of August 24, 2022, among KeyCorp, Computershare Inc. and Computershare Trust Company, N.A., jointly as depositary, and the holders from time to time of the depositary receipts described therein, filed as Exhibit 4.3 to Form 8-K on August 24, 2022.*
4.16	Form of Depositary Receipt related to Series H Preferred Stock (included as part of Exhibit 4.15), filed as Exhibit 4.4 to Form 8-K on August 24, 2022.*
10.1	Form of Award of Non-Qualified Stock Options (effective June 12, 2009), filed as Exhibit 10.1 to Form 10-K for the year ended December 31, 2014.*
10.2	Form of Cash-settling Performance Shares Award Agreement (2020-2022), filed as Exhibit 10.6 to Form 10-K for the year ended December 31, 2020.*
10.3	Form of Stock-settling Performance Shares Award Agreement (2020-2022), filed as Exhibit 10.7 to Form 10-K for the year ended December 31, 2020.*
10.4	Form of Cash-settling Performance Shares Award Agreement (2021-2023), filed as Exhibit 10.8 to Form 10-K for the year ended December 31, 2020.*
10.5	Form of Stock-settling Performance Shares Award Agreement (2021-2023), filed as Exhibit 10.9 to Form 10-K for the year ended December 31, 2020.*.

10.6	Form of Cash-settling Performance Shares Award Agreement (2022-2024), filed as Exhibit 10.8 to Form 10-K for the year ended December 31, 2021.*
10.7	Form of Cash-settling Performance Shares Award Agreement (2023-2025).
10.8	Form of Stock Option Award Agreement under KeyCorp 2013 Equity Compensation Plan, filed as Exhibit 10.7 to Form 10-K for the year ended December 31, 2016.*
10.9	Form of Stock Option Award Agreement under KeyCorp 2013 Equity Compensation Plan, effective 2019, filed as Exhibit 10.8 to Form 10-K for the year ended December 31, 2018.*
10.10	Form of Stock Option Award Agreement under KeyCorp 2019 Equity Compensation Plan, effective 2020, filed as Exhibit 10.12 to Form 10-K for the year ended December 31, 2020.*.
10.11	Form of Restricted Stock Unit Award Agreement under KeyCorp 2013 Equity Compensation Plan, effective 2019, filed as Exhibit 10.10 to Form 10-K for the year ended December 31, 2018.*.
10.12	Form of Restricted Stock Unit Award Agreement (New Hire/Retention) under KeyCorp 2019 Equity Compensation Plan, filed as Exhibit 10.4 to KeyCorp's Registration Statement on Form S-8 on May 23, 2019, File No. 333-231689.*
10.13	Form of Restricted Stock Unit Award Agreement (New Hire/Retention) under KeyCorp 2019 Equity Compensation Plan, effective 2020, filed as Exhibit 10.16 to Form 10-K for the year ended December 31, 2020.*
10.14	Form of Restricted Stock Unit Award Agreement under KeyCorp 2019 Equity Compensation Plan, effective 2020, filed as Exhibit 10.17 to Form 10-K for the year ended December 31, 2020.*
10.15	Form of Restricted Stock Unit Award Agreement (New Hire/Retention) under KeyCorp 2019 Equity Compensation Plan, filed as Exhibit 10.17 in Form 10-K for the year ended December 31, 2021.*
