

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

FORM 10-K

(Mark One)

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

For the fiscal year ended December 31, 2024

OR

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

For the transition period from _____ to _____

Commission File No. 001-37811

BOK FINANCIAL CORP

(Exact name of registrant as specified in its charter)

OK

73-1373454

(State or other jurisdiction
of incorporation or organization)

(I.R.S. Employer
Identification No.)

Bank of Oklahoma Tower
Boston Avenue at Second Street
Tulsa, OK

74172

(Address of Principal Executive Offices)

(Zip Code)

(918) 588-6000

(Registrant's telephone number, including area code)

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

Title of each class	Trading Symbol	Name of each exchange on which registered
Common Stock, par value \$0.00006 per share	BOKF	Nasdaq Stock Market

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 definitions of "larger accelerated filer," "accelerated filer," and "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 in previously issued financial statements.

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

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

The aggregate market value of the registrant's common stock ("Common Stock") held by non-affiliates is approximately \$ 2.4 billion (based on the June 30, 2024 closing price of Common Stock of \$91.64 per share). As of January 31, 2025, there were 64,226,062 shares of Common Stock outstanding.

DOCUMENTS INCORPORATED BY REFERENCE

Parts II and III incorporate certain information by reference from the Registrant's Proxy Statement for the 2025 Annual Meeting of Shareholders.

BOK Financial Corporation
Form 10-K
Year Ended December 31, 2024

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GLOSSARY OF DEFINED TERMS

The following items may be used throughout this report, including the consolidated financial statements and related notes.

Term	Definition
AFS	Available For Sale
AI	Artificial Intelligence
AOCI	Accumulated Other Comprehensive Income
ASU	Accounting Standards Update
ATM	Automated Teller Machine
BCBS	Basel Committee on Banking Supervision
BHCA	Bank Holding Company Act of 1956
Board	Board of Directors of BOK Financial Corporation
BOK Financial	BOK Financial Corporation
BOKF	BOK Financial Corporation
BOKFI	BOK Financial Insurance, Inc.
BSA	Bank Secrecy Act
CECL	Current Expected Credit Losses
CET1	Common Equity Tier 1 Capital
CFPB	Consumer Financial Protection Bureau
CFTC	Commodity Futures Trading Commission
CISO	Chief Information Security Officer
CODM	Chief Operating Decision Maker
Company	BOK Financial Corporation
COSO	Committee of Sponsoring Organizations
CRA	Community Reinvestment Act of 1977
DIF	Deposit Insurance Fund
Dodd-Frank Act	Dodd-Frank Wall Street Reform and Consumer Protection Act
EFT	Electronic Funds Transfer
FASB	Financial Accounting Standards Board
FDIC	Federal Deposit Insurance Corporation
FDICIA	Federal Deposit Insurance Corporation Improvement Act of 1991
Federal Reserve Board	Board of Governors of the Federal Reserve System
FHLB	Federal Home Loan Bank
FINRA	Financial Industry Regulatory Authority
GAAP	Generally Accepted Accounting Principles in the United States of America
GDP	Gross Domestic Product
GNMA	Government National Mortgage Association
ISMS	Information Security Management System
ISO	International Organization for Standardization
KBW	Keefe, Bruyette & Woods
MSR	Mortgage Servicing Rights
NASDAQ	National Association of Securities Dealers Automated Quotations
NIST	National Institute of Standards and Technology
NYMEX	New York Mercantile Exchange
OCC	Office of the Comptroller of the Currency
PATRIOT Act	USA PATRIOT Act of 2001
PCAOB	Public Company Accounting Oversight Board
Pension Plan	BOK Financial Corporation sponsored defined benefit cash balance pension plan
PPNR	Pre-Provision Net Revenue

Term	Definition
RMHFS	Residential Mortgages Held for Sale
RSUs	Restricted Stock Units
S&P	Standard & Poor's
SEC	Securities and Exchange Commission
SOC	Service Organization Controls
SOFR	Secured Overnight Financing Rate
SVaR	Stressed Value at Risk
Thrift Plan	BOK Financial Corporation sponsored defined contribution plan
Tier 2	Supplementary capital
TransFund	BOKF's electronic funds transfer network
VA	U.S. Department of Veterans Affairs
VaR	Value at Risk
VIEs	Variable Interest Entities
WTI	West Texas Intermediate

PART I

ITEM 1. BUSINESS

General

Developments relating to individual aspects of the business of BOK Financial are described below. Additional discussion of the Company's activities during the current year appears within Item 7 "Management's Discussion and Analysis of Financial Condition and Results of Operations."

Description of Business

BOK Financial is a financial holding company incorporated in the state of Oklahoma in 1990 whose activities are governed by the BHCA, as amended by the Financial Services Modernization Act or Gramm-Leach-Bliley Act and the Dodd-Frank Act. BOK Financial offers full service banking in Oklahoma, Texas, New Mexico, Northwest Arkansas, Colorado, Arizona, and Kansas/Missouri. At December 31, 2024, the Company reported total consolidated assets of \$50 billion.

BOKF, NA is a wholly owned subsidiary bank of BOK Financial. BOKF, NA operates TransFund and Cavanal Hill Investment Management. BOKF, NA operates banking divisions across eight states: Bank of Albuquerque, Bank of Oklahoma, Bank of Texas and BOK Financial in Arizona, Arkansas, Colorado, Kansas, and Missouri; as well as having limited purpose offices in Nebraska, Wisconsin, Connecticut, and Tennessee. Other wholly owned subsidiaries of BOK Financial include BOK Financial Securities, Inc., a broker/dealer that primarily engages in retail and institutional securities sales and municipal bond underwriting; and BOK Financial Private Wealth, Inc., an investment adviser to high net-worth clients. Other non-bank subsidiary operations do not have a significant effect on the Company's financial statements.

Our overall strategic objective is to emphasize growth in long-term value by building on our leadership position in Oklahoma through expansion into other high-growth markets in contiguous states. We operate primarily in the metropolitan areas of Tulsa and Oklahoma City, Oklahoma; Dallas, Fort Worth, Houston, and San Antonio, Texas; Albuquerque, New Mexico; Denver, Colorado; Phoenix, Arizona; and Kansas City, Kansas/Missouri. Our acquisition strategy targets fairly priced quality organizations with demonstrated solid growth that would supplement our principal lines of business. We provide additional growth opportunities by hiring talent to enhance competitiveness, adding locations, and broadening product offerings. Our operating philosophy embraces local decision-making in each of our geographic markets while adhering to common Company standards.

Our primary focus is to provide a comprehensive range of nationally competitive financial products and services in a personalized and responsive manner. Products and services include loans and deposits, cash management services, fiduciary services, mortgage banking, and brokerage and trading services to middle-market businesses, financial institutions, and consumers. Commercial banking represents a significant part of our business. Our credit culture emphasizes building relationships by making high quality loans and providing a full range of financial products and services to our customers. We also offer products that leverage our energy financing expertise and enable us to offer commodity derivatives for customers to use in their risk management. Our diversified base of revenue sources is designed to generate returns across a range of economic situations. Wealth management also continues to be a strategic focus. We provide liquidity to the mortgage markets through trading of U.S. government agency issued mortgage-backed securities and related derivative contracts and currently service approximately \$115 billion of assets under management or administration.

BOK Financial's corporate headquarters is located at Bank of Oklahoma Tower, Boston Avenue at Second Street, Tulsa, Oklahoma 74172.

The Company's Annual Reports on Form 10-K, Quarterly Reports on Form 10-Q, Current Reports on Form 8-K, and amendments to those reports are available on the Company's website at www.bokf.com as soon as reasonably practicable after the Company electronically files such material with or furnishes it to the Securities and Exchange Commission.

Reportable Segments

BOK Financial operates three principal segments: Commercial Banking, Consumer Banking, and Wealth Management. Commercial Banking includes lending, treasury and cash management services, and customer commodity risk management products for small businesses, middle market, and larger commercial customers. Commercial Banking also includes the TransFund electronic funds network. Consumer Banking includes retail lending and deposit services, lending and deposit services to small business customers served through the retail branch network and all mortgage loan origination and servicing activities. Wealth Management engages in brokerage and trading activities mainly related to providing liquidity to the mortgage markets through trading of U.S. government agency mortgage-backed securities and related derivative contracts. Wealth Management also provides fiduciary services, private bank services, and investment advisory services in all markets. Additionally, Wealth Management underwrites state and municipal securities. Discussion of these operating segments appears within the Reportable Segments section of "Management's Discussion and Analysis of Financial Condition and Results of Operations."

Competition

BOK Financial and its reportable segments face competition from other banks, thrifts, credit unions, and other non-bank financial institutions such as investment banking firms, investment advisory firms, brokerage firms, investment companies, financial technology firms, government agencies, mortgage brokers, and insurance companies. The Company competes largely on the basis of customer services, interest rates on loans and deposits, lending limits, and customer convenience. Some operating segments face competition from institutions that are not as closely regulated as banks, and therefore are not limited by the same capital requirements and other restrictions. All market share information presented below is based upon share of deposits in specified areas according to the FDIC as of June 30, 2024.

We are the largest financial institution in the state of Oklahoma with 14% of the state's total deposits. We have 30% and 13% of the market share in the Tulsa and Oklahoma City areas, respectively. We compete with two banks that have operations nationwide and have greater access to funds at lower costs, higher lending limits, and greater access to technology resources. We also compete with regional and locally-owned banks in both the Tulsa and Oklahoma City areas as well as in every other community in which we do business throughout the state.

We compete against numerous financial institutions in the state of Texas, including some of the largest in the United States, and have a market share of approximately 1% in the Dallas-Fort Worth area and less than 1% in the Houston area. We have a 12% market share in the Albuquerque area and compete with four large national banks, some regional banks, and several locally-owned smaller community banks. Our market share is approximately 3% in the Denver area. We serve Benton and Washington counties in Arkansas with a market share of approximately 1%. Our market share is approximately 2% in the Kansas City, Kansas/Missouri area and approximately 1% in the Phoenix area. The Company's ability to expand into additional states remains subject to various federal and state laws.

Human Capital Management and Practices

In order to continue leading the industry as a provider of financial solutions to businesses, institutions and individuals across the country, it is crucial that we attract, develop and retain top talent. At BOK Financial, we are committed to creating an inclusive workplace that offers growth and development opportunities for our employees. We support our team with competitive compensation, comprehensive benefits, wellness programs, and development resources. Additionally, we foster connections between our employees and the communities we serve. "Actively advancing the communities we serve" is a core value at BOK Financial. Our employees' generosity and community involvement are hallmarks of our culture and a source of pride as we live out our purpose statement: "Achieving More Together."

Our talented workforce is the key to our success. At December 31, 2024, we had 5,056 full-time and part-time employees, the majority of which are full-time employees. None of the Company's employees are represented by collective bargaining agreements. Management considers its employee relations to be good. Our employees are primarily distributed over our eight-state footprint, to include: Oklahoma, Texas, Arkansas, Kansas, Missouri, Colorado, New Mexico, and Arizona.

Supervision and Regulation

BOK Financial and its subsidiaries are subject to extensive regulations under federal and state laws. Both the scope of the laws and regulations and the intensity of the supervision to which our business is subject have increased in recent years. Regulatory enforcement and fines have also increased across the banking and financial services sector. Many of these changes have occurred as a result of the Dodd-Frank Act and its implementing regulations, most of which are now in place. These regulations and others are designed to promote safety and soundness, protect consumers and ensure the stability of the banking system as a whole. The purpose of these regulations is not necessarily to protect shareholders and creditors. As detailed below, these regulations require the Company and its subsidiaries to maintain certain capital balances and require the Company to provide financial support to its subsidiaries. These regulations may restrict the Company's ability to diversify, to acquire other institutions and to pay dividends on its capital stock. These regulations also include requirements on certain programs and services offered to our customers, including restrictions on fees charged for certain services. The Company expects that its business will remain subject to extensive regulation and supervision.

The following information summarizes certain existing laws and regulations that affect the Company's operations. It does not summarize all provisions of these laws and regulations and does not include all laws and regulations that affect the Company presently or in the future.

General

As a financial holding company, BOK Financial is regulated under the BHCA and is subject to regular inspection, examination, and supervision by the Federal Reserve Board. Under the BHCA, BOK Financial files quarterly reports and other information with the Federal Reserve Board.

BOKF, NA is organized as a national banking association under the National Banking Act, and is subject to regulation, supervision and examination by the OCC, the FDIC, the Federal Reserve Board, the CFPB, and other federal and state regulatory agencies. The OCC has primary supervisory responsibility for national banks and must approve certain corporate or structural changes including changes in capitalization, payment of dividends, change of place of business, and establishment of a branch or operating subsidiary. The OCC performs examinations concerning safety and soundness, the quality of management and directors, information technology, and compliance with applicable regulations. The National Banking Act authorizes the OCC to examine every national bank as often as necessary.

A financial holding company, and the companies under its control, are permitted to engage in activities considered "financial in nature" as defined by the BHCA, Gramm-Leach-Bliley Act, and Federal Reserve Board interpretations. Activities that are "financial in nature" include securities underwriting and dealing, insurance underwriting, merchant banking, operating a mortgage company, performing certain data processing operations, servicing loans and other extensions of credit, providing investment and financial advice, owning and operating savings and loan associations, and leasing personal property on a full pay-out, non-operating basis. A financial holding company is required to notify the Federal Reserve Board within thirty days of engaging in new activities determined to be "financial in nature." BOK Financial is engaged in some of these activities and has notified the Federal Reserve Board.

In order for a financial holding company to commence any new activity permitted by the BHCA, each insured depository institution subsidiary of the financial holding company must be "well capitalized" and "well managed" and have received a rating of at least "satisfactory" in its most recent examination under the Community Reinvestment Act. A financial holding company and its depository institution subsidiaries are considered to be "well capitalized" if they meet the requirements discussed in the section captioned "Capital Adequacy and Prompt Corrective Action" which follows. A financial holding company and its depository institution subsidiaries are considered to be "well managed" if they receive a composite rating and management rating of at least "satisfactory" in their most recent examinations. If a financial holding company fails to meet these requirements, the Federal Reserve Board may impose limitations or conditions on the conduct of its activities, and the company may not commence any new financial activities without prior approval.

The BHCA requires the Federal Reserve Board's prior approval for the direct or indirect acquisition of more than five percent of any class of voting stock of any non-affiliated bank. Under the Federal Bank Merger Act, the prior approval of the OCC is required for a national bank to merge with another bank or purchase the assets or assume the deposits of another bank. In reviewing applications seeking approval of merger and acquisition transactions, the bank regulatory authorities consider, among other things, the competitive effect and public benefits of the transactions, the capital position of the combined organization, the applicant's performance record under the Community Reinvestment Act and fair housing laws, and the effectiveness of the subject organizations in combating money laundering activities.

A financial holding company and its subsidiaries are prohibited under the BHCA from engaging in certain tie-in arrangements in connection with the provision of any credit, property, or services. Thus, a subsidiary of a financial holding company may not extend credit, lease or sell property, furnish any services, or fix or vary the consideration for these activities on the condition that (1) the customer obtain or provide additional credit, property or services from or to the financial holding company or any subsidiary thereof, or (2) the customer may not obtain some other credit, property or services from a competitor, except to the extent reasonable conditions are imposed to insure the soundness of credit extended.

The Company and other non-bank subsidiaries are also subject to other federal and state laws and regulations. For example, BOK Financial Securities, Inc. is regulated by the SEC, the FINRA, the Federal Reserve Board, and state securities regulators. Such regulations generally include licensing of certain personnel, customer interactions, and trading operations.

Heightened Standards/Enhanced Prudential Standards

Current rules adopted by the OCC require heightened standards for financial institutions that report at least \$50 billion of average consolidated assets over a four quarter period after an 18-month grace period. These heightened standards include establishing and implementing a risk governance framework to cover the bank's risk-taking activities. Heightened standards will also result in more rigorous supervision and examination by the OCC to ensure adherence to these heightened standards and may result in increased costs. The Company is actively monitoring BOKF, NA's asset level while proactively planning for compliance with heightened standards once the threshold is reached.

The Dodd-Frank Act directed the Federal Reserve Board to monitor emerging risks to financial institutions and enacted enhanced supervision and prudential standards applicable to bank holding companies with consolidated assets of \$50 billion or more and non-bank covered companies designated as systemically important to the Financial Stability Oversight Council (often referred to as systemically important financial institutions). The Dodd-Frank Act mandated that certain regulatory requirements applicable to systemically important financial institutions be more stringent than those applicable to other financial institutions.

Subsequent legislation raised the threshold for systemically important financial institutions from \$50 billion to \$250 billion while providing the Federal Reserve Board with authority to establish incremental prudential standards for banks between \$100 billion and \$250 billion.

Consumer Financial Protection

We are subject to a number of federal and state consumer protection laws that extensively govern our relationship with our customers. These laws include the Equal Credit Opportunity Act, the Fair Credit Reporting Act, the Truth in Lending Act, the Truth in Savings Act, the Electronic Fund Transfer Act, the Expedited Funds Availability Act, the Home Mortgage Disclosure Act, the Fair Housing Act, the Real Estate Settlement Procedures Act, the Fair Debt Collection Practices Act, the Service Members Civil Relief Act and these laws' respective state-law counterparts, as well as state usury laws and laws regarding unfair and deceptive acts and practices. These and other federal laws, among other things, require disclosures of the cost of credit and terms of deposit accounts, provide substantive consumer rights, prohibit discrimination in credit transactions, regulate the use of credit report information, provide financial privacy protections, prohibit unfair, deceptive and abusive practices, restrict our ability to raise interest rates, and subject us to substantial regulatory oversight. Violations of applicable consumer protection laws can result in significant potential liability from litigation brought by customers, including actual damages, restitution, and attorneys' fees. Federal bank regulators, state attorneys general, and state and local consumer protection agencies may also seek to enforce consumer protection requirements and obtain these and other remedies, including regulatory sanctions, customer rescission rights, action by the state and local attorneys general in each jurisdiction in which we operate, and civil money penalties. Failure to comply with consumer protection requirements may also damage our reputation and result in our failure to obtain any required bank regulatory approval for merger or acquisition transactions we may wish to pursue or our prohibition from engaging in such transactions even if approval is not required.

The CFPB has broad rule-making authority for a wide range of consumer financial laws that apply to all banks, including, among other things, the authority to prohibit "unfair, deceptive, or abusive" acts and practices. Abusive acts or practices are defined as those that materially interfere with a consumer's ability to understand a term or condition of a consumer financial product or service or take unreasonable advantage of a consumer's (i) lack of financial savvy, (ii) inability to protect himself in the selection or use of consumer financial products or services, or (iii) reasonable reliance on a covered entity to act in the consumer's interests. The CFPB can issue cease-and-desist orders against banks and other entities that violate consumer financial laws. The CFPB may also institute a civil action against an entity in violation of federal consumer financial laws in order to impose a civil penalty or injunction.

On December 12, 2024, the CFPB finalized a rule aimed at regulating overdraft fees charged by financial institutions with more than \$10 billion in assets. Institutions may choose one of three options to comply with the requirements: capping overdraft fees at \$5, selecting a cap that covers the actual costs and losses; or treating overdraft protection as a loan covered by the Truth in Lending Act and requiring compliance with Regulation Z. The rule has an effective date of October 1, 2025; however, the recent change in the U.S. presidential administration may alter this rule, which could include the effective date.

Community Reinvestment Act

The CRA requires depository institutions to assist in meeting the credit needs of their market areas consistent with safe and sound banking practices. Under the CRA, each depository institution is required to help meet the credit needs of its market areas by, among other things, providing credit to low- and moderate-income individuals and communities. Depository institutions are periodically examined for compliance with the CRA and are assigned ratings. In order for a financial holding company to commence any new activity permitted by the BHCA, or to acquire any company engaged in any new activity permitted by the BHCA, each insured depository institution subsidiary of the financial holding company must have received a rating of at least "satisfactory" in its most recent examination under the CRA. Furthermore, banking regulators take into account CRA ratings when considering a request for an approval of a proposed transaction. BOKF, NA received a rating of "outstanding" in its most recent CRA examination, which is above "satisfactory."

Financial Privacy

The federal banking regulators adopted rules that limit the ability of banks and other financial institutions to disclose non-public information about consumers to non-affiliated third parties. These limitations require disclosure of privacy policies to consumers and, in some circumstances, allow consumers to prevent disclosure of certain personal information to a non-affiliated third party. These regulations affect how consumer information is transmitted through diversified financial companies and is conveyed to outside parties.

Capital Adequacy and Prompt Corrective Action

The Federal Reserve Board, the OCC, and the FDIC have issued substantially similar risk-based and leverage capital guidelines applicable to United States banking organizations to ensure capital adequacy based upon the risk levels of assets and off-balance sheet financial instruments. In addition, these regulatory agencies may from time to time require that a banking organization maintain capital above the minimum levels, whether because of its financial condition or actual or anticipated growth. Capital adequacy guidelines and prompt corrective action regulations involve quantitative measures of assets, liabilities, and certain off-balance sheet items calculated under regulatory accounting practices. Capital amounts and classifications are also subject to qualitative judgments by regulators regarding components, risk weighting, and other factors.

Federal Reserve Board risk-based guidelines define four capital metrics based on three categories of regulatory capital. CET1 includes common shareholders' equity, less goodwill, most intangible assets and other adjustments. Tier 1 capital consists of CET1 capital plus certain additional capital instruments and related surplus. Tier 2 consists of preferred stock not qualifying as Tier 1 capital, qualifying mandatory convertible debt securities, limited amounts of subordinated debt, other qualifying term debt and allowances for credit losses, subject to limitations. Assets and off-balance sheet exposures are assigned to categories of risk-weights, based primarily upon relative credit risk. Risk-based capital ratios are calculated by dividing CET1, Tier 1 and total capital by risk-weighted assets. In addition to the risk-based capital ratios, the Company is also subject to the leverage ratio. The leverage ratio is determined by dividing Tier 1 capital by adjusted average total assets.

Additional capital rules were effective for banks and bank holding companies, including BOK Financial, on January 1, 2015 as part of a package of regulatory reforms developed by the BCBS to strengthen the regulation, supervision, and risk management of the banking sector, commonly referred to as the Basel III framework.

Failure to meet minimum capital requirements would be subject to regulatory restrictions on capital distributions (including but not limited to dividends and share repurchases) and executive bonus payments.

The FDICIA, among other things, identifies five capital categories for insured depository institutions from well capitalized to critically under-capitalized and requires the respective federal regulatory agencies to implement systems for prompt corrective action for institutions failing to meet minimum capital requirements within such categories. FDICIA imposes progressively more restrictive covenants on operations, management and capital distributions, depending upon the category in which an institution is classified. The various regulatory agencies have adopted substantially similar regulations that define the five capital categories identified by FDICIA, using the total risk-based capital, Tier 1 risk-based capital and leverage capital ratios as the relevant capital measures. Such regulations establish various degrees of corrective action to be taken when an institution is considered under-capitalized.

Stress Testing

The Regulatory Relief Act eliminated the requirement for periodic company run capital stress tests known as the Dodd-Frank Act Stress Test for banks with assets less than \$250 billion. Although the mandate has been lifted, the Company still continues to perform capital stress testing on a regular basis.

Executive and Incentive Compensation

Guidelines adopted by federal banking agencies prohibit excessive compensation as an unsafe and unsound practice and describe compensation as excessive when the amounts paid are unreasonable or disproportionate to the services performed by an executive officer, employee, director, or principal shareholder. The Federal Reserve Board has issued comprehensive guidance on incentive compensation intended to ensure that the incentive compensation policies do not undermine safety and soundness by encouraging excessive risk taking. This guidance covers all employees that have the ability to materially affect the risk profile of an organization, either individually or as part of a group, based on key principles that (i) incentives do not encourage risk-taking beyond the organization's ability to identify and manage risk, (ii) compensation arrangements are compatible with effective internal controls and risk management, and (iii) compensation arrangements are supported by strong corporate governance, including active and effective board oversight. Deficiencies in compensation practices may affect supervisory ratings, and enforcement actions may be taken if incentive compensation arrangements pose a risk to safety and soundness.

Deposit Insurance

Substantially all of the deposits held by the subsidiary banks are insured up to applicable limits by the DIF of the FDIC and are subject to deposit insurance assessments to maintain the DIF. The FDIC, as required under the Federal Deposit Insurance Act, established a plan in September 2020 to restore the DIF reserve ratio to meet or exceed the statutory minimum of 1.35% within eight years. This plan did not include an increase in the deposit insurance assessment rate. Based on the FDIC's recent projections, however, the FDIC determined that the DIF reserve ratio is at risk of not reaching the statutory minimum by the statutory deadline of September 30, 2028 without increasing the deposit insurance assessment rates. On October 18, 2022, the FDIC finalized a rule that increased the initial base deposit insurance assessment rates by 2 basis points beginning with the first quarterly assessment period of 2023. The increased assessment improves the likelihood that the DIF reserve ratio would reach the required minimum by the statutory deadline, consistent with the FDIC's Amended Restoration Plan. The rule became effective as of January 1, 2023.

On November 16, 2023, the FDIC approved a final rule to implement a special assessment on certain banking organizations with financial institution subsidiaries with more than \$5 billion in assets in order to recover the costs associated with protecting uninsured depositors following the closures of Silicon Valley Bank and Signature Bank in March 2023. The special assessment will be collected at a quarterly rate of 3.36 basis points for the initial eight-quarter collection period, and the assessment base is equal to uninsured deposits reported as of December 31, 2022, adjusted to exclude the first \$5 billion. The special assessment collection period began with the first quarterly assessment period of 2024, and the last of the initial eight-quarter collection periods is the fourth quarterly assessment period of 2025. While the special assessment will be collected at a quarterly rate of 3.36 basis points for the initial eight-quarter collection period, given the update to the loss estimates and the increase in the aggregate special assessment based resulting from amendments to the reported amount of estimated uninsured deposits, the FDIC currently projects that the special assessment will be collected for an additional two quarters beyond the initial eight-quarter collection period, at a lower rate.

Dividends

A key source of liquidity for BOK Financial is dividends from BOKF, NA, which is limited by various banking regulations to net profits, as defined, for the year plus retained profits for the preceding two years. Dividends are further restricted by minimum capital requirements and the Company's internal capital policy. BOKF, NA's dividend limitations are discussed under the heading "Liquidity and Capital" within "Management's Discussion and Analysis of Financial Condition and Results of Operations."

Source of Strength Doctrine

According to Federal Reserve Board policy, a bank holding company is expected to act as a source of financial strength to each subsidiary bank and to commit resources to support each such subsidiary. This support may be required at times when a bank holding company may not be able to provide such support.

Transactions with Affiliates

The Federal Reserve Board regulates transactions between the Company and its subsidiaries. Generally, the Federal Reserve Act and Regulation W, as amended by the Dodd-Frank Act, limit the Company's banking subsidiary and its subsidiaries, to lending and other "covered transactions" with affiliates. The aggregate amount of covered transactions a banking subsidiary or its subsidiaries may enter into with an affiliate may not exceed 10% of the capital stock and surplus of the banking subsidiary. The aggregate amount of covered transactions with all affiliates may not exceed 20% of the capital stock and surplus of the banking subsidiary.

Covered transactions with affiliates are also subject to collateral requirements and must be conducted on arm's length terms. Covered transactions include (a) a loan or extension of credit by the banking subsidiary, including derivative contracts, (b) a purchase of securities issued to a banking subsidiary, (c) a purchase of assets by the banking subsidiary unless otherwise exempted by the Federal Reserve, (d) acceptance of securities issued by an affiliate to the banking subsidiary as collateral for a loan, and (e) the issuance of a guarantee, acceptance, or letter of credit by the banking subsidiary on behalf of an affiliate.

Bank Secrecy Act and USA PATRIOT Act

The BSA and the PATRIOT Act impose many requirements on financial institutions in the interest of national security and law enforcement. BSA requires banks to maintain records and file suspicious activity reports that are of use to law enforcement and regulators in combating money laundering and other financial crimes. The PATRIOT Act is intended to deny terrorists and criminals the ability to access the U.S. financial services system and places significantly greater requirements on financial institutions. Financial institutions, such as the Company and its subsidiaries, must have a designated BSA Officer, internal controls, independent testing, and training programs commensurate with their size and risk profile. As part of its internal control program, a financial institution is expected to have effective customer due diligence and enhanced due diligence requirements for high-risk customers, as well as processes to prohibit transactions with entities subject to Office of Foreign Asset Control sanctions. Documentation and recordkeeping requirements, as well as system requirements, aimed at identifying and reporting suspicious activity reporting, must increase with the institution's size and complexity. Failure to implement or maintain adequate programs and controls to combat terrorist financing and money laundering may have serious legal, financial, and reputational consequences.

Volcker and Swap Rules

Title VI of the Dodd-Frank Act, commonly known as the Volcker Rule, prohibits the Company from (1) engaging in short-term proprietary trading for our own account, and (2) having certain ownership interests in or relationships with private equity or hedge funds. The fundamental prohibitions of the Volcker Rule apply to banking entities of any size, including the Company and its bank subsidiary. Trading activity remains largely unaffected by the Volcker Rule as most of our trading activity is exempted or excluded from the proprietary trading prohibitions.

Title VII of the Dodd-Frank Act, commonly known as the Swap Rule, subjects nearly all derivative transactions to the regulations of the CFTC or SEC. This includes registration, recordkeeping, reporting, capital, margin and business conduct requirements on swap dealers and major swap participants. Under CFTC and SEC rules, entities transacting in less than \$8 billion in notional value of swaps over any 12-month period are exempt from the definition of and registration as a "swap dealer." The Company currently estimates that the nature and volume of its swaps activity will not require it to register as a swap dealer.

Governmental Policies and Economic Factors

The operations of BOK Financial and its subsidiaries are affected by legislative changes and by the policies of various regulatory authorities and, in particular, the policies of the Federal Reserve Board. The Federal Reserve Board has statutory objectives to maximize employment and maintain price stability. Among the instruments of monetary policy used by the Federal Reserve Board to implement these objectives are: open-market operations in U.S. government securities, changes in the discount rate and federal funds rate on bank borrowings, and changes in reserve requirements on bank deposits. The effect of future changes in such policies on the business and earnings of BOK Financial and its subsidiaries is uncertain.

After experiencing continued economic volatility in 2023, the U.S. economy has shown signs of stabilizing in 2024. Due to greater confidence that inflation is moving sustainably toward the Federal Reserve's target, the Federal Funds rate was reduced by 100 basis points over the last four months of 2024. The housing market showed some signs of recovery, with slight increases in sales and inventory. However, the market remained challenged by high mortgage rates and limited supply. Consumer spending also continues to remain steady despite the Federal Reserve's effort to decrease spending with higher rates for the majority of the year. Despite the volatility caused by the Russia-Ukraine and Israel-Hamas conflicts, oil prices have been more stable this year compared to the fluctuations experienced in 2023. Unemployment increased slightly to 4.0% for December 2024.

Our base case economic forecast for the fourth quarter of 2024 assumed geopolitical conflicts remain isolated. Inflation continues to improve from previous peaks and reaches 2.4% by the end of 2025. There are two additional federal funds rate cuts over the forecasted horizon, bringing the federal funds rate target range to 3.75% to 4.0% at the end of 2025. Job openings continue to normalize, and overall hiring levels decline, causing the national unemployment rate to modestly increase over the next four quarters. Inflation pressures ease and help stabilize real household income, while a restrictive credit environment slows economic activity resulting in below-trend GDP growth. See "Summary of Credit Loss Experience" section in "Management's Discussion and Analysis" for further discussion around our economic forecast.

Foreign Operations

BOK Financial does not engage in operations in foreign countries, nor does it lend to foreign governments.

ITEM 1A. RISK FACTORS

BOK Financial Corporation and its subsidiaries could be adversely affected by risks and uncertainties that could have a material impact on its financial condition and results of operations, as well as on its common stock and other financial instruments. Risk factors which are significant to the Company include, but are not limited to:

Strategic, Compliance, and Regulatory Risk Factors

Adverse factors could impact BOK Financial's ability to implement its operating strategy.

Although BOK Financial has developed an operating strategy which it expects to result in continuing improved financial performance, BOK Financial cannot ensure that it will be successful in fulfilling this strategy or that this operating strategy will be successful. Achieving success is dependent upon a number of factors, many of which are beyond BOK Financial's direct control. Factors that may adversely affect BOK Financial's ability to implement its operating strategy include:

- deterioration of BOK Financial's asset quality;
- deterioration in general economic conditions, especially in BOK Financial's core markets;
- inability to control BOK Financial's non-interest expenses;
- inability to increase non-interest income;
- inability to access capital;
- decreases in net interest margins;
- increases in competition;
- a breach in the security or inoperability of BOK Financial's or its third-party providers' systems; and
- adverse regulatory developments.

Substantial competition could adversely affect BOK Financial.

Banking is a competitive business. BOK Financial competes actively for loan, deposit, and other financial services business in the southwest region of the United States. BOK Financial's competitors include a large number of small and large local and national banks, savings and loan associations, credit unions, trust companies, broker-dealers and underwriters, as well as many financial and non-financial firms that offer services similar to those of BOK Financial. Large national financial institutions have substantial capital, technology, and marketing resources. Such large financial institutions may have greater access to capital at a lower cost than BOK Financial does, which may adversely affect BOK Financial's ability to compete effectively.

BOK Financial has expanded into markets outside of Oklahoma, where it competes with a large number of financial institutions that have an established customer base and greater market share than BOK Financial. With respect to some of its services, BOK Financial competes with non-bank companies that are not subject to regulation. The absence of regulatory requirements may give non-banks a competitive advantage.

The increasingly competitive environment is in part a result of changes in regulation, changes in technology and product delivery systems, and the accelerating pace of consolidation among financial service providers. Our success depends on our ability to respond to the threats and opportunities of financial technology innovations. Developments in "fintech" and crypto-currencies have the potential to disrupt the financial industry and change the way banks do business. Investment in new technology to stay competitive could result in significant costs and increased cybersecurity risk. Our success depends on our ability to adapt to the pace of the rapidly changing technological environment, which is important to retention and acquisition of customers.

Government regulations and political environment could adversely affect BOK Financial.

BOK Financial and BOKF, NA are subject to banking laws and regulations that limit the type of acquisitions and investments that we may make. In addition, certain permitted acquisitions and investments are subject to prior review and approval by banking regulators, including the Federal Reserve, OCC, and FDIC. Banking regulators have broad discretion on whether to approve proposed acquisitions and investments. In deciding whether to approve a proposed acquisition, federal banking regulators will consider, among other things, the effect of the acquisition on competition; the convenience and needs of the communities to be served, including our record of compliance under the Community Reinvestment Act; and our effectiveness in combating money laundering. They will also consider our financial condition and our future prospects, including projected capital ratios and levels; the competence, experience, and integrity of our management; and our record of compliance with laws and regulations.

Regulatory authorities may change their interpretation of these statutes and regulations, including the OCC, our primary regulator, and the CFPB, our regulator for certain designated consumer laws and regulations. Violations of laws and regulations could limit the growth potential of BOK Financial's businesses. As we grow in asset size to above \$50 billion, increases in regulatory expectations and requirements could result in additional compliance and capital costs and regulatory risk.

Political developments, including recent Federal executive and legislative changes, add additional uncertainty to the implementation, scope and timing of changes in the regulatory environment for the banking industry and for the broader economy. We expect the current presidential administration will seek to implement a regulatory reform agenda that is notably different than that of the prior administration, impacting rule-making, supervision, examination, and enforcement priorities of the federal banking agencies. Concern regarding government policies such as federal budgetary matters, including the debt ceiling or prolonged stalemates leading to total or partial governmental shutdowns, may also have adverse economic consequences and create the risk of economic instability or market volatility, with potential negative consequences to our business and financial performance. Additionally, changes in fiscal, monetary, or regulatory policy, including as a result of labor shortages, wage pressures, supply chain disruptions, tariffs, and higher inflation, could increase our compliance costs and adversely affect our business operations and results of operations.

Federal budget deficit concerns and the potential for political conflict over legislation to raise the U.S. government's debt limit may increase the possibility of a default by the U.S. government on its debt obligations, related credit-rating downgrades, or an economic recession in the United States. Many of our investment securities are issued by the U.S. government and government agencies and sponsored entities. As a result of uncertain domestic political conditions, including potential future federal government shutdowns, the possibility of the federal government defaulting on its obligations for a period of time due to debt ceiling limitations or other unresolved political issues, investments in financial instruments issued or guaranteed by the federal government pose liquidity risks. In connection with prior political disputes over U.S. fiscal and budgetary issues leading to the U.S. government shutdown in 2011, S&P lowered its long term sovereign credit rating on the U.S. from AAA to AA+. On August 1, 2023, Fitch Ratings announced its decision to downgrade the U.S. long-term credit ratings from AAA to AA+, but maintained the country credit ceiling at AAA. A further downgrade, or a downgrade by other rating agencies, as well as sovereign debt issues facing the governments of other countries, could have a material adverse impact on financial markets and economic conditions in the U.S. and worldwide.

The effects of climate change and resulting government regulations could adversely affect BOK Financial and BOK Financial customers.