10.16	Form of Change of Control Agreement (Tier I) between KeyCorp and Certain Executive Officers of KeyCorp, dated as of March 8, 2012, filed as Exhibit 10.8 to Form 10-K for the year ended December 31, 2017.*
10.17	Form of Change of Control Agreement (Tier II Executives) between KeyCorp and Certain Executive Officers of KeyCorp, dated as of April 15, 2012, filed as Exhibit 10.9 to Form 10-K for the year ended December 31, 2017.*
10.18	KeyCorp Executive Annual Performance Plan (effective March 13, 2019), filed as Exhibit 10.1 to Form 8-K on March 15, 2019.*
10.19	KeyCorp Long-Term Incentive Deferral Plan, filed as Exhibit 10.14 to Form 10-K for the year ended December 31, 2018.*
10.20	KeyCorp 2010 Equity Compensation Plan (effective March 11, 2010), filed as Exhibit 10.16 to Form 10-K for the year ended December 31, 2015.*
10.21	KeyCorp 2013 Equity Compensation Plan (effective March 14, 2013), filed as Exhibit 10.17 to Form 10-K for the year ended December 31, 2018.*
10.22	KeyCorp 2019 Equity Compensation Plan (effective January 10, 2019), filed as Exhibit 10.1 to Form 8-K on May 24, 2019.*
10.23	Director Deferred Compensation Plan (May 18, 2000 Amendment and Restatement), filed as Exhibit 10.18 to Form 10-K for the year ended December 31, 2018.*
10.24	Amendment to the Director Deferred Compensation Plan (effective December 31, 2004), filed as Exhibit 10.20 to Form 10-K for the year ended December 31, 2014.*
10.25	KeyCorp Amended and Restated Second Director Deferred Compensation Plan (effective September 18, 2013), filed as Exhibit 10.20 to Form 10-K for the year ended December 31, 2018.*
10.26	KeyCorp Directors' Deferred Share Sub-Plan (effective September 18, 2013), filed as Exhibit 10.21 to Form 10-K for the year ended December 31, 2018.*
10.27	KeyCorp Amended and Restated Directors' Deferred Share Sub-Plan (effective May 23, 2019), filed as Exhibit 10.27 to Form 10-K for the year ended December 31, 2019.*
10.28	KeyCorp Amended and Restated Directors' Deferred Share Sub-Plan (effective September 16, 2020), filed as Exhibit 10 to Form 10-Q for the quarter ended September 30, 2020.*
10.29	KeyCorp Excess Cash Balance Pension Plan (effective January 1, 1998), filed as Exhibit 10.22 to Form 10-K for the year ended December 31, 2018.*
10.30	First Amendment to the KeyCorp Excess Cash Balance Pension Plan (effective July 1, 1999), filed as Exhibit 10.23 to Form 10-K for the year ended December 31, 2018.*
10.31	Second Amendment to the KeyCorp Excess Cash Balance Pension Plan (effective January 1, 2003), filed as Exhibit 10.24 to Form 10-K for the year ended December 31, 2018.*
10.32	Restated Amendment to KeyCorp Excess Cash Balance Pension Plan (effective December 31, 2004), filed as Exhibit 10.26 to Form 10-K for the year ended December 31, 2014.*