The current and anticipated effects of climate change continue to attract political and social attention. Climate changes present physical and transition risks to BOK Financial, both of which could change over time. Physical risks relate to the harm of people or property arising from acute, climate-related disaster events such as hurricanes or tornadoes, as well as longer-term chronic phenomena such as higher average temperatures. Physical risks specific to BOK Financial include:

- Increases in extreme weather events could damage or destroy the property of BOK Financial or its customers, disrupting operations and causing significant expenditures.
- Significant damages to real properties securing our loans could cause the value of the loan portfolio to contract. Borrowers may be unable to make payments on loans increasing delinquency rates and average loan loss severity.
- Wide-ranging weather disasters, including but not limited to, long periods of drought and rising sea levels, could result in an economic downturn and a decline in market conditions. Liquidity risks could arise as operational needs change for both BOK Financial and its customers.
- We may not have adequate insurance coverage for some potential natural, catastrophic climate change-related events.

Transition risks relate to stresses arising from the shifts in regulatory policies, consumer or business sentiment, or technologies required to limit climate change. Efforts by U.S. Congress, state legislatures, and federal and state regulatory agencies to advance legislative and regulatory initiatives respecting climate change fluctuate with changes in elected officials and may be inconsistent, making compliance costly and challenging. Transition risks specific to BOK Financial include:

- Compliance, operating, maintenance, and remediation costs may require a significant amount of expenditure.
- BOK Financial's credit portfolios include carbon-intensive industries, which could be adversely impacted by the transition to a low-carbon economy. BOK Financial has a long-standing relationship with the energy industry, and the local economies within BOK Financial's geographical footprint have a concentration in energy-related industries. The regulatory impacts on the energy industry could lead to sharp changes in the values of certain assets or liabilities, increase costs, hinder financial results, and shrink the industry. These changes could have a significant effect on the general economic conditions within our footprint.

- Reputational risk may increase with conflicting opinions of stakeholders, including shareholders, customers, and employees, on climate risk.

On March 6, 2024, the SEC adopted new climate-related disclosure rules for U.S. public companies and foreign private issuers. These rules introduce extensive disclosure requirements, increasing reporting costs, risks, and complexity. Challenges include short compliance timelines, interpretive issues, legal liabilities, and global regulatory overlaps. In the midst of legal challenges, the SEC voluntarily stayed implementation of these rules.

Credit Risk Factors

Adverse regional economic developments could negatively affect BOK Financial's business.

At December 31, 2024, loans to businesses and individuals with collateral primarily located in Texas represented approximately 32% of the total loan portfolio, loans to businesses and individuals with collateral primarily located in Oklahoma represented approximately 15% of our total loan portfolio, and loans to businesses and individuals with collateral primarily located in Colorado represented approximately 12% of our total loan portfolio. These geographic concentrations subject the loan portfolio to the general economic conditions within these areas. Poor economic conditions in Texas, Oklahoma, Colorado, or other markets in the southwest region may cause BOK Financial to incur losses associated with higher default rates and decreased collateral values in BOK Financial's loan portfolio. A regional economic downturn could also adversely affect revenue from brokerage and trading activities, mortgage loan originations, and other sources of fee-based revenue.

Extended oil and gas commodity price downturns could negatively affect BOK Financial customers.

At December 31, 2024, 13% of BOK Financial's total loan portfolio is comprised of loans to borrowers in the energy industry. The energy industry is historically cyclical, and prolonged periods of low oil and gas commodity prices could negatively impact borrowers' ability to pay. In addition, the Company does business in several major oil and natural gas producing states including Oklahoma, Texas, and Colorado. The economies of these states could be negatively impacted by prolonged periods of low oil and gas commodity prices resulting in increased credit migration to classified and nonaccruing categories, higher loan loss provisions and risk of credit losses from both energy borrowers and businesses and individuals in those regional economies.

Other adverse economic factors affecting particular industries, including commercial real estate and healthcare, could have a negative effect on BOK Financial customers and their ability to make payments to BOK Financial.

Certain industry-specific economic factors also affect BOK Financial. For example, BOK Financial's loan portfolio includes commercial real estate loans. These types of loans may expose a lender to a higher degree of credit risk of non-payment or loss as commercial real estate loans are subject to cyclical downturns, are generally more sensitive to interest rates, and usually do not fully amortize over the loan term. A downturn in the real estate industry in general or in certain segments of the commercial real estate industry could also have an adverse effect on BOK Financial's operations. The development of remote work or hybrid work models may cause volatility in vacancy rates and rents in certain urban markets. Weakening of the commercial real estate market may increase the likelihood of default of these loans, which could negatively impact our loan portfolio's performance and asset quality. If we are required to liquidate the collateral securing a loan to satisfy the debt during a period of reduced real estate values, we could incur material losses.

Regulatory changes in healthcare may negatively affect our customers. Legislation affecting reimbursement rates along with the continued transition to managed care in place of fee for service payments could affect their ability to pay.

Liquidity, Price, and Interest Rate Risk Factors

Fluctuations in interest rates could adversely affect BOK Financial's business.

BOK Financial's business is highly sensitive to:

- the monetary policies implemented by the Federal Reserve Board, including the discount rate on bank borrowings and changes in reserve requirements, which affect BOK Financial's ability to make loans and the interest rates we may charge;
- changes in prevailing interest rates, due to the dependency of the subsidiary bank on interest income;
- changes in depositor behavior; and
- open market operations in U.S. government securities.

A significant increase in market interest rates, or the perception that an increase may occur, could adversely affect both BOK Financial's ability to originate new loans and BOK Financial's ability to grow. Conversely, a decrease in interest rates could result in acceleration in the payment of loans, including loans underlying BOK Financial's holdings of residential mortgage-backed securities and termination of BOK Financial's mortgage servicing rights. In addition, changes in market interest rates, changes in the relationships between short-term and long-term market interest rates or changes in the relationships between different interest rate indices, could affect the interest rates charged on interest-earning assets differently than the interest rates paid on interest-bearing liabilities. This difference could result in an increase in interest expense relative to interest revenue, which would reduce the Company's net interest income. In a rising interest rate environment, the composition of the deposit portfolio could shift resulting in a mix that is more sensitive to changes in interest rates than is the current mix. Deposit repricing behavior may also differ from our models or from previous rate increases. An increase in market interest rates also could adversely affect the ability of BOK Financial's floating-rate borrowers to meet their higher payment obligations. If this occurred, it could cause an increase in nonperforming assets and net charge-offs which could adversely affect BOK Financial's business.

Changes in mortgage interest rates could adversely affect mortgage banking operations along with mortgage servicing rights as well as BOK Financial's substantial holdings of residential mortgage-backed securities, and brokerage and trading revenue.

BOK Financial derives a substantial amount of revenue from mortgage banking activities, the production and sale of mortgage loans, and the servicing of mortgage loans. In addition, as part of BOK Financial's mortgage banking business, BOK Financial has substantial holdings of mortgage servicing rights. Revenue generated from the production and sale of mortgage loans is affected by mortgage interest rates and government policies related to economic stimulus and home ownership. Falling interest rates tend to increase mortgage lending activities and related revenue while rising interest rates have an opposite effect.

Mortgage servicing revenue is a fee earned over the life of the related loan. However, mortgage servicing rights are assets that are carried at fair value, which are very sensitive to numerous factors with the primary factor being changes in market interest rates. Falling interest rates tend to increase loan prepayments, which may lead to a decrease in the value of related servicing rights. We attempt to manage this risk by maintaining an active hedging program. The primary objective of the Company's hedging program is to provide an offset to changes in the fair value of these rights due to hedgeable risks, primarily changes in market interest rates. Due to numerous unhedgeable factors, hedging strategies may not offset all changes in the fair value of the asset. Such unhedgeable factors include, but are not limited to, changes in customer prepayment or delinquency behavior that is inconsistent with historical actual performance in a similar market environment; changes in the long-term or short-term primary/secondary mortgage spreads; and changes in survey-driven assumptions such as the cost of servicing and discount rates.

We also hold a substantial portfolio of residential mortgage-backed securities issued by U.S. government agencies. The fair value of residential mortgage-backed securities is highly sensitive to changes in interest rates. A significant decrease in interest rates may lead mortgage holders to refinance the mortgages constituting the pool backing the securities subjecting BOK Financial to a risk of prepayment and decreased return on investment due to subsequent reinvestment at lower interest rates. A significant decrease in interest rates may also accelerate premium amortization. Conversely, a significant increase in interest rates may cause mortgage holders to extend the term over which they repay their loans, which delays the Company's opportunity to reinvest funds at higher rates. We mitigate this risk somewhat by investing principally in shorter duration mortgage products which are less sensitive to changes in interest rates; however this strategy may not be successful.

In addition, the Company actively engages in trading activities that provide U.S. government agency residential mortgage-backed securities and related derivative instruments to our customers. Trading activities generate net interest income and trading revenue. Trading revenue and customer hedging revenue varies in response to customer demand. The value of trading securities will increase in response to decreases in interest rates or decrease in response to increases in interest rates and other bond market factors. We mitigate the market risk of holding trading securities through appropriate economic hedging techniques, which may not be effective.

Models may fail to reasonably predict changes in values caused by changes in interest rates, prepayment speeds and other relevant stimuli, which could adversely affect our business or results of operations.

We use quantitative models to assist in measuring risk and predicting changes in the value of financial instruments. The outputs of these models are used to determine hedging strategy related to mortgage servicing rights, mortgage production pipeline, and trading securities. We also use models to estimate the effects of changing interest rates and other market measures in order to adequately structure assets and liabilities to manage interest rate sensitivity. Inaccurate information obtained from these models could result in poor management decisions that lead to an elevated exposure to interest rates which could adversely affect our results of operations.

Market disruptions could impact BOK Financial's funding sources.

BOK Financial's subsidiary bank may rely on other financial institutions and the Federal Home Loan Bank of Topeka as a significant source of funds. Our ability to fund loans, manage our interest rate risk, and meet other obligations depends on funds borrowed from these sources. The inability to borrow funds at market interest rates could have a material adverse effect on our operations. In addition, idiosyncratic factors, as well as other factors outside of BOK Financial's control, such as a general market disruption or an operational problem that affects third parties, could impair the Company's ability to access short-term funding or create an unforeseen outflow of cash due to, among other factors, draws on unfunded commitments or deposit attrition. Withdrawals of brokered or institutional deposits could require us to pay significantly higher interest rates on our retail deposits or on other wholesale funding sources, which would have an adverse impact on our net interest income and net income. Furthermore, changes to the FHLB's underwriting guidelines for wholesale borrowings or lending policies may limit or restrict our ability to borrow, and therefore could have a significant adverse impact on our liquidity. In the event of future turmoil in the banking industry or other idiosyncratic events, there is no guarantee that the U.S. government will invoke the systemic risk exception, create additional liquidity programs, or take any other action to stabilize the banking industry or provide liquidity. The Company's inability to monetize liquid assets or to access short-term funding or capital markets could constrain the Company's ability to make new loans or meet existing lending commitments and could ultimately jeopardize BOK Financial's overall liquidity and capitalization.

Loss of deposits or a change in deposit mix could increase BOK Financial's funding costs.

Deposits are a low cost and stable source of funding. BOK Financial competes with banks and other financial institutions for deposits and as a result, the Company could lose deposits in the future, clients may shift their deposits into higher cost products, or the Company may need to raise interest rates to avoid deposit attrition. Funding costs may also increase if deposits lost are replaced with wholesale funding. Higher funding costs reduce BOK Financial's net interest margin, net interest income, and net income.

In addition, recent events impacting the banking industry, including the bank failures in March and April 2023, have resulted in significant disruption and volatility in the capital markets, reduced current valuations of bank securities, and decreased confidence in banks among depositors and other counterparties as well as investors. A decrease in the supply of deposits or significant increase in competition for deposits could result in substantial increases in costs to retain and service deposits. Increased adoption of consumer banking technology can result in reduced deposit stickiness due to the relative ease with which depositors may transfer deposits to a different depository institution in the event that confidence is lost in BOKF, NA. The cost of resolving the recent bank failures has also prompted the FDIC to issue a special assessment to recover costs to the Deposit Insurance Fund. For information on the FDIC's special assessment, refer to the "Management's Discussion and Analysis of Financial Condition and Results of Operations."

A downgrade in our credit ratings may increase our funding costs and limit our business activities.

We are regularly evaluated by ratings agencies. Our credit ratings are based on a number of factors such as the financial strength of BOKF and BOKF, NA and conditions generally affecting the financial services industry. Many qualitative and quantitative factors are used by the ratings agencies including capital adequacy, liquidity, asset quality, business mix, and earnings. These ratings are subject to change at any time and we may not be able to maintain our current credit ratings. Reductions in one or more of our credit ratings could adversely affect our ability to borrow funds and increase our cost of capital and limit the number of investors or counterparties willing to do business with or lend to us. This could also affect our ability to attract or retain customers, including deposits. In addition, if we were downgraded below investment grade, certain counterparty contracts may require renegotiation or require additional posting of collateral.

Operating and Transaction Risk Factors

Dependence on technology increases cybersecurity, data privacy, and technology failure risk.

The Company is dependent on its technological ability to process, record, and monitor a large number of customer transactions and store and protect a significant amount of sensitive customer information. Our customers' use of our internet-based services, and our customer and regulatory expectations regarding operational and information security and reliability have increased over time. We face compliance risks and costs relating to the data privacy laws existing in multiple jurisdictions. Congress and the legislatures of states in which we operate regularly consider legislation that would impose more stringent data privacy requirements resulting in increased compliance costs.

Cybersecurity risks for financial institutions have increased significantly in recent years in part because of the proliferation of new technologies, the increased use of the internet and mobile technologies to conduct financial transactions, and the increased sophistication and ever changing cyberattack techniques used by organized crime, hackers, terrorists, hostile foreign governments, and other external parties to obtain confidential customer information and misappropriate customer funds, and may disrupt operations through Ransomware. Such parties may seek to gain access to our systems directly or use equipment or security passwords belonging to employees, customers, third-party services providers, or other users of our systems. Accordingly, our operational systems and infrastructure must continue to be safeguarded and monitored for potential failures, disruptions, breakdowns, and cyber attacks.

Our business, financial, accounting, data processing systems, and other operating systems and facilities may stop operating properly or become disabled as a result of a number of factors that may be wholly or partially beyond our control. In addition to cyber attacks, there could be sudden increases in customer transaction volume, electrical or telecommunications outages, extended disruptions in operations or technology, natural disasters, pandemics, and events arising from political or social matters, including terrorist attacks. Third parties with whom we do business or that facilitate our business activities including exchanges, clearing houses, financial intermediaries, or vendors that provide services or security solutions for our operations, could also be sources of operational or information security risk to the Company including breakdowns or failures of their own systems, capacity constraints, or cyber attacks.

Cybersecurity risk management programs are expensive to maintain and will not protect the Company from all risks associated with maintaining the security of customer data from external and internal intrusions, disaster recovery and failures in controls used by our vendors. A material breach of customer data security or operational or system failure may negatively impact our business reputation and cause a loss of customers, result in increased expense to contain the event and/or require that we provide credit monitoring services for or reimburse affected customers, result in regulatory fines, penalties or intervention, or result in litigation, all of which could have a materially adverse effect on our results of operations and financial condition.

Although to date we have not experienced any material losses relating to cyber attacks or other information security breaches or operational failures, there can be no assurance that we will not suffer such losses in the future. Attempts to compromise our cybersecurity are regular and frequent. Our risk and exposure to these matters remains heightened, and as a result the continued development and enhancement of our controls, processes and practices designed to protect and facilitate the recovery of our systems, computers, software, data and networks from attack, damage or unauthorized access remains a high priority for us. As an additional layer of protection, we have purchased network and privacy liability risk insurance coverage. Our cybersecurity insurance may not provide sufficient coverage in the event of a breach or may not be available in the future on acceptable terms.

The development and use of emerging technologies like artificial intelligence, machine learning, and generative artificial intelligence presents risks and challenges that may adversely impact our business.

We continue to evaluate and selectively deploy emerging technologies like AI, machine learning, and generative AI for incorporation into our business. The Company's use of AI and machine learning is subject to risks that algorithms and data sets are flawed or may be insufficient or contain biased information. The legal and regulatory environment relating to these emerging technologies is uncertain and rapidly evolving and includes regulatory schemes targeted specifically at AI as well as provisions in intellectual property, privacy, consumer protection, employment, and other laws applicable to the use of these technologies. These evolving laws and regulations could require changes in our implementation of these emerging technologies and increase our compliance costs and the risk of non-compliance. These same risks apply to our use of third-party service providers who are implementing these tools into the products or services they provide to us.

We depend on third parties for critical components of our infrastructure.

We outsource a significant portion of our information systems, communications, data management, and transaction processing to third parties. We are heavily reliant on a single vendor for many of these functions. These third parties are sources of risk associated with operational errors, system interruptions or breaches, unauthorized disclosure of confidential information, and misuse of intellectual property. If the service providers encounter any of these issues, we could be exposed to disruption of service, reputation damages, and litigation risk that could be material to our business. Temporary outages driven by third-party operational failures do occur from time to time, and generally affect multiple financial institutions at the same time, or multiple industries, depending on the scope of services provided by that third party. The Company has experienced these types of outages, including with our largest service provider. Impacts related to such outages have been immaterial to the Company to date, but future outages could be longer and more impactful, which could be material to our operations and our financial condition.

We may be adversely affected and experience losses related to fraud or theft.

Attempts to commit fraud, including but not limited to, card fraud, check fraud, electronic fraud, wire fraud, social engineering, and phishing attacks, are becoming increasingly more sophisticated and may go undetected by the systems and procedures we have in place to monitor our operations. We have experienced, and may experience again in the future, losses incurred due to customer, employee, or third-party fraud and theft. These losses may be material, negatively affect our results of operations, financial condition or prospects, and may lead to significant reputational risks and other effects. We continue to invest in fraud prevention in the form of people and systems designed to prevent, detect, and mitigate the customer and financial impacts.

Risks Related to an Investment in Our Stock

Although publicly traded, BOK Financial's common stock has substantially less liquidity than the average trading market for a stock quoted on the NASDAQ National Market System.

A relatively small fraction of BOK Financial's outstanding common stock is actively traded. The risks of low liquidity include increased volatility of the price of BOK Financial's common stock. Low liquidity may also limit holders of BOK Financial's common stock in their ability to sell or transfer BOK Financial's shares at the price, time, and quantity desired.

BOK Financial's principal shareholder controls a majority of BOK Financial's common stock.

Mr. George B. Kaiser owns approximately 60% of the outstanding shares of BOK Financial's common stock at December 31, 2024. Mr. Kaiser is able to elect all of BOK Financial's directors and effectively control the vote on all matters submitted to a vote of BOK Financial's common shareholders. Mr. Kaiser's ability to prevent an unsolicited bid for BOK Financial or any other change in control could have an adverse effect on the market price for BOK Financial's common stock. A substantial majority of BOK Financial's directors are not officers or employees of BOK Financial or any of its affiliates. However, because of Mr. Kaiser's control over the election of BOK Financial's directors, he could change the composition of BOK Financial's Board of Directors so that it would not have a majority of outside directors.

Possible future sales of shares by BOK Financial's principal shareholder could adversely affect the market price of BOK Financial's common stock.

Mr. Kaiser has the right to sell shares of BOK Financial's common stock in compliance with the federal securities laws at any time, or from time to time. The federal securities laws will be the only restrictions on Mr. Kaiser's ability to sell. Because of his current control of BOK Financial, Mr. Kaiser could sell large amounts of his shares of BOK Financial's common stock by causing BOK Financial to file a registration statement that would allow him to sell shares more easily. In addition, Mr. Kaiser could sell his shares of BOK Financial's common stock without registration under Rule 144 of the Securities Act. Although BOK Financial can make no predictions as to the effect, if any, that such sales would have on the market price of BOK Financial's common stock, sales of substantial amounts of BOK Financial's common stock, or the perception that such sales could occur, could adversely affect market prices. If Mr. Kaiser sells or transfers his shares of BOK Financial's common stock as a block, another person or entity could become BOK Financial's controlling shareholder.

Statutory restrictions on subsidiary dividends and other distributions and debts of BOK Financial's subsidiaries could limit amounts BOK Financial's subsidiaries may pay to BOK Financial.

A substantial portion of BOK Financial's cash flow typically comes from dividends paid by BOKF, NA. Statutory provisions and regulations restrict the amount of dividends BOKF, NA may pay to BOK Financial without regulatory approval. Management also developed, and the BOKF Board approved, an internal capital policy that is more restrictive than the regulatory capital standards. In the event of liquidation, creditors of the subsidiary bank and other non-bank subsidiaries of BOK Financial are entitled to receive distributions from the assets of that subsidiary before BOK Financial, as holder of an equity interest in the subsidiaries, is entitled to receive any distributions.

General Risk Factors

Our business may be adversely affected if we are unable to hire and retain qualified employees.

An increasing competitive factor in the financial services industry is the ability to attract and retain talented and diverse employees across several lines of business. The transition by many employers to remote work and work-from-home that occurred during the COVID-19 pandemic continues to influence the competition for talent. Employers, now less constrained by physical geography, particularly those in markets with elevated employee compensation, may increasingly compete for our employees.

Adverse global economic factors could have a negative effect on BOK Financial customers and counterparties.

Economic conditions globally could impact BOK Financial's customers and counterparties with which we do business. Global health pandemics, such as the COVID-19 pandemic, may affect economies around the world. The Russia-Ukraine conflict and Israel-Hamas conflict resulted in volatile oil prices in 2023, which have stabilized somewhat in 2024, as well as affected other global economic factors. Continuation of these, and any other geopolitical conflicts that might arise, could negatively affect our financial results.

BOK Financial, its customers and counterparties may be negatively affected by the volatility and uncertainty related to inflation and the effects of inflation. Prolonged periods of inflation may impact our profitability by negatively affecting our fixed costs and expenses, including increasing funding costs and expenses related to talent acquisition and retention. Additionally, inflation may lead to a decrease in consumer purchasing power and negatively impact the need or demand for our products or services. If significant inflation continues, the creditworthiness of our borrowers and their ability to repay loans timely may be affected.

The Company, its customers and counterparties may also be adversely affected by global events, such as natural disasters, and other external events beyond our control, including public health issues, terrorist attacks, and acts of war. These global events may significantly affect long-term and short-term interest rates, energy prices, the value of financial assets, and ultimately economic activity in our primary markets. The adverse effect of these events on the Company may include narrowing of the spread between interest income and interest expense, a reduction in fee income, an increase in credit losses, and a decrease in demand for loans and other products and services.

Our business, financial condition, liquidity and results of operations could be adversely affected by a health pandemic or other health crisis.

A pandemic or other health crisis could destabilize the financial markets and the general economy. Forced shutdowns or regulations limiting business could have an adverse effect on our customers, limiting their ability to satisfy obligations and limiting growth or demand for our loans and other services, which could affect our liquidity, financial condition, and results of operations.

ITEM 1B. UNRESOLVED STAFF COMMENTS

None.

ITEM 1C. CYBERSECURITY***Risk Management and Strategy***

BOK Financial is committed to safeguarding company and client information through protections integrated into all lines of business, support functions, and third-party relationships. To effectively manage cybersecurity risks mentioned in Item 1A, our cybersecurity risk management program evaluates the likelihood and potential damage of internal and external threats. We also evaluate the adequacy of our policies, procedures, and capabilities in place to mitigate cyber risk at least annually.

Each employee and contractor is responsible for the security and confidentiality of company and client information. This expectation is communicated at onboarding and through required annual data security and privacy trainings; frequent internal publications; and annual employee attestations to the Company's Standards of Conduct. BOK Financial regularly conducts risk assessments to evaluate internal controls implemented to prevent and detect data breaches. These controls are aligned with

ISO 27001:2013 and the NIST Cybersecurity Framework Version 2.0 and are frequently monitored to ensure their effectiveness. The controls are routinely tested via tabletop exercises and reviewed by internal auditors.

Vulnerability and penetration assessments are also conducted at least annually by an independent third party. In addition to a strong set of internal controls, the Company has implemented a robust due diligence process for third-party providers prior to executing an agreement. Risk assessments include evaluating the third party's security posture through intelligence feeds, SOC reports, ISO certifications, and self-attestation questionnaires. Third parties processing customer data are contractually required to meet all legal obligations for protecting against anticipated security threats to client data, protecting against unauthorized access to client data, and ensuring proper disposal of client data.

An array of protective technologies have been implemented to detect and respond to indicators of malicious behavior before an incident ever takes place; however, should a cybersecurity incident occur, the Company has incident response and recovery procedures, which include determination of materiality and proper notification and reporting to the appropriate parties. These include legal and regulatory reporting requirements as well as notifications to impacted customers. The Company collaborates with peer financial institutions, local universities, threat intelligence organizations, third-party providers, law enforcement, and our customers to share tactical threat intelligence and best practices in protecting against emerging threats.

Results of cybersecurity risk assessments and tabletop exercises are reported to governance committees and aid in the development of our cybersecurity strategy, which takes into account the Company's strategic objectives and our ability to navigate potential internal and external disruptions. The overarching objective of our cybersecurity strategy is to reduce risk and enhance the resilience of our assets. Four key components support this objective: enabling our cyber defense posture, creating and retaining cyber-aware customers, considering identities at system access, and preparing a cyber-resilient workforce. Our cybersecurity team operates under eight distinct programs, each led by a subject matter expert. Each program has its own strategy, projects, and initiatives designed to achieve the overall strategic objective and its key components.

The collective framework, regulatory compliance requirements, and associated controls are collectively referred to as the ISMS. The ISMS provides a comprehensive structure that supports the Information Security Program designed to safeguard information technology resources, maintain the confidentiality, integrity and availability of data, and manage the resources used to provide technology and security services to the organization.

To date, no cybersecurity threats or incidents have materially affected, or are reasonably likely to affect, the Company including its business strategy, results of operations, or financial condition.

Governance

The Company's cybersecurity program is overseen by the Risk Committee of the Board, which is responsible for ensuring the program is well resourced and able to protect the security and confidentiality of our data and that of our clients. The program is managed by the CISO who reports to the chief risk officer and is reviewed by regulators, as well as internal auditors. The CISO provides quarterly information security updates to the Risk Committee as well as the Company's executive-level Risk Council on cybersecurity programs, policies and controls, efforts to improve security, and responses to cybersecurity events. Annually, the CISO meets with the Risk Committee of the Board of Directors to communicate the Board's responsibilities for cybersecurity and privacy, as well as the cybersecurity program's strategy for addressing emerging risks and regulatory requirements.

The Company's CISO has over 28 years of experience building and operating enterprise security functions, security engineering, and security governance and program management. Prior to joining the Company, the CISO managed an Information Security and Risk Management program within a Fortune 500 energy company that handled a wide variety of information security issues including industrial control system security. The CISO has also served on the board of several academic institutions, professional service organizations, and local non-profits and contributed on many special committees for cybersecurity initiatives.

ITEM 2. PROPERTIES

BOK Financial and its subsidiaries own and lease improved real estate that is carried at \$431 million, net of depreciation and amortization. The Company's principal offices are located in leased premises in the Bank of Oklahoma Tower in Tulsa, Oklahoma. Banking offices are primarily located in Tulsa and Oklahoma City, Oklahoma; Dallas, Fort Worth, Houston and San Antonio, Texas; Albuquerque, New Mexico; Denver, Colorado; Phoenix, Arizona; and Kansas City, Kansas/Missouri. Primary operations facilities are located in Tulsa and Oklahoma City, Oklahoma; Dallas, Texas; and Albuquerque, New Mexico. The Company's facilities are suitable for their respective uses and present needs.

The information set forth in Note 5 to the Company's Notes to Consolidated Financial Statements, which appear elsewhere herein, provides further discussion related to properties.

ITEM 3. LEGAL PROCEEDINGS

The information set forth in Note 14 to the Company's Notes to Consolidated Financial Statements, which appear elsewhere herein, provides discussion related to legal proceedings.

ITEM 4. MINE SAFETY DISCLOSURES

Not applicable.

PART II

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

BOK Financial's \$0.00006 par value common stock is traded on the NASDAQ Stock Market under the symbol BOKF. As of January 31, 2025, common shareholders of record numbered 592 with 64,226,062 shares outstanding.

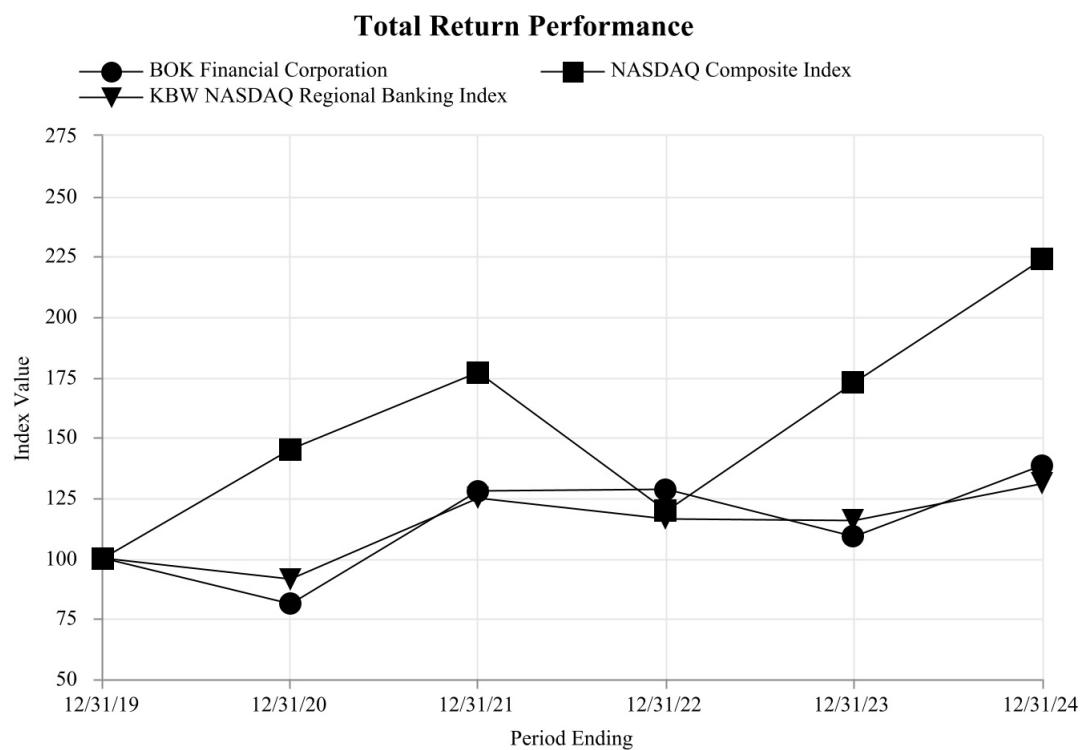
The highest and lowest quarterly closing bid price for shares and cash dividends declared per share of BOK Financial common stock follows:

	First	Second	Third	Fourth
2024:				
Low	\$ 79.77	\$ 85.13	\$ 87.90	\$ 101.06
High	92.00	95.63	107.47	119.63
Cash dividends declared	0.55	0.55	0.55	0.57
2023:				
Low	\$ 81.54	\$ 75.61	\$ 78.38	\$ 63.93
High	105.14	90.40	91.54	86.27
Cash dividends declared	0.54	0.54	0.54	0.55

The information set forth under the heading "Equity Compensation Plan Information" in BOK Financial's 2024 Annual Proxy Statement is incorporated herein by reference.

Shareholder Return Performance Graph

Set forth below is a line graph comparing the change in cumulative shareholder return of the NASDAQ Composite Index and the KBW NASDAQ Regional Banking Index for the period commencing December 31, 2019 and ending December 31, 2024.*



Period Ending December 31,

Index	2019	2020	2021	2022	2023	2024
BOK Financial Corporation	100.00	81.03	127.69	128.44	108.86	138.45
NASDAQ Composite	100.00	144.92	177.06	119.45	172.77	223.87
KBW NASDAQ Regional Banking Index	100.00	91.29	124.74	116.10	115.64	130.90

* Graph assumes value of an investment in the Company's Common Stock for each index was \$100 on December 31, 2019. Cash dividends on Common Stock are assumed to have been reinvested in BOK Financial Common Stock.

The following table provides information with respect to purchases made by or on behalf of the Company or any "affiliated purchaser" (as defined in Rule 10b-18(a)(3) under the Securities Exchange Act of 1934), of the Company's common stock during the three months ended December 31, 2024.

Period	Total Number of Shares Purchased ²	Average Price Paid per Share	Total Number of Shares Purchased as Part of Publicly Announced Plans or Programs ¹	Maximum Number of Shares that May Yet Be Purchased Under the Plans
October 1, 2024 to October 31, 2024	—	\$ —	—	1,542,980
November 1, 2024 to November 30, 2024	617	\$ 105.43	—	1,542,980
December 1, 2024 to December 31, 2024	—	\$ —	—	1,542,980
Total	617	\$ —	—	1,542,980

¹ On November 1, 2022, the Company's board of directors authorized the Company to repurchase up to five million shares of the Company's common stock. As of December 31, 2024, the Company had repurchased 3,457,020 shares under this plan. Future repurchases of the Company's common stock will vary based on market conditions, regulatory limitations, and other factors.

² The Company may repurchase shares from employees to cover the taxes in connection with employee equity compensation.

ITEM 6. [Reserved]

ITEM 7. Management's Discussion and Analysis of Financial Condition and Results of Operations

Table 1 – Consolidated Selected Financial Data

	December 31,		
	2024	2023	2022
Selected Financial Data			
Earnings per share (based on average equivalent shares):			
Basic	\$ 8.14	\$ 8.02	\$ 7.68
Diluted	8.14	8.02	7.68
Percentages (based on daily averages):			
Return on average assets	1.03 %	1.10 %	1.11 %
Return on average shareholders' equity	9.82 %	10.82 %	10.81 %
Dividend payout ratio	27.20 %	27.00 %	27.65 %
Allowance for loan losses to loans	1.16 %	1.16 %	1.04 %
Combined allowance for credit losses to loans ¹	1.38 %	1.36 %	1.31 %

¹ Includes allowance for loan losses and accrual for off-balance sheet credit risk.

Management's Assessment of Operations and Financial Condition

Overview

The following discussion is management's analysis to assist in the understanding and evaluation of the financial condition and results of operations of BOK Financial. This discussion should be read in conjunction with the Consolidated Financial Statements and footnotes and selected financial data presented elsewhere in this report. This section and other sections provide information about our recent financial performance. For information about results of operations for 2023 compared with 2022, see the respective sections in Management's Discussion and Analysis included in our 2023 Form 10-K filed on February 21, 2024.

After experiencing continued economic volatility in 2023, the U.S. economy has shown signs of stabilizing in 2024. Due to greater confidence that inflation is moving sustainably toward the Federal Reserve's target, the Federal Funds rate was reduced by 100 basis points over the last four months of 2024. The housing market showed some signs of recovery, with slight increases in sales and inventory. However, the market remained challenged by high mortgage rates and limited housing supply. Consumer spending also continues to remain steady despite the Federal Reserve's effort to decrease spending with higher rates for the majority of the year. Unemployment increased slightly to 4.0% for December 2024. See "Summary of Credit Loss Experience" section of Management's Discussion and Analysis for additional discussion around our economic forecast.

Performance Summary

Net income for the year ended December 31, 2024, totaled \$523.6 million, or \$8.14 per diluted share, compared with net income of \$530.7 million, or \$8.02 per diluted share, for the year ended December 31, 2023. PPNR¹, a non-GAAP measure, was \$684.7 million for 2024, compared to \$728.9 million in the prior year.

Highlights of 2024 included:

- Net interest income totaled \$1.2 billion for 2024, a \$61.4 million decrease compared to the prior year. Net interest margin was 2.65% for 2024, compared to 2.93% for 2023, primarily due to deposit repricing activity and demand deposit migration into interest-bearing accounts. Average earning assets were \$45.5 billion for 2024, up \$2.6 billion compared to 2023, largely due to increased trading securities and loan balances, as well as expansion of the available for sale securities portfolio.
- Fees and commissions revenue was \$810.0 million for 2024, growing \$28.9 million over 2023. Fiduciary and asset management revenue increased \$23.5 million led by growth in trust fees related to higher market valuations and continued growth in client relationships. Mortgage banking revenue increased \$18.4 million due to higher loan origination volumes. Deposit service charges increased \$10.2 million due to growth in commercial service charges. Brokerage and trading revenue decreased \$22.5 million, largely due to a shift from trading revenue to net interest income on trading securities and decreased customer hedging revenue, primarily attributed to our energy customers. The prior period also included \$10.7 million of insurance brokerage revenue recognized prior to the sale of BOKFI. This decrease was partially offset by a \$6.1 million increase in investment banking revenue driven by growth in underwriting fees and financial advisory fees.
- Other gains, net, were \$79.7 million for 2024, including a \$56.9 million pre-tax gain recognized in connection with the receipt and disposition of Visa C shares received as a result of the Exchange Offer announced by Visa, Inc. in the second quarter of 2024. Other gains, net, for 2023 were \$56.8 million. The fourth quarter of 2023 included a pre-tax \$31.0 million gain, before related professional fees, on the sale of our insurance brokerage and consulting business, BOKFI.
- Losses on available for sale securities totaled \$45.8 million for the year ended December 31, 2024, compared to \$30.6 million in the prior year, due to the strategic repositioning of our portfolio.
- Other operating expense increased \$32.9 million to \$1.4 billion. Personnel expense grew \$44.6 million, reflecting a combination of annual merit increases, salary adjustments, and business expansion. Non-personnel expense decreased \$11.8 million. The current year included \$5.5 million related to updates to the special assessment estimate by the FDIC. Non-personnel expense for 2023 included \$43.8 million related to the initial estimate of the FDIC special assessment expense. Charitable contributions to the BOKF Foundation increased \$10.9 million, largely due to the donation of converted Visa shares to the foundation. Increased data processing and communications, mortgage banking costs, and occupancy and equipment expenses were partially offset by lower intangible asset amortization.