10.33	Disability Amendment to KeyCorp Excess Cash Balance Pension Plan (effective December 31, 2007), filed as Exhibit 10.21 to Form 10-K for the year ended December 31, 2017.*
10.34	KeyCorp Second Excess Cash Balance Pension Plan (effective February 8, 2010), filed as Exhibit 10.28 to Form 10-K for the year ended December 31, 2014.*
10.35	Trust Agreement for certain amounts that may become payable to certain executives and directors of KeyCorp, dated April 1, 1997, and amended as of August 25, 2003, filed as Exhibit 10.28 to Form 10-K for the year ended December 31, 2018.*
10.36	KeyCorp Deferred Savings Plan (effective January 1, 2015), filed as Exhibit 10.31 to Form 10-K for the year ended December 31, 2014.*
10.37	Amendment to the KeyCorp Deferred Savings Plan (effective January 1, 2023).
10.38	Amendment to the KeyCorp Deferred Savings Plan (effective January 1, 2023).
10.39	KeyCorp Second Deferred Savings Plan (effective January 1, 2019), filed as Exhibit 10.30 to Form 10-K for the year ended December 31, 2018.*
10.40	Amended and Restated KeyCorp Second Deferred Savings Plan (effective January 1, 2023).
10.41	Amended and Restated First Niagara Bank and First Niagara Financial Group, Inc. Directors Deferred Fees Plan, filed as Exhibit 10.32 to Form 10-K for the year ended December 31, 2018.*
10.42	First Niagara Financial Group, Inc. 2012 Equity Incentive Plan, filed as Exhibit 10.33 to Form 10-K for the year ended December 31, 2017.*
10.43	First Niagara Financial Group, Inc. 2012 Equity Incentive Plan, Amendment Number One, filed as Appendix B to First Niagara Financial Group, Inc.'s Schedule 14A filed on March 21, 2014.*
10.44	First Niagara Financial Group, Inc. 2012 Equity Incentive Plan, Amendment Number Two, filed as Appendix C to First Niagara Financial Group, Inc.'s Schedule 14A filed on March 21, 2014.*
10.45	Letter agreement between KeyBank National Association and Kevin T. Ryan, dated as of July 2, 2022, filed as Exhibit 10.1 to Form 10-Q for the quarterly period ended September 30, 2022*
21	Subsidiaries of the Registrant.
22	Subsidiary Issuers of Guaranteed Securities.
23	Consent of Independent Registered Public Accounting Firm.
24	Power of Attorney.
31.1	Certification of Chief Executive Officer Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
31.2	Certification of Chief Financial Officer Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
32.1	Certification of Chief Executive Officer Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
32.2	Certification of Chief Financial Officer Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
101	The following materials from KeyCorp's Form 10-K Report for the year ended December 31, 2022, formatted in inline XBRL: (i) the Consolidated Balance Sheets; (ii) the Consolidated Statements of Income and Consolidated Statements of Comprehensive Income; (iii) the Consolidated Statements of Changes in Equity; (iv) the Consolidated Statements of Cash Flows; and (v) the Notes to Consolidated Financial Statements.
104	The cover page from KeyCorp's Form 10-K for the year ended December 31, 2022, formatted in inline XBRL (contained in Exhibit 101).

*Incorporated by reference. Copies of these Exhibits have been filed with

the SEC. Exhibits that are not incorporated by reference are filed with this report. Shareholders may obtain a copy of any exhibit, upon payment of reproduction costs, by writing KeyCorp Investor Relations, 127 Public Square, Mail Code OH-01-27-0737, Cleveland, OH 44114-1306.

KeyCorp hereby agrees to furnish the SEC upon request, copies of instruments, including indentures, which define the rights of long-term debt security holders. All documents listed as Exhibits 10.1 through 10.45 constitute management contracts or compensatory plans or arrangements.

ITEM 16. FORM 10-K SUMMARY

Not applicable.

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the Registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized, on the date indicated.

KEYCORP

/s/ Donald R. Kimble
Donald R. Kimble
Chief Financial Officer (Principal Financial Officer)
February 22, 2023

/s/ Douglas M. Schosser
Douglas M. Schosser
Chief Accounting Officer (Principal Accounting Officer)
February 22, 2023

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 date indicated.

Signature	**Title**
*Christopher M. Gorman	Chairman, Chief Executive Officer and President (Principal Executive Officer), and Director
*Donald R. Kimble	Chief Financial Officer (Principal Financial Officer)
*Douglas M. Schosser	Chief Accounting Officer (Principal Accounting Officer)
*Alexander M. Cutler	Director
*H. James Dallas	Director
*Elizabeth R. Gile	Director
*Ruth Ann M. Gillis	Director
*Robin N. Hayes	Director
*Carlton L. Highsmith	Director
*Richard J. Hipple	Director
*Devina A. Rankin	Director
*Barbara R. Snyder	Director
*Richard J. Tobin	Director
*Todd J. Vasos	Director
*David K. Wilson	Director

/s/ James L. Waters
* By James L. Waters, attorney-in-fact
February 22, 2023