¹ See Explanation and Reconciliation of Non-GAAP Measures in "Non-GAAP Measures" section following.

- The net economic cost of the changes in the fair value of mortgage servicing rights and related economic hedges was \$5.7 million during 2024, compared to \$18.2 million during 2023, due to reduced market volatility throughout 2024.
- The provision for credit losses was \$18.0 million in 2024. Improvement in the forecasted economic outlook during the year was offset by the impact of loan growth and some risk grade migration. Credit quality remained strong with net charge-offs of \$12.9 million or 0.05% of average loans in 2024 compared to \$18.1 million or 0.08% of average loans in 2023. We recorded a \$46.0 million provision for expected credit losses in 2023. The combined allowance for credit losses totaled \$332 million or 1.38% of outstanding loans at December 31, 2024. The combined allowance for credit losses was \$326 million or 1.36% of outstanding loans at December 31, 2023.
- Nonperforming assets not guaranteed by U.S. government agencies were at a historic low, totaling \$42 million at December 31, 2024, a \$96 million decrease compared to December 31, 2023. Potential problem loans increased \$164 million and other loans especially mentioned increased \$76 million.
- Average outstanding loan balances were \$24.2 billion, growing \$1.0 billion over the prior year, mostly driven by growth in commercial loans and loans to individuals. Commercial loans increased \$741 million and loans to individuals increased \$394 million. Period end outstanding loan balances increased \$210 million to \$24.1 billion at December 31, 2024.
- Average deposits increased \$3.1 billion to \$36.3 billion. Average interest-bearing deposits increased \$5.4 billion while average demand deposits decreased \$2.3 billion. Period end deposits increased \$4.2 billion to \$38.2 billion. The loan to deposit ratio was 63% at December 31, 2024, compared to 70% at December 31, 2023.
- Assets under management or administration totaled \$114.6 billion at December 31, 2024, increasing \$9.9 billion over December 31, 2023.
- The Company's tangible common equity ratio¹, a non-GAAP measure, was 9.17% at December 31, 2024, and 8.29% at December 31, 2023. The tangible common equity ratio is primarily based on total shareholders' equity, which includes unrealized gains and losses on available for sale securities. Adjusted for all securities portfolio losses, including the tax adjusted losses in the investment portfolio, the tangible common equity ratio would be 8.86% at December 31, 2024, and 8.02% at December 31, 2023.
- The Company's common equity Tier 1 capital ratio was 13.03% at December 31, 2024. In addition, the Tier 1 capital ratio was 13.04%, total capital ratio was 14.21% and leverage ratio was 9.97% at December 31, 2024. At December 31, 2023, the Tier 1 capital ratio was 12.07%, the total capital ratio was 13.16% and the leverage ratio was 9.45%.
- The Company repurchased 1,028,806 common shares at an average price of \$86.49 per share during 2024 and 2,113,808 common shares at an average price of \$82.85 during 2023.
- The Company paid cash dividends of \$2.22 per common share during 2024, and \$2.17 per common share in 2023.

Net income for the fourth quarter of 2024 totaled \$136.2 million, or \$2.12 per diluted share, compared to \$140.0 million, or \$2.18 per diluted share, for the third quarter of 2024.

Highlights of the fourth quarter of 2024 included:

- Net interest income totaled \$313.0 million, an increase of \$4.9 million over the prior quarter. Net interest margin expanded 7 basis points to 2.75% compared to 2.68%, primarily attributable to liabilities re-pricing lower more quickly than assets during the quarter. For the fourth quarter of 2024, our core net interest margin excluding trading activities¹, a non-GAAP measure, expanded 7 basis points to 3.09% compared to 3.02% in the prior quarter.
- Fees and commissions revenue was \$206.9 million, an increase of \$4.4 million over the prior quarter. Higher brokerage and trading revenue and fiduciary and asset management revenue was partially offset by a decrease in other revenue.
- Other gains, net, were \$5.0 million for the fourth quarter of 2024, compared to \$13.1 million in the third quarter of 2024. The third quarter included a \$3.1 million pre-tax gain related to the sale of converted Visa shares. Unrealized gain on merchant banking investments was \$2.2 million and gain on investments related to deferred compensation was \$2.5 million for the fourth quarter of 2024, compared to \$5.0 million and \$3.8 million, respectively, in the prior quarter.

¹ See Explanation and Reconciliation of Non-GAAP Measures in "Non-GAAP Measures" section following.

- Operating expense increased \$6.6 million to \$347.7 million. Personnel expense grew \$3.9 million due to commissions related to increased trading revenue and business expansion. Non-personnel expense increased \$2.8 million due to higher professional fees and services, business promotion expense, and mortgage banking costs.
- No provision for credit losses was necessary for the fourth quarter of 2024. The provision for credit losses was \$2.0 million in the third quarter of 2024. Net charge-offs remained muted at \$528 thousand, or 0.01% of average loans on an annualized basis, in the fourth quarter.

Critical Accounting Policies & Estimates

The Consolidated Financial Statements and accompanying notes are prepared in accordance with GAAP. The Company's accounting policies are more fully described in Note 1 to the Consolidated Financial Statements. Management makes significant assumptions and estimates in the preparation of the Consolidated Financial Statements and accompanying notes in conformity with GAAP that may be highly subjective, complex, and subject to variability. Actual results could differ significantly from these assumptions and estimates. The following discussion addresses the most critical areas where these assumptions and estimates could affect the financial condition, results of operations, and cash flows of the Company. These critical accounting policies and estimates have been discussed with the appropriate committees of the Board of Directors.

Allowance for Loan Losses and Accrual for Off-Balance Sheet Credit Risk from Loan Commitments

The allowance for loan losses and accrual for off-balance sheet credit risk from unfunded loan commitments represent the portion of amortized cost basis of loans and related unfunded commitments we do not expect to collect over the asset's contractual life, considering past events, current conditions, as well as reasonable and supportable forecasts of future economic conditions. Quarterly, a senior management Allowance Committee assesses the appropriateness of the allowance for loan losses and accrual for off-balance sheet credit risk. This assessment requires judgment about effects of uncertain matters, resulting in a subjective calculation which is inherently imprecise. Because of the subjective forward-looking nature of the calculation, changes in these measures may not directly correlate with actual economic events. In future periods, management judgment may consider new or changed information which may cause significant changes in these allowances in those future periods.

See Note 4 to the Consolidated Financial Statements for the description of the expected credit losses calculation of the allowance for loan losses and accrual for off-balance sheet credit risk from unfunded loan commitments.

For the majority of risk-graded loans, the accruing loans expected credit loss estimate is sensitive to management judgment, particularly probability of default and loss given default assumptions, changes in specific macroeconomic factor forecasts and the probability weight assigned to each economic scenario, and appropriate adjustments.

Significant assumptions and estimates affecting the allowance for loan losses and accrual for off-balance sheet credit risk include:

- Probability of default and loss given default measurements are based on historical data that may not be a good predictor of future performance or actual losses.
- Probability of default is based on risk grades, a subjective measurement of the risk of a loan. This subjective assessment of risk may not reflect actual risk of loss.
- The forecast for each relevant economic loss driver and the probability weighting of economic scenarios are overseen by a senior management Economic Forecast Committee which includes members independent of the allowance process.
- The Allowance Committee may increase or decrease the allowance to reflect risks not captured in the quantitative component. Examples of circumstances that may result in adjustments include, but are not limited to, new lines of business, market conditions that have not been previously encountered, observed changes in credit risk that are not yet reflected in macroeconomic factors, or economic conditions that impact loss given default assumptions.

Although the resulting expected credit loss estimate represents management's best estimates at the time, actual credit losses will differ from management's estimate. Portfolio composition will change over time, actual economic conditions will differ from probability-weighted assumptions, borrower-specific circumstances will change, as well as other factors. Differences between actual losses and management's estimates may materially affect the Company's results of operations.

We describe critical elements affecting our estimate of expected credit loss in the "Summary of Credit Loss Experience" section of Management's Discussion and Analysis. While it is challenging to evaluate the allowance impact for a change in a particular input, results of such an analysis demonstrate how the quantitative element of the allowance behaves under different conditions. The sensitivity to management's economic scenario weighting may be quantified by comparing the results of weighting each economic scenario at 100%. For example, compared to a 100% Base Case scenario, a 100% Downside case would result in an additional \$192 million in quantitative reserve, while a 100% Upside Case would result in \$24 million less in quantitative reserve at December 31, 2024. Such sensitivity calculations do not necessarily reflect the nature and extent of future changes in the related allowance for a number of reasons including (1) management's weighting of multiple forecasted economic scenarios in estimating expected credit losses; (2) management's predictions of future economic trends and relationships among the scenarios may differ from actual events; and (3) management's application of subjective measures to modeled results when appropriate.

Fair Value Measurement

Certain assets and liabilities are recorded at fair value in the Consolidated Financial Statements. Fair value is defined by applicable accounting guidance as the price to sell an asset or transfer a liability in an orderly transaction between market participants in the principal markets for the given asset or liability at the measurement date based on market conditions at that date. An orderly transaction assumes exposure to the market for a customary period for marketing activities prior to the measurement date and not a forced liquidation or distressed sale.

A hierarchy for fair value has been established that prioritizes the inputs of valuation techniques used to measure fair value into three broad categories: unadjusted quoted prices in active markets for identical assets or liabilities (Level 1), other observable inputs that can be observed either directly or indirectly (Level 2), and unobservable inputs for assets or liabilities (Level 3). Fair value may be recorded for certain assets and liabilities every reporting period on a recurring basis or under certain circumstances on a non-recurring basis. Fair value measurements of significant assets or liabilities that are based on unobservable inputs (Level 3) are considered Critical Accounting Policies and Estimates. Additional discussion of fair value measurement and disclosure is included in Notes 7 and 19 to the Consolidated Financial Statements.

Mortgage Servicing Rights

We have a significant investment in MSRs. Our MSRs are primarily retained from sales in the secondary market of residential mortgage loans we have originated or purchased from correspondent lenders. MSRs may be purchased from other lenders. Both originated and purchased MSRs are initially recognized at fair value. We carry all MSRs at fair value. Changes in fair value are recognized in earnings as they occur.

MSRs are not traded in active markets. The fair value of MSRs is determined by discounting the projected cash flows. Certain significant assumptions and estimates used in valuing MSRs are based on current market sources including projected prepayment speeds, assumed servicing costs, earnings on escrow deposits, ancillary income and discount rates. Assumptions used to value our MSRs are considered significant unobservable inputs and represent our best estimate of assumptions that market participants would use to value this asset. A separate third-party model is used to estimate prepayment speeds based on interest rates, housing turnover rates, estimated loan curtailment, anticipated defaults, and other relevant factors. The prepayment model is updated periodically for changes in market conditions and adjusted to better correlate with actual performance of our servicing portfolio. The discount rate is based on benchmark rates for mortgage loans plus a market spread expected by investors in servicing rights. Significant assumptions used to determine the fair value of our MSRs are presented in Note 7 to the Consolidated Financial Statements. At least quarterly, we request estimates of fair value from outside sources to corroborate the results of the valuation model.

The assumptions used in this model are primarily based on mortgage interest rates. Evaluation of the effect of a change in one assumption without considering the effect of that change on other assumptions is not meaningful. Considering all related assumptions, we expect a 50 basis point parallel rate increase to increase the fair value of our servicing rights by \$9.7 million. We expect a \$12.0 million decrease in the fair value of our MSRs from a 50 basis point parallel rate decrease.

Results of Operations

Net Interest Income and Net Interest Margin

2024 Net Interest Income

Net interest income is the interest earned on debt securities, loans, and other interest-earning assets less interest paid for interest-bearing deposits and other borrowings. The net interest margin is calculated by dividing tax-equivalent net interest income by average interest-earning assets. Net interest spread is the difference between the average rate earned on interest-earning assets and the average rate paid on interest-bearing liabilities. Net interest margin is typically greater than net interest spread due to interest income earned on assets funded by non-interest bearing liabilities such as demand deposits and equity.

Tax-equivalent net interest income totaled \$1.2 billion for 2024, a decrease of \$61.1 million compared to the prior year. Net interest income was reduced \$58.0 million due to changes in interest rates. Net interest income decreased \$3.1 million from growth in average assets and interest-bearing deposit balances, partially offset by lower wholesale borrowings. Table 3 shows the effects on net interest income due to changes in average balances and interest rates for the various types of earning assets and interest-bearing liabilities. In addition, see the Annual Financial Summary of consolidated daily average balances, yields and rates as shown in Table 2.

Net interest margin was 2.65% for 2024 and 2.93% for 2023. Our core net interest margin excluding trading activities ¹, a non-GAAP measure, was 3.01% compared to 3.31% in the prior year. In response to rising inflation, the Federal Reserve increased the federal funds rate 525 basis points during 2022 and 2023. The resulting impact on market interest rates increased net interest margin at first as our earning assets, led by our significant percentage of variable-rate commercial loans, repriced at a higher rate and faster pace than our interest-bearing liabilities. Throughout 2023 and 2024, we have experienced margin compression reflecting deposit repricing activity and demand deposit migration into interest-bearing accounts. This compression began to slow in September 2024, following a series of rate cuts totaling 100 basis points through the end of the year. The tax-equivalent yield on earning assets was 5.75% for 2024, compared to 5.38% in 2023. Loan yields increased 24 basis points to 7.32%. The available for sale securities portfolio yield increased 63 basis points to 3.69%, and the yield on trading securities grew 37 basis points to 5.11%.

Funding costs increased 58 basis points compared to 2023. The cost of interest-bearing deposits increased 89 basis points. The cost of other short-term borrowings increased 17 basis points while the cost of funds purchased and repurchase agreements decreased 45 basis points. The benefit to net interest margin from earning assets funded by non-interest bearing liabilities was 91 basis points for 2024, compared to 98 basis points for 2023.

Average earning assets for 2024 increased \$2.6 billion, or 6%, over 2023. Average trading securities increased \$1.1 billion. Average loans, net of allowance for loan losses, increased \$1.0 billion, largely due to growth in commercial loans and loans to individuals. The average balance of available for sale securities, which consists largely of residential and commercial mortgage-backed securities guaranteed by U.S. government agencies, increased \$860 million.

Total average deposits increased \$3.1 billion over the prior year, including a \$5.4 billion increase in interest-bearing deposits, partially offset by a \$2.3 billion decrease in average demand deposit balances. Average short-term borrowings decreased \$1.1 billion.

Our overall objective is to manage the Company's balance sheet for changes in interest rates as described in the Market Risk section of this report. Approximately 82% of our commercial and commercial real estate loan portfolios are either variable rate loans or fixed rate loans that will reprice within one year. These loans are funded primarily by deposit accounts that are either non-interest bearing or that reprice more slowly than the loans. The result is a balance sheet that would be asset-sensitive which means that assets generally reprice more quickly than liabilities. One of the strategies that we use to manage toward a relative rate-neutral position is to purchase fixed rate residential mortgage-backed securities issued primarily by U.S. government agencies and fund them with market rate sensitive liabilities. The liability-sensitive nature of this strategy provides an offset to the asset-sensitive characteristics of our loan portfolio. We also may use derivative instruments to manage our interest rate risk.

The effectiveness of these strategies is reflected in the overall change in net interest income due to changes in interest rates as shown in Table 3 and in the interest rate sensitivity projections as shown in the Market Risk section of this report.

¹ See Explanation and Reconciliation of Non-GAAP Measures in "Non-GAAP Measures" section following.

Table 2 - Annual Financial Summary

Consolidated Daily Average Balances, Average Yields and Rates

(Dollars in thousands, except per share data)

	Year Ended		
	December 31, 2024		
	Average Balance	Revenue/Expense	Yield/Rate ¹
Assets			
Interest-bearing cash and cash equivalents	\$ 545,020	\$ 28,234	5.18 %
Trading securities	5,683,573	288,471	5.11 %
Investment securities	2,122,836	30,105	1.42 %
Available for sale securities	12,801,565	490,867	3.69 %
Fair value option securities	19,180	761	3.66 %
Restricted equity securities	403,519	32,903	8.15 %
Residential mortgage loans held for sale	80,528	5,062	6.17 %
Loans	24,165,781	1,769,208	7.32 %
Allowance for loan losses	(283,164)		
Loans, net of allowance	23,882,617	1,769,208	7.41 %
Total earning assets	45,538,838	2,645,611	5.75 %
Receivable on unsettled securities sales	244,951		
Cash and other assets	4,965,709		
Total assets	\$ 50,749,498		
Liabilities and equity			
Interest-bearing deposits:			
Transaction	\$ 23,567,473	\$ 861,538	3.66 %
Savings	828,683	4,845	0.58 %
Time	3,506,652	159,346	4.54 %
Total interest-bearing deposits	27,902,808	1,025,729	3.68 %
Funds purchased and repurchase agreements	1,295,993	52,371	4.04 %
Other borrowings	6,208,654	338,390	5.45 %
Subordinated debentures	131,163	9,216	7.03 %
Total interest-bearing liabilities	35,538,618	1,425,706	4.01 %
Non-interest bearing demand deposits	8,417,151		
Due on unsettled securities purchases	417,972		
Other liabilities	1,041,590		
Total equity	5,334,167		
Total liabilities and equity	\$ 50,749,498		
Tax-equivalent net interest income		\$ 1,219,905	1.74 %
Tax-equivalent net interest income to earning assets			2.65 %
Less tax-equivalent adjustment		9,147	
Net interest income		1,210,758	
Provision for credit losses		18,000	
Other operating revenue		839,641	
Other operating expense		1,365,755	
Net income before taxes		666,644	
Federal and state income taxes		143,091	
Net income		523,553	
Net income (loss) attributable to non-controlling interests		(16)	
Net income attributable to BOK Financial Corporation shareholders	\$ 523,569		
Earnings Per Average Common Share Equivalent:			
Net income:			
Basic		\$ 8.14	
Diluted		\$ 8.14	

¹ Yield calculations are shown on a tax equivalent basis at the statutory federal and state rates for the periods presented. The yield calculations exclude security trades that have been recorded on trade date with no corresponding interest income and the unrealized gains and losses. The yield calculation also includes average loan balances for which the accrual of interest has been discontinued and are net of unearned income. Yield/rate calculations are generally based on the conventions that determine how interest income and expense is accrued.

Table 2 - Annual Financial Summary (continued)

Consolidated Daily Average Balances, Average Yields and Rates

(Dollars in thousands, except per share data)

Year Ended

	December 31, 2023			December 31, 2022		
	Average Balance	Revenue/Expense	Yield/Rate ¹	Average Balance	Revenue/Expense	Yield/Rate ¹
Assets						
Interest-bearing cash and cash equivalents	\$ 632,289	\$ 32,353	5.12 %	\$ 801,180	\$ 11,552	1.44 %
Trading securities	4,559,012	216,269	4.74 %	4,723,130	115,295	2.24 %
Investment securities	2,368,749	34,043	1.44 %	1,493,322	24,490	1.64 %
Available for sale securities	11,941,222	388,755	3.06 %	11,643,103	249,361	2.07 %
Fair value option securities	150,847	7,760	5.06 %	64,776	2,145	3.40 %
Restricted equity securities	387,224	29,683	7.67 %	180,760	8,282	4.58 %
Residential mortgage loans held for sale	69,280	4,341	6.12 %	139,553	6,027	4.31 %
Loans	23,125,349	1,638,071	7.08 %	21,279,187	983,413	4.62 %
Allowance for loan losses	(258,300)			(245,915)		
Loans, net of allowance	22,867,049	1,638,071	7.16 %	21,033,272	983,413	4.68 %
Total earning assets	42,975,672	2,351,275	5.38 %	40,079,096	1,400,565	3.42 %
Receivable on unsettled securities sales	222,004			310,974		
Cash and other assets	5,046,478			6,634,566		
Total assets	\$ 48,244,154			\$ 47,024,636		
Liabilities and equity						
Interest-bearing deposits:						
Transaction	\$ 19,223,863	\$ 540,068	2.81 %	\$ 20,550,624	\$ 108,956	0.53 %
Savings	901,008	2,913	0.32 %	969,279	489	0.05 %
Time	2,354,511	83,616	3.55 %	1,446,613	12,304	0.85 %
Total interest-bearing deposits	22,479,382	626,597	2.79 %	22,966,516	121,749	0.53 %
Funds purchased and repurchase agreements	2,653,654	119,018	4.49 %	1,265,045	13,158	1.04 %
Other borrowings	5,979,095	315,717	5.28 %	1,628,972	39,325	2.41 %
Subordinated debentures	131,155	8,952	6.83 %	131,206	6,490	4.95 %
Total interest-bearing liabilities	31,243,286	1,070,284	3.43 %	25,991,739	180,722	0.70 %
Non-interest bearing demand deposits	10,725,452			14,884,765		
Due on unsettled securities purchases	388,353			451,530		
Other liabilities	979,685			879,691		
Total equity	4,907,378			4,816,911		
Total liabilities and equity	\$ 48,244,154			\$ 47,024,636		
Tax-equivalent net interest income	\$ 1,280,991		1.95 %	\$ 1,219,843		2.72 %
Tax-equivalent net interest income to earning assets			2.93 %			2.98 %
Less tax-equivalent adjustment	8,811			8,463		
Net interest income	1,272,180			1,211,380		
Provision for credit losses	46,000			30,000		
Other operating revenue	789,949			643,257		
Other operating expense	1,332,881			1,164,480		
Net income before taxes	683,248			660,157		
Federal and state income taxes	152,115			139,864		
Net income	531,133			520,293		
Net income attributable to non-controlling interests	387			20		
Net income attributable to BOK Financial Corporation shareholders	\$ 530,746			\$ 520,273		
Earnings Per Average Common Share Equivalent:						
Net income:						
Basic	\$ 8.02			\$ 7.68		
Diluted	\$ 8.02			\$ 7.68		

¹ Yield calculations are shown on a tax equivalent basis at the statutory federal and state rates for the periods presented. The yield calculations exclude security trades that have been recorded on trade date with no corresponding interest income and the unrealized gains and losses. The yield calculation also includes average loan balances for which the accrual of interest has been discontinued and are net of unearned income. Yield/rate calculations are generally based on the conventions that determine how interest income and expense is accrued.

Table 3 – Annual Volume/Rate Analysis
(In thousands)

	Year Ended			Year Ended		
	December 31, 2024 / 2023			December 31, 2023 / 2022		
	Change	Volume	Yield / Rate	Change	Volume	Yield / Rate
Tax-equivalent interest revenue:						
Interest-bearing cash and cash equivalents	\$ (4,119)	\$ (4,483)	\$ 364	\$ 20,801	\$ (5,557)	\$ 26,358
Trading securities	72,202	53,232	18,970	100,974	(20,136)	121,110
Investment securities	(3,938)	(3,773)	(165)	9,553	12,559	(3,006)
Available for sale securities	102,112	21,205	80,907	139,394	16,127	123,267
Fair value option securities	(6,999)	(5,778)	(1,221)	5,615	3,815	1,800
Restricted equity securities	3,220	2,065	1,155	21,401	13,269	8,132
Residential mortgage loans held for sale	721	682	39	(1,686)	(3,592)	1,906
Loans	131,137	74,649	56,488	654,658	108,241	546,417
Total tax-equivalent interest revenue	294,336	137,799	156,537	950,710	124,726	825,984
Interest expense:						
Transaction deposits	321,470	140,061	181,409	431,112	(22,237)	453,349
Savings deposits	1,932	(321)	2,253	2,424	(114)	2,538
Time deposits	75,730	46,661	29,069	71,312	19,985	51,327
Funds purchased and repurchase agreements	(66,647)	(57,832)	(8,815)	105,860	38,329	67,531
Other borrowings	22,673	12,315	10,358	276,392	167,239	109,153
Subordinated debentures	264	1	263	2,462	(4)	2,466
Total interest expense	355,422	140,885	214,537	889,562	203,198	686,364
Tax-equivalent net interest income	(61,086)	(3,086)	(58,000)	61,148	(78,472)	139,620
Change in tax-equivalent adjustment	336			348		
Net interest income	\$ (61,422)			\$ 60,800		

¹ Changes attributable to both volume and yield/rate are allocated to both volume and yield/rate on an equal basis.

Fourth Quarter 2024 Net Interest Income

Tax-equivalent net interest income totaled \$315.5 million for the fourth quarter of 2024, an increase of \$5.0 million over the third quarter of 2024. Net interest margin expanded 7 basis point to 2.75% for the fourth quarter of 2024, compared to 2.68% for the third quarter of 2024, primarily attributable to liabilities repricing lower more quickly than assets during the quarter. For the fourth quarter of 2024, our core net interest margin excluding trading activities¹, a non-GAAP measure, expanded 7 basis points to 3.09% compared to 3.02% in the prior quarter.

Average earning assets for the fourth quarter of 2024 decreased \$536 million compared to the third quarter of 2024. Average loans, net of allowance for loan losses, decreased \$277 million, largely due to reduced commercial and commercial real estate loan balances. Average trading securities decreased \$165 million. Average interest-bearing deposits increased \$954 million, primarily from interest-bearing transaction accounts. Funds purchased and repurchase agreements grew \$60 million, while average other borrowings decreased \$1.9 billion.

The tax-equivalent yield on earning assets was 5.59% for the fourth quarter of 2024, a decrease of 30 basis points compared to the third quarter of 2024, in response to the rate cuts made by the Federal Reserve. The loan portfolio yield decreased 46 basis points to 7.01%, while the yield on available for sale securities increased 6 basis points to 3.82% due to repricing at higher rates. The yield on trading securities decreased 46 basis points to 4.90% and the yield on interest-bearing cash and cash equivalents decreased 73 basis points to 4.60%.

Funding costs were 3.69%, a decrease of 42 basis points compared to the third quarter of 2024. The cost of interest-bearing deposits decreased 31 basis points to 3.48%. The cost of funds purchased and repurchase agreements decreased 11 basis points to 3.78%, while the cost of other borrowings decreased 60 basis points to 4.95%. The benefit to net interest margin from earning assets funded by non-interest bearing liabilities was 85 basis points in the fourth quarter of 2024 and 90 basis points in the third quarter of 2024.

¹ See Explanation and Reconciliation of Non-GAAP Measures in "Non-GAAP Measures" section following.

Table 4 - Quarterly Financial Summary

Consolidated Daily Average Balances, Average Yields and Rates

(Dollars in thousands, except per share data)

	Three Months Ended					
	December 31, 2024			September 30, 2024		
	Average Balance	Revenue/Expense	Yield/Rate ¹	Average Balance	Revenue/Expense	Yield/Rate ¹
Assets						
Interest-bearing cash and cash equivalents	\$ 546,955	\$ 6,322	4.60 %	\$ 531,811	\$ 7,131	5.33 %
Trading securities	5,636,949	68,817	4.90 %	5,802,448	76,498	5.36 %
Investment securities	2,037,072	7,256	1.42 %	2,094,408	7,406	1.41 %
Available for sale securities	12,969,630	127,803	3.82 %	12,939,422	125,555	3.76 %
Fair value option securities	18,384	183	3.70 %	19,095	189	3.69 %
Restricted equity securities	338,236	6,427	7.60 %	410,800	8,426	8.20 %
Residential mortgage loans held for sale	87,353	1,296	5.85 %	95,742	1,495	6.15 %
Loans	24,024,544	423,487	7.01 %	24,304,884	455,995	7.47 %
Allowance for loan losses	(283,685)			(287,227)		
Loans, net of allowance	23,740,859	423,487	7.10 %	24,017,657	455,995	7.55 %
Total earning assets	45,375,438	641,591	5.59 %	45,911,383	682,695	5.89 %
Receivable on unsettled securities sales	284,793			216,158		
Cash and other assets	4,954,955			5,029,494		
Total assets	\$ 50,615,186			\$ 51,157,035		
Liabilities and equity						
Interest-bearing deposits:						
Transaction	\$ 24,992,464	\$ 214,868	3.42 %	\$ 23,986,697	\$ 227,767	3.78 %
Savings	818,210	1,213	0.59 %	820,980	1,232	0.60 %
Time	3,629,882	41,643	4.56 %	3,678,964	42,129	4.56 %
Total interest-bearing deposits	29,440,556	257,724	3.48 %	28,486,641	271,128	3.79 %
Funds purchased and repurchase agreements	1,076,400	10,231	3.78 %	1,016,688	9,932	3.89 %
Other borrowings	4,489,870	55,883	4.95 %	6,366,046	88,774	5.55 %
Subordinated debentures	131,185	2,241	6.80 %	131,155	2,357	7.15 %
Total interest-bearing liabilities	35,138,011	326,079	3.69 %	36,000,530	372,191	4.11 %
Non-interest bearing demand deposits	8,378,558			8,273,656		
Due on unsettled securities purchases	472,334			348,585		
Other liabilities	1,047,983			1,084,458		
Total equity	5,578,300			5,449,806		
Total liabilities and equity	\$ 50,615,186			\$ 51,157,035		
Tax-equivalent net interest income	\$ 315,512	1.90 %		\$ 310,504	1.78 %	
Tax-equivalent net interest income to earning assets			2.75 %			2.68 %
Less tax-equivalent adjustment	2,466			2,385		
Net interest income	313,046			308,119		
Provision for credit losses	—			2,000		
Other operating revenue	210,044			208,192		
Other operating expense	347,656			341,025		
Net income before taxes	175,434			173,286		
Federal and state income taxes	39,280			33,313		
Net income	136,154			139,973		
Net income (loss) attributable to non-controlling interests	—			(26)		
Net income attributable to BOK Financial Corp. shareholders	\$ 136,154			\$ 139,999		
Earnings Per Average Common Share Equivalent:						
Basic	\$ 2.12			\$ 2.18		
Diluted	\$ 2.12			\$ 2.18		

¹ Yield calculations are shown on a tax equivalent basis at the statutory federal and state rates for the periods presented. The yield calculations exclude security trades that have been recorded on trade date with no corresponding interest income and the unrealized gains and losses. The yield calculation also includes average loan balances for which the accrual of interest has been discontinued and are net of unearned income. Yield/rate calculations are generally based on the conventions that determine how interest income and expense is accrued

Table 4 - Quarterly Financial Summary (continued)

Consolidated Daily Average Balances, Average Yields and Rates

Three Months Ended											
June 30, 2024			March 31, 2024			December 31, 2023					
Average Balance	Revenue /Expense	Yield/ Rate ¹	Average Balance	Revenue /Expense	Yield/ Rate ¹	Average Balance	Revenue /Expense	Yield/ Rate ¹	Average Balance	Revenue /Expense	Yield/ Rate ¹
\$ 533,760	\$ 7,776	5.86 %	\$ 567,680	\$ 7,005	4.96 %	\$ 605,839	\$ 8,096	5.30 %			
5,922,891	74,856	5.06 %	5,371,209	68,300	5.12 %	5,448,403	69,013	5.05 %			
2,151,079	7,589	1.41 %	2,210,040	7,854	1.42 %	2,264,194	8,058	1.42 %			
12,755,865	123,916	3.71 %	12,537,981	113,593	3.48 %	12,063,398	105,556	3.27 %			
19,170	194	3.68 %	20,080	195	3.59 %	20,086	199	3.57 %			
453,303	9,192	8.11 %	412,376	8,858	8.59 %	432,780	8,670	8.01 %			
81,371	1,348	6.50 %	57,402	923	6.25 %	61,146	1,036	6.59 %			
24,385,153	449,142	7.41 %	23,948,567	440,584	7.40 %	23,705,108	439,808	7.36 %			
(283,246)			(278,449)			(273,717)					
24,101,907	449,142	7.49 %	23,670,118	440,584	7.48 %	23,431,391	439,808	7.45 %			
46,019,346	674,013	5.80 %	44,846,886	647,312	5.73 %	44,327,237	640,436	5.64 %			
171,344			307,389			276,856					
5,004,509			4,873,297			5,109,577					
\$ 51,195,199			\$ 50,027,572			\$ 49,713,670					
\$ 23,006,204	\$ 215,122	3.76 %	\$ 22,264,259	\$ 203,781	3.68 %	\$ 20,449,370	\$ 177,475	3.44 %			
832,704	1,196	0.58 %	843,037	1,204	0.57 %	845,705	1,132	0.53 %			
3,427,336	38,435	4.51 %	3,287,179	37,139	4.54 %	3,002,252	31,242	4.13 %			
27,266,244	254,753	3.76 %	26,394,475	242,124	3.69 %	24,297,327	209,849	3.43 %			
1,838,323	19,544	4.28 %	1,258,044	12,664	4.05 %	2,476,973	29,915	4.79 %			
7,151,228	99,193	5.58 %	6,844,633	94,540	5.56 %	7,120,963	99,542	5.55 %			
131,156	2,306	7.07 %	131,154	2,312	7.09 %	131,151	2,343	7.09 %			
36,386,951	375,796	4.15 %	34,628,306	351,640	4.08 %	34,026,414	341,649	3.98 %			
8,386,979			8,631,416			9,378,886					
351,199			499,936			363,358					
920,427			1,112,947			1,008,035					
5,149,643			5,154,967			4,936,977					
\$ 51,195,199			\$ 50,027,572			\$ 49,713,670					
\$ 298,217	1.65 %		\$ 295,672	1.65 %		\$ 298,787	1.66 %				
	2.56 %			2.61 %			2.64 %				
2,196			2,100			2,112					
296,021			293,572			296,675					
8,000			8,000			6,000					
259,704			161,701			204,883					
336,690			340,384			384,083					
211,035			106,889			111,475					
47,303			23,195			28,953					
163,732			83,694			82,522					
19			(9)			(53)					
\$ 163,713			\$ 83,703			\$ 82,575					
\$ 2.54			\$ 1.29			\$ 1.26					
\$ 2.54			\$ 1.29			\$ 1.26					

¹ Yield calculations are shown on a tax equivalent basis at the statutory federal and state rates for the periods presented. The yield calculations exclude security trades that have been recorded on trade date with no corresponding interest income and the unrealized gains and losses. The yield calculation also includes average loan balances for which the accrual of interest has been discontinued and are net of unearned income. Yield/rate calculations are generally based on the conventions that determine how interest income and

Table 5 – Quarterly Volume/Rate Analysis
(In thousands)

	Three Months Ended		
	Dec. 31, 2024 / Sep. 30, 2024		
	Change	Volume	Yield / Rate
Tax-equivalent interest revenue:			
Interest-bearing cash and cash equivalents	\$ (809)	\$ 185	\$ (994)
Trading securities	(7,681)	(1,190)	(6,491)
Investment securities	(150)	(203)	53
Available for sale securities	2,248	238	2,010
Fair value option securities	(6)	(6)	—
Restricted equity securities	(1,999)	(1,674)	(325)
Residential mortgage loans held for sale	(199)	(130)	(69)
Loans	(32,508)	(4,834)	(27,674)
Total tax-equivalent interest revenue	(41,104)	(7,614)	(33,490)
Interest expense:			
Transaction deposits	(12,899)	9,182	(22,081)
Savings deposits	(19)	(1)	(18)
Time deposits	(486)	(524)	38
Funds purchased and repurchase agreements	299	582	(283)
Other borrowings	(32,891)	(24,732)	(8,159)
Subordinated debentures	(116)	—	(116)
Total interest expense	(46,112)	(15,493)	(30,619)
Tax-equivalent net interest income	5,008	7,879	(2,871)
Change in tax-equivalent adjustment	81		
Net interest income	\$ 4,927		

¹ Changes attributable to both volume and yield/rate are allocated to both volume and yield/rate on an equal basis.

Other Operating Revenue

2024 Other Operating Revenue

Other operating revenue was \$839.6 million for 2024, an increase of \$49.7 million, or 6%, compared to 2023.

Table 6 – Other Operating Revenue

(Dollars in thousands)

	Year Ended December 31,		2024 vs. 2023		2024 vs. 2023		Year Ended December 31,		2023 vs. 2022		2023 vs. 2022	
					% Increase (Decrease)						% Increase (Decrease)	
	2024	2023	Increase (Decrease)	Percent (Decrease)	2022	2023 vs. 2022	2022	2023 vs. 2022	2022	Percent (Decrease)		
Brokerage and trading revenue	\$ 218,092	\$ 240,610	\$ (22,518)	(9) %	\$ 140,978	\$ 99,632				71 %		
Transaction card revenue	108,865	106,858	2,007	2 %	104,266	2,592				2 %		
Fiduciary and asset management revenue	230,860	207,318	23,542	11 %	196,326	10,992				6 %		
Deposit service charges and fees	118,745	108,514	10,231	9 %	110,636	(2,122)				(2) %		
Mortgage banking revenue	74,107	55,698	18,409	33 %	49,365	6,333				13 %		
Other revenue	59,354	62,120	(2,766)	(4) %	55,642	6,478				12 %		
Total fees and commissions	810,023	781,118	28,905	4 %	657,213	123,905				19 %		
Other gains, net	79,726	56,795	22,931		N/A	123				56,672		N/A
Loss on derivatives, net	(22,461)	(9,921)	(12,540)		N/A	(73,011)				63,090		N/A
Gain (loss) on fair value option securities, net	(256)	(4,292)	4,036		N/A	(20,358)				16,066		N/A
Change in fair value of mortgage servicing rights	18,437	(3,115)	21,552		N/A	80,261				(83,376)		N/A
Loss on available for sale securities, net	(45,828)	(30,636)	(15,192)		N/A	(971)				(29,665)		N/A
Total other operating revenue	\$ 839,641	\$ 789,949	\$ 49,692	6 %	\$ 643,257	\$ 146,692				23 %		

Fees and commissions revenue

Diversified sources of fees and commissions revenue are a significant part of our business strategy and represented 40% of combined net interest income before provision for credit losses and fees and commission revenue. We believe that a variety of fee revenue sources provides diversification to changes resulting from market or economic conditions such as interest rates, values in the equity markets, commodity prices and consumer spending, all of which can be volatile. Many of these economic factors, such as decreasing interest rates, that we expect will result in a decline in net interest income or fiduciary and asset management revenue may also increase mortgage banking production volumes and related trading. The velocity of changes in market conditions and interest rates may result in timing differences between when offsetting impacts and benefits are realized. Generally, for operating revenues not as directly related to movement in interest rates, we expect growth to come through offering new products and services and by further development of our presence in other markets. However, current and future economic conditions, regulatory constraints, increased competition, and saturation in our existing markets could affect the rate of future increases.

Brokerage and trading revenue, which includes revenues from trading, customer hedging, retail brokerage and investment banking, decreased \$22.5 million, or 9%, compared to the prior year.

Trading revenue includes net realized and unrealized gains and losses primarily related to sales of residential mortgage-backed securities guaranteed by U.S. government agencies and related derivative instruments that enable our mortgage banking customers to manage their production risk. Trading revenue also includes net realized and unrealized gains and losses on municipal securities and other financial instruments that we sell to institutional customers, along with changes in the fair value of financial instruments we hold as economic hedges against market risk of our trading securities. Trading revenue was \$121.9 million for 2024, a decrease of \$12.7 million compared to 2023, primarily due to a shift from fee revenue to net interest income on trading securities. See additional discussion in "Reportable Segments" section of Management's Discussion and Analysis.

Customer hedging revenue is based primarily on realized and unrealized changes in the fair value of derivative contracts held for customer risk management programs. As more fully discussed under Customer Derivative Programs in Note 6 to the Consolidated Financial Statements, we offer commodity, interest rate, foreign exchange, and equity derivatives to our customers. Derivative contracts executed with customers are offset with contracts between selected counterparties and exchanges to minimize market risk from changes in commodity prices, interest rates, or foreign exchange rates. Customer hedging revenue, which is largely volume driven, totaled \$27.7 million for 2024, a decrease of \$8.8 million, or 24%, compared to 2023, and was primarily attributed to our energy derivative customers. Customer hedging revenue includes credit valuation adjustments of the fair value of derivatives to reflect the risk of counterparty default.

Investment banking, which includes fees earned upon completion of underwriting, financial advisory services and loan syndication fees, totaled \$49.1 million for 2024, an increase of \$6.1 million, or 14%, over 2023, largely related to the timing and volume of transactions.

Revenue earned from retail brokerage transactions totaled \$19.4 million for 2024, an increase of \$3.5 million, or 22%, over 2023. Retail brokerage revenue is primarily based on fees and commissions earned on sales of fixed income securities, annuities, mutual funds, and other financial instruments to retail customers. Revenue is primarily based on the volume of customer transactions and applicable commission rate for each type of product.

The prior year included \$10.7 million of insurance brokerage revenue recognized prior to the sale of BOKFI in the fourth quarter of 2023.

Transaction card revenue depends largely on the volume and amount of transactions processed, the number of TransFund ATM locations, and the number of merchants served. Transaction card revenue totaled \$108.9 million for 2024, a \$2.0 million, or 2%, increase over 2023. Revenues from the processing of transactions on behalf of the members of our TransFund EFT network totaled \$91.1 million, up \$1.6 million, or 2%, over 2023. The number of TransFund ATM locations totaled 2,872 at December 31, 2024, compared to 2,713 at December 31, 2023. Merchant services fees paid by customers for account management and electronic processing of card transactions totaled \$9.4 million, an increase of \$197 thousand, or 2%. Corporate card revenue totaled \$8.3 million, up \$184 thousand, or 2%, over 2023.

Fiduciary and asset management revenue is earned through managing or holding of assets for customers and executing transactions or providing related services. Fiduciary and asset management revenue is largely based on the fair value of assets. Rates applied to those asset values vary based on the nature of the relationship. Fiduciary and managed asset relationships generally have a higher fee rate than non-fiduciary and/or managed relationships.

Fiduciary and asset management revenue increased \$23.5 million, or 11%, compared to 2023, led by growth in trust fees related to increased market valuations and continued growth in client relationships.

A distribution of assets under management or administration and related fiduciary and asset management revenue follows:

Table 7 – Assets Under Management or Administration

(Dollars in thousands)

	Year Ended December 31,								
	2024			2023			2022		
	Balance ¹	Revenue ²	Margin ³	Balance ¹	Revenue ²	Margin ³	Balance ¹	Revenue ²	Margin ³
Managed fiduciary assets:									
Personal	\$ 12,110,721	\$ 115,886	0.96 %	\$ 10,951,951	\$ 103,626	0.95 %	\$ 10,317,729	\$ 107,325	1.04 %
Institutional	23,940,121	35,147	0.15 %	19,310,826	34,995	0.18 %	17,229,041	33,482	0.19 %
Total managed fiduciary assets	36,050,842	151,033	0.42 %	30,262,777	138,621	0.46 %	27,546,770	140,807	0.51 %
Non-managed assets:									
Fiduciary	31,928,292	70,393	0.22 %	29,535,915	57,114	0.19 %	28,513,725	43,220	0.15 %
Non-fiduciary	21,116,298	9,434	0.04 %	19,670,248	11,583	0.06 %	19,467,202	12,299	0.06 %
Safekeeping and brokerage assets under administration	25,519,805	—	— %	25,268,059	—	— %	24,207,343	—	— %
Total non-managed assets	78,564,395	79,827	0.10 %	74,474,222	68,697	0.09 %	72,188,270	55,519	0.08 %
Total assets under management or administration	\$ 114,615,237	\$ 230,860	0.20 %	\$ 104,736,999	\$ 207,318	0.20 %	\$ 99,735,040	\$ 196,326	0.20 %

¹ Assets under management or administration balance excludes certain assets under custody held by a sub-custodian where minimal revenue is recognized. \$21 billion, \$19 billion, and \$17 billion of such assets are excluded from the 2024, 2023, and 2022 assets under management or administration balances, respectively.

² Fiduciary and asset management revenue includes asset-based and other fees associated with the assets.

³ Revenue divided by period end balance.

A summary of changes in assets under management or administration for the year ended December 31, 2024, 2023, and 2022 follows:

Table 8 – Changes in Assets Under Management or Administration

(In thousands)

	Year Ended December 31,		
	2024	2023	2022
Beginning balance	\$ 104,736,999	\$ 99,735,040	\$ 104,917,721
Net inflows (outflows)	2,167,911	(3,105,170)	572,812
Net change in fair value	7,710,327	8,107,129	(5,755,493)
Ending balance	\$ 114,615,237	\$ 104,736,999	\$ 99,735,040

Assets under management as of December 31, 2024 consist of 42% fixed income, 35% equities, 14% cash, and 9% alternative investments. Net inflows to assets under management increased during 2024, largely due to continued growth in client relationships. The increase in fair value of \$7.7 billion mainly resulted from improvements in the equity markets in 2024.

Deposit service charges and fees totaled \$118.7 million for 2024, a \$10.2 million, or 9%, increase compared to 2023. Service charges earned primarily on commercial deposit accounts totaled \$66.3 million, an \$8.6 million, or 15%, increase over the previous year. Overdraft fees and non-sufficient fund fees earned primarily on consumer deposit accounts totaled \$22.4 million for 2024, an increase of \$1.3 million, or 6%, compared to 2023. Check card revenue totaled \$23.9 million, relatively unchanged from 2023.

Mortgage banking revenue totaled \$74.1 million for 2024, an \$18.4 million, or 33%, increase over 2023. Mortgage servicing revenue was \$65.4 million, a \$4.3 million increase compared to the prior year. The average outstanding principal balance of mortgage loans serviced for others totaled \$21.9 billion at December 31, 2024, a \$1.2 billion increase compared to December 31, 2023. During 2024, we acquired \$3.2 billion in unpaid principal balance of mortgage servicing rights, which led to higher mortgage servicing revenue. Mortgage production revenue was \$8.7 million, increasing \$14.1 million, largely due to higher mortgage production volume. Production volume was up \$158 million and production revenue as a percentage of production volume also increased 189 basis points to 1.07%. Production revenue as a percentage of production volume for 2023 was impacted by qualifying residential mortgage loans guaranteed by U.S. government agencies previously in forbearance that were resold into GNMA pools following the applicable performance period specified by those programs. Mortgage refinancing activity was 11% of total production in 2024, compared to 9% in 2023.

Table 9 – Mortgage Banking Revenue

(Dollars in thousands)

	Year Ended December 31,		
	2024	2023	2022
Mortgage production revenue	\$ 8,739	\$ (5,339)	\$ (1,838)
Mortgage loans funded for sale	\$ 812,263	\$ 666,391	\$ 1,180,403
Add: Current year end outstanding commitments	36,590	34,783	45,492
Less: Prior year end outstanding commitments	34,783	45,492	171,412
Total mortgage production volume	\$ 814,070	\$ 655,682	\$ 1,054,483
Production revenue as a percentage of production volume	1.07 %	(0.81)%	(0.17)%
Realized margin on funded mortgage loans	1.02 %	(0.75)%	0.63 %
Mortgage loan refinances to mortgage loans funded for sale	11 %	9 %	24 %
Primary mortgage interest rates:			
Average	6.72 %	6.79 %	5.34 %
Period end	6.85 %	6.42 %	6.41 %
Mortgage servicing revenue	\$ 65,368	\$ 61,037	\$ 51,203
Average outstanding principal balance of mortgage loans serviced for others	21,948,659	20,779,627	17,871,306
Average mortgage servicing fee rates	0.30 %	0.29 %	0.29 %

Primary rates disclosed in Table 9 above represent rates generally available to borrowers on 30 year conforming mortgage loans.

Other revenue totaled \$59.4 million for 2024, a decrease of \$2.8 million, or 4%, compared to 2023, led by reduced fees earned on derivative counterparty margin.

Other gains, net and net gains on securities and derivatives

Other gains, net, were \$79.7 million for the year ended December 31, 2024, compared to \$56.8 million for the year ended December 31, 2023. Included in the 2024 other gains is a \$56.9 million pre-tax gain recognized in connection with the receipt and disposition of Visa C shares received as a result of the Exchange Offer announced by Visa, Inc. in the second quarter of 2024. The prior year included a pre-tax \$31.0 million gain, before related professional fees, on the sale of our insurance brokerage and consulting business, BOKF Insurance. Net unrealized gains on merchant banking investment was \$8.4 million and gain on investments related to deferred compensation was \$12.0 million for 2024, compared to \$12.5 million and \$8.9 million, respectively, in 2023.

We also recognized a \$45.8 million loss on the sale of available for sale securities in 2024, compared to a loss of \$30.6 million in 2023.

As discussed in the Market Risk section following, the fair value of our MSRs changes in response to changes in primary mortgage loan rates and other assumptions. We attempt to mitigate the earnings volatility caused by changes in the fair value of MSRs by designating certain financial instruments, generally U.S. government agency residential mortgage-backed securities for which we have elected the fair value option, as an economic hedge. Changes in the fair value of these instruments are generally expected to partially offset changes in the fair value of MSRs.

Table 10 – Gain (Loss) on Mortgage Servicing Rights, Net of Economic Hedge
(In thousands)

	Year Ended December 31,		
	2024	2023	2022
Loss on mortgage hedge derivative contracts, net	\$ (23,401)	\$ (10,514)	\$ (72,987)
Loss on fair value option securities, net	(256)	(4,292)	(20,358)
Loss on economic hedge of mortgage servicing rights	(23,657)	(14,806)	(93,345)
Change in fair value of mortgage servicing rights	18,437	(3,115)	80,261
Loss on changes in fair value of mortgage servicing rights, net of economic hedges included in other operating revenue	(5,220)	(17,921)	(13,084)
Net interest income (expense) on fair value option securities ¹	(476)	(258)	569
Total economic cost of changes in the fair value of mortgage servicing rights, net of economic hedges	\$ (5,696)	\$ (18,179)	\$ (12,515)

¹ Actual interest earned on fair value option securities less internal transfer-priced cost of funds.

Fourth Quarter 2024 Other Operating Revenue

Table 11 – Fourth Quarter 2024 Operating Revenue
(Dollars in thousands)

	Three Months Ended			Increase (Decrease)	% Increase (Decrease)
	Dec. 31, 2024	Sep. 30, 2024			
Brokerage and trading revenue	\$ 55,505	\$ 50,391	\$ 5,114	10	%
Transaction card revenue	27,631	28,495	(864)	(3)	%
Fiduciary and asset management revenue	60,595	57,384	3,211	6	%
Deposit service charges and fees	30,038	30,450	(412)	(1)	%
Mortgage banking revenue	18,140	18,372	(232)	(1)	%
Other revenue	15,029	17,402	(2,373)	(14)	%
Total fees and commissions	206,938	202,494	4,444	2	%
Other gains, net	4,995	13,087	(8,092)	N/A	
Gain (loss) on derivatives, net	(21,728)	8,991	(30,719)	N/A	
Gain (loss) on fair value option securities, net	(621)	764	(1,385)	N/A	
Change in fair value of mortgage servicing rights	20,460	(16,453)	36,913	N/A	
Loss on available for sale securities, net	—	(691)	691	N/A	
Total other operating revenue	\$ 210,044	\$ 208,192	\$ 1,852	1	%

Other operating revenue was \$210.0 million for the fourth quarter of 2024, a \$1.9 million, or 1%, increase over the third quarter of 2024.

Brokerage and trading revenue increased \$5.1 million, or 10%, to \$55.5 million. Trading revenue grew \$9.4 million to \$33.1 million driven by growth in U.S. agency residential mortgage-backed securities trading volumes and increased industry turnover as client demand returned to more normal levels following rate cuts at the end of the third quarter and through the fourth quarter. Investment banking revenue decreased \$4.1 million to \$10.3 million following an elevated third quarter, primarily due to timing and volume of transactions.

Fiduciary and asset management revenue increased \$3.2 million led by growth in trust fees related to increased market valuations and continued growth in client relationships. Other revenue decreased \$2.4 million to \$15.0 million following seasonal highs in letter of credit fees in the third quarter. All other fee businesses performed consistently with the prior quarter.

Other gains, net, were \$5.0 million for the fourth quarter of 2024, compared to \$13.1 million in the third quarter of 2024. The prior quarter included a pre-tax gain of \$3.1 million related to the sale of converted Visa shares. Net unrealized gains on merchant banking investments were \$2.2 million and gain on investments related to deferred compensation was \$2.5 million for the fourth quarter of 2024, compared to \$5.0 million and \$3.8 million, respectively, in the prior quarter.

Other Operating Expense

2024 Other Operating Expense

Other operating expense for 2024 totaled \$1.4 billion, a \$32.9 million, or 2%, increase compared to the prior year. Personnel expense increased \$44.6 million, or 6%. Non-personnel expense decreased \$11.8 million, or 2%. The FDIC updated their estimate of the special assessment during 2024, resulting in \$5.5 million of additional net expense, compared to \$43.8 million for the initial assessment in the prior year. Our efficiency ratio¹ was 64.32% for 2024, compared to 62.76% in the prior year.

Table 12 – Other Operating Expense

(Dollars in thousands)

	Year Ended		2024		2024		Year Ended		2023		2023	
	December 31,		vs. 2023		vs. 2023		December 31,		vs. 2022		vs. 2022	
	2024	2023	Increase (Decrease)	2024	2023	%	2022	2021	Increase (Decrease)	2023	2022	%
Regular compensation	\$ 457,922	\$ 439,987	\$ 17,935			4 %	\$ 399,107	\$ 40,880				10 %
Incentive compensation:												
Cash-based compensation	200,247	196,368	3,879			2 %	172,595	23,773				14 %
Share-based compensation	22,685	15,358	7,327			48 %	9,565	5,793				61 %
Deferred compensation	13,042	9,818	3,224			N/A	(6,235)	16,053				N/A
Total incentive compensation	235,974	221,544	14,430			7 %	175,925	45,619				26 %
Employee benefits	117,343	105,079	12,264			12 %	95,886	9,193				10 %
Total personnel expense	811,239	766,610	44,629			6 %	670,918	95,692				14 %
Business promotion	33,274	31,796	1,478			5 %	26,435	5,361				20 %
Charitable contributions to BOKF												
Foundation	13,610	2,707	10,903			403 %	2,500	207				8 %
Professional fees and services	53,921	55,337	(1,416)			(3) %	56,342	(1,005)				(2) %
Net occupancy and equipment	125,328	121,502	3,826			3 %	116,867	4,635				4 %
FDIC and other insurance	31,105	30,780	325			1 %	17,994	12,786				71 %
FDIC special assessment	5,521	43,773	(38,252)			N/A	—	43,773				N/A
Data processing and communications	187,273	181,365	5,908			3 %	165,907	15,458				9 %
Printing, postage and supplies	15,079	15,225	(146)			(1) %	15,857	(632)				(4) %
Amortization of intangible assets	11,612	13,882	(2,270)			(16) %	15,692	(1,810)				(12) %
Mortgage banking costs	34,638	30,524	4,114			13 %	35,834	(5,310)				(15) %
Other expense	43,155	39,380	3,775			10 %	40,134	(754)				(2) %
Total other operating expense	\$ 1,365,755	\$ 1,332,881	\$ 32,874			2 %	\$ 1,164,480	\$ 168,401				14 %
Average number of employees (full-time equivalent)	4,982	4,877	105			2 %	4,759	118				2 %

¹ See Explanation and Reconciliation of Non-GAAP Measures in "Non-GAAP Measures" section following.

Personnel expense

Personnel expense was \$811.2 million in 2024, an increase of \$44.6 million, or 6%. Regular compensation increased \$17.9 million, or 4%, due to a combination of annual merit increases commencing in the first quarter, salary adjustments and business expansion. Changes in assumptions of certain performance-based equity awards and an increase in the quantity of share-based awards granted led to a \$7.3 million, or 48%, increase in share-based compensation expense. Cash-based incentive compensation plans, which are either intended to provide current rewards to employees who generate long-term business opportunities for the Company based on growth in loans, deposits, customer relationships, and other measurable metrics or intended to compensate employees with commissions on completed transactions, increased \$3.9 million, or 2%, compared to 2023, primarily related to higher loan volumes. Deferred compensation expense increased \$3.2 million as the deferred compensation liabilities mirror the performance of the deferred compensation investments, which increased due to performance of the equity markets in 2024. Employee benefits expense increased \$12.3 million, or 12%, related to increased employee healthcare costs, retirement plan costs, and payroll tax expense.

Non-personnel expense

Non-personnel expense decreased \$11.8 million, or 2%, compared to the prior year. Expense related to the FDIC special assessment totaled \$5.5 million for 2024, compared to \$43.8 million for the prior year. Charitable contributions to the BOKF Foundation increased \$10.9 million, largely due to the donation of converted Visa shares to the foundation. Data processing and communications expense increased \$5.9 million, or 3%, and net occupancy and equipment expense grew \$3.8 million, or 3%, primarily due to ongoing projects. Mortgage banking costs increased \$4.1 million, or 13%, primarily due to an increase in prepayments. Other expense increased \$3.8 million, or 10%, due to higher operational losses.

Fourth Quarter 2024 Operating Expense

Table 13 – Fourth Quarter 2024 Other Operating Expense

(Dollars in thousands)

	Three Months Ended		Increase (Decrease)	% Increase (Decrease)
	Dec. 31, 2024	Sep. 30, 2024		
Regular compensation	\$ 117,163	\$ 114,790	\$ 2,373	2 %
Incentive compensation:				
Cash-based compensation	56,748	50,682	6,066	12 %
Share-based compensation	5,865	8,526	(2,661)	(31) %
Deferred compensation	2,441	3,980	(1,539)	N/A
Total incentive compensation	65,054	63,188	1,866	3 %
Employee benefits	28,458	28,843	(385)	(1) %
Total personnel expense	210,675	206,821	3,854	2 %
Business promotion	9,365	7,681	1,684	22 %
Professional fees and services	15,175	13,405	1,770	13 %
Net occupancy and equipment	32,713	32,077	636	2 %
FDIC and other insurance	6,862	8,186	(1,324)	(16) %
FDIC special assessment	(686)	(1,437)	751	52 %
Data processing and communications	48,024	47,554	470	1 %
Printing, postage and supplies	3,699	3,594	105	3 %
Amortization of intangible assets	2,855	2,856	(1)	— %
Mortgage banking costs	10,692	9,059	1,633	18 %
Other expense	8,282	11,229	(2,947)	(26) %
Total other operating expense	\$ 347,656	\$ 341,025	\$ 6,631	2 %

Other operating expense for the fourth quarter of 2024 totaled \$347.7 million, an increase of \$6.6 million, or 2%, over the third quarter of 2024.

Personnel expense was \$210.7 million, an increase of \$3.9 million, or 2%. Higher sales activity led to a \$6.1 million, or 12%, increase in cash based incentive compensation. Regular compensation increased \$2.4 million, or 2%, primarily due to compensation related to business expansion and continued investment in our businesses. Deferred compensation expense decreased \$1.5 million to \$2.4 million; however, this was largely offset by a decrease in the value of related investments included in Other gains, net. Share-based compensation was \$2.7 million, or 31%, lower than the prior quarter due to a full quarter impact of changes in assumptions made in the prior quarter.

Non-personnel expense was \$137.0 million, an increase of \$2.8 million, or 2%. Professional fees and services expenses increased \$1.8 million due to ongoing technology project related expenses. Business promotion expense grew \$1.7 million, primarily due to increased travel costs. Mortgage banking costs increased \$1.6 million while other expense decreased by \$2.9 million due to lower operational losses.

Income Taxes

Income tax expense was \$143.1 million, or 21.5% of net income before taxes for 2024, and \$152.1 million, or 22.3% of net income before taxes for 2023.

Net deferred tax assets totaled \$231.9 million at December 31, 2024, compared to net deferred tax assets of \$269.6 million at December 31, 2023. We have evaluated the recoverability of our deferred tax assets based on the weight of available evidence, considering both positive and negative factors, and determined that no valuation allowance was required in 2024 or 2023.

Income tax expense was \$39.3 million, or 22.4% of net income before taxes for the fourth quarter of 2024, compared to \$33.3 million, or 19.2% of net income before taxes for the third quarter of 2024. The third quarter of 2024 included the release of reserves for uncertain tax positions as the statute of limitations had expired.

Reportable Segments

We operate three principal segments: Commercial Banking, Consumer Banking, and Wealth Management. Commercial Banking includes lending, treasury and cash management services, and customer risk management products for small businesses, middle market, and larger commercial customers. Commercial Banking also includes the TransFund EFT network. Consumer Banking includes retail lending and deposit services, lending and deposit services to small business customers served through our consumer branch network, and all mortgage loan origination and servicing activities. Wealth Management provides fiduciary services, private bank services, insurance, and investment advisory services in all markets. Wealth Management also underwrites state and municipal securities and engages in brokerage and trading activities.

In addition to our reportable segments, we have a Funds Management unit. The primary purpose of this unit is to manage our overall liquidity needs and interest rate risk. Each segment borrows funds from and provides funds to the Funds Management unit as needed to support their operations. Operating results for Funds Management and other include the effect of interest rate risk positions and risk management activities, securities gains and losses including impairment charges, the provision for credit losses in excess of net loans charged off, tax planning strategies, and certain executive compensation costs that are not attributed to the segment. The Funds Management unit also initially recognizes accruals for loss contingencies when losses become probable. Actual losses are recognized by the segment if the accruals are settled.

We allocate resources and evaluate the performance of our reportable segments using net income before taxes, which includes the allocation of cost of funds, capital costs, and certain indirect allocations. Credit costs are attributed to the segments based on net loans charged off or recovered. The difference between credit costs attributed to the segment and the consolidated provision for credit losses is attributed to Funds Management.

Net interest income in our segments reflects our internal funds transfer pricing methodology. The funds transfer pricing methodology is the process by which the Company allocates interest income and expense to the segments and transfers the primary interest rate risk and liquidity risk to the Funds Management unit. The funds transfer pricing methodology considers the interest rate and liquidity risk characteristics of assets and liabilities. Periodically, the methodology and assumptions utilized in transfer pricing are adjusted to reflect economic conditions and other factors, which may impact the allocation of net interest income to the segments.

Non-personnel expense includes other segment items comprised of Business promotion, Charitable contributions to BOKF Foundation, Professional fees and services, Net occupancy and equipment, FDIC and other insurance, Data processing and communications, Printing, postage, and supplies, Amortization of intangible assets, Mortgage banking costs, and other miscellaneous expenses. Corporate allocations include centrally managed operational and administrative expenses that are allocated to segments.

Economic capital is assigned to the segments by a capital allocation model that reflects management's assessment of risk. This model assigns capital based upon credit, operating, interest rate, and other market risk inherent in our segments and recognizes the diversification benefits among the segments. The level of assigned economic capital is a combination of the risk taken by each segment based on its actual exposures and calibrated to its own loss history where possible. Average invested capital includes economic capital and amounts we have invested in the segment.

As shown in Table 14 following, net income before taxes attributable to our segments decreased \$119.8 million, or 11%, compared to the prior year. Net interest income declined by \$55.1 million compared to the prior year, primarily due to deposit re-pricing activity. Net charge-offs decreased \$4.6 million compared to the prior year. Other operating revenue decreased \$34.0 million as the prior year included the sale of BOKF Insurance that resulted in a \$31.0 million pre-tax gain. Other operating expense increased \$30.5 million with a \$19.5 million increase in personnel expense and an \$11.0 million increase in non-personnel expense. The increase in net income before taxes attributed to Funds Management and other is largely due to the \$56.9 million pre-tax gain recognized in connection with receipt and disposition of Visa C shares during 2024.

Table 14 – Net Income Before Taxes by Segment

(In thousands)

	Year Ended December 31,		
	2024	2023	2022
Commercial Banking	\$ 653,403	\$ 715,586	\$ 516,185
Consumer Banking	112,224	106,977	(50,005)
Wealth Management	156,781	219,647	97,964
Segment total	922,408	1,042,210	564,144
Funds Management and other	(255,764)	(358,962)	96,013
BOK Financial Corporation	\$ 666,644	\$ 683,248	\$ 660,157

2024 Commercial Banking

Commercial Banking contributed \$653.4 million to consolidated net income before taxes in 2024, a decrease of \$62.2 million, or 9%, compared to the prior year.

Table 15 – Commercial Banking

(Dollars in thousands)

	Year Ended December 31,		2024	2024	Year Ended December 31,	2023	2023
			vs. 2023	vs. 2023	vs. December 31, 2022	vs. 2022	vs. 2022
	2024	2023	Increase (Decrease)	Increase (Decrease)	2022	Increase (Decrease)	Increase (Decrease)
Net interest income							
from external sources	\$ 1,078,190	\$ 1,178,506	\$ (100,316)	(9)%	\$ 809,982	\$ 368,524	45 %
Net interest expense from internal sources	(263,094)	(305,107)	42,013	14 %	(159,242)	(145,865)	(92)%
Net interest income	815,096	873,399	(58,303)	(7)%	650,740	222,659	34 %
Net loans charged off	8,850	13,967	(5,117)	(37)%	17,726	(3,759)	(21)%
Net interest income after net loans charged off							
	806,246	859,432	(53,186)	(6)%	633,014	226,418	36 %
Other operating revenue							
Personnel expense	222,584	247,001	(24,417)	(10)%	239,692	7,309	3 %
Non-personnel expense	189,027	191,765	(2,738)	(1)%	173,309	18,456	11 %
Total other operating expense	305,430	315,848	(10,418)	(3)%	289,243	26,605	9 %
Corporate allocations	69,997	74,999	(5,002)	(7)%	67,278	7,721	11 %
Net income before taxes							
	\$ 653,403	\$ 715,586	\$ (62,183)	(9)%	\$ 516,185	\$ 199,401	39 %
Average assets	\$ 21,751,103	\$ 21,003,551	\$ 747,552	4 %	\$ 19,073,248	\$ 1,930,303	10 %
Average loans	20,201,849	19,374,797	827,052	4 %	17,553,395	1,821,402	10 %
Average deposits	16,752,377	15,321,427	1,430,950	9 %	18,323,412	(3,001,985)	(16)%
Average invested capital	2,150,565	2,182,622	(32,057)	(1)%	2,057,560	125,062	6 %

Net interest income and fee revenue decreased \$58.3 million, or 7%, primarily due to a shift in deposit balances from demand to interest-bearing accounts along with decreased spreads from a change in market conditions. Net loans charged off decreased \$5.1 million to \$8.9 million in 2024.

Other operating revenue decreased \$24.4 million, or 10%. Customer hedging revenue decreased \$18.3 million due to a reduction in energy customer hedging. A decrease of \$10.0 million in other revenue was completely offset by growth in deposit service charges and fees of \$8.2 million and increased transaction card revenue of \$2.6 million. Other gains, net, included \$5.2 million related to gains on merchant banking investments, compared to a gain of \$12.3 million in the prior year.

Other operating expense decreased \$10.4 million, or 3%, compared to 2023. Personnel expense decreased \$2.7 million, or 1%, largely driven by lower incentive compensation costs, partially offset by a combination of annual merit increases and salary adjustments. Non-personnel expense decreased \$7.7 million, or 6%, driven primarily by reduced operational losses. Corporate allocations decreased \$5.0 million, or 7%, compared to the prior year.

The average outstanding balance of loans attributed to Commercial Banking increased \$827 million, or 4%, over 2023 to \$20.2 billion. See the Loans section of Management's Discussion and Analysis of Financial Condition following for additional discussion of changes in commercial and commercial real estate loans, which are primarily attributed to the Commercial Banking segment.

Average deposits attributed to Commercial Banking were \$16.8 billion for 2024, a \$1.4 billion, or 9%, increase over the prior year. See Management's

Table 16 - Commercial Banking - Fourth Quarter 2024

(Dollars in thousands)

	Three Months Ended				%
	Dec. 31, 2024	Sep. 30, 2024	Increase (Decrease)	Increase (Decrease)	
Net interest income from external sources	\$ 243,915	\$ 273,934	\$ (30,019)	(11)	%
Net interest expense from internal sources	(44,180)	(66,324)	22,144	33	%
Net interest income	199,735	207,610	(7,875)	(4)	%
Net loans recovered	(115)	(1,329)	(1,214)	(91)	%
Net interest income after net loans recovered	199,850	208,939	(9,089)	(4)	%
Other operating revenue	58,225	59,482	(1,257)	(2)	%
Personnel expense	49,592	48,152	1,440	3	%
Non-personnel expense	31,242	30,235	1,007	3	%
Total other operating expense	80,834	78,387	2,447	3	%
Corporate allocations	16,848	17,371	(523)	(3)	%
Net income before taxes	\$ 160,393	\$ 172,663	\$ (12,270)	(7)	%
Average assets	\$ 21,510,871	\$ 21,881,574	\$ (370,703)	(2)	%
Average loans	19,996,608	20,340,512	(343,904)	(2)	%
Average deposits	17,941,793	17,131,237	810,556	5	%
Average invested capital	2,146,616	2,144,219	2,397	—	%

Commercial Banking contributed \$160.4 million to consolidated net income before taxes in the fourth quarter of 2024, a decrease of \$12.3 million, or 7%, compared to the third quarter of 2024. Net interest income decreased \$7.9 million, or 4%, primarily due to lower average loan balances, along with reduced loan fees and loan spreads. Other operating revenue was relatively consistent with the prior quarter. Net loans recovered decreased \$1.2 million to \$115 thousand in the fourth quarter of 2024. Personnel expense increased \$1.4 million, or 3%, due to increased incentive compensation costs during the quarter, and non-personnel expense increased \$1.0 million, or 3%, related to ongoing project costs.

2024 Consumer Banking

Consumer Banking services are provided through four primary distribution channels: traditional branches, the 24-hour ExpressBank call center, internet banking, and mobile banking. Consumer Banking also conducts mortgage banking activities through offices located outside our Consumer Banking markets.

Net income before taxes attributed to Consumer Banking totaled \$112.2 million for 2024, a \$5.2 million, or 5%, increase over the prior year.

Table 17 – Consumer Banking

(Dollars in thousands)

	Year Ended December 31,		2024 vs. 2023		2024 vs. 2023		Year Ended December 31,		2023 vs. 2022		2023 vs. 2022	
					% Increase (Decrease)						% Increase (Decrease)	
	2024	2023	Increase (Decrease)	2023	2022	% Increase (Decrease)	2022	2021	2020	2021	2020	% Increase (Decrease)
Net interest income from external sources	\$ 25,946	\$ 59,962	\$ (34,016)		(57)	%	\$ 69,646	\$ (9,684)		(14)	%	
Net interest income from internal sources	234,101	207,058	27,043	13	%		30,911	176,147		570	%	
Net interest income	260,047	267,020	(6,973)	(3)	%		100,557	166,463		166	%	
Net loans charged off	5,827	5,157	670	13	%		5,260	(103)		(2)	%	
Net interest income after net loans charged off	254,220	261,863	(7,643)	(3)	%		95,297	166,566		175	%	
Other operating revenue	140,005	105,793	34,212	32	%		108,873	(3,080)		(3)	%	
Personnel expense	98,667	89,472	9,195	10	%		87,183	2,289		3	%	
Non-personnel expense	127,597	122,642	4,955	4	%		122,027	615		1	%	
Total other operating expense	226,264	212,114	14,150	7	%		209,210	2,904		1	%	
Corporate allocations	55,737	48,565	7,172	15	%		44,965	3,600		8	%	
Net income before taxes	\$ 112,224	\$ 106,977	\$ 5,247	5	%		\$ (50,005)	\$ 156,982		314	%	
Average assets	\$ 8,112,293	\$ 8,040,602	\$ 71,691	1	%		\$ 8,789,697	\$ (749,095)		(9)	%	
Average loans	2,023,837	1,800,320	223,517	12	%		1,688,697	111,623		7	%	
Average deposits	8,077,700	8,014,159	63,541	1	%		8,763,046	(748,887)		(9)	%	
Average invested capital	313,460	285,997	27,463	10	%		250,546	35,451		14	%	

Net interest income from Consumer Banking activities decreased by \$7.0 million, or 3%, compared to 2023, largely due to increased customer demand for time deposits and a decrease in deposit spreads from a change in market conditions.

Other operating revenue increased \$34.2 million, or 32%, compared to prior year. Mortgage banking revenue increased \$19.0 million, primarily due to higher mortgage production volume combined with increased servicing revenue driven by recent purchases of mortgage servicing rights. Mortgage production volume increased \$158 million, or 24%, and production revenue as a percentage of production volume, which includes unrealized gains and losses on our mortgage commitment pipeline and related hedges, increased 189 basis points to 1.07%. The net cost of the change in fair value of mortgage servicing rights and related economic hedges, as more fully presented in Table 10, was \$5.7 million for 2024, compared to a net cost of \$18.2 million in 2023.

Other operating expense increased \$14.2 million, or 7%, led by higher incentive compensation and regular compensation. Corporate allocations increased \$7.2 million, or 15%, compared to the prior year.

Average loans attributed to Consumer Banking increased \$224 million, or 12%, to \$2.0 billion. Average consumer deposits increased \$64 million, or 1%, to \$8.1 billion. See Management's Discussion and Analysis of Financial Condition and Results of Operations - Liquidity and Capital for further discussion of the changes.

Table 18 - Consumer Banking - Fourth Quarter 2024

(Dollars in thousands)

	Three Months Ended			%	
	Dec. 31, 2024	Sep. 30, 2024	Increase (Decrease)		
Net interest income from external sources	\$ 6,655	\$ 5,955	\$ 700	12	%
Net interest income from internal sources	58,830	59,308	(478)	(1)	%
Net interest income	65,485	65,263	222	—	%
Net loans charged off	993	1,779	(786)	(44)	%
Net interest income after net loans charged off	64,492	63,484	1,008	2	%
Other operating revenue	33,872	32,367	1,505	5	%
Personnel expense	24,799	24,616	183	1	%
Non-personnel expense	35,111	33,163	1,948	6	%
Total other operating expense	59,910	57,779	2,131	4	%
Corporate allocations	14,874	13,298	1,576	12	%
Net income before taxes	\$ 23,580	\$ 24,774	\$ (1,194)	(5)	%
Average assets	\$ 8,238,609	\$ 8,172,256	\$ 66,353	1	%
Average loans	2,147,058	2,057,870	89,188	4	%
Average deposits	8,197,577	8,136,312	61,265	1	%
Average invested capital	319,843	320,077	(234)	—	%

Consumer Banking contributed \$23.6 million to net income before taxes in the fourth quarter of 2024, a decrease of \$1.2 million, or 5%, compared to the third quarter of 2024. Net interest income was consistent with the prior quarter. Other operating revenue increased \$1.5 million as the net cost of changes in the fair value of mortgage servicing rights and related economic hedges was \$2.2 million compared to \$4.5 million for the third quarter of 2024. Other operating expense increased \$2.1 million, or 4%, primarily due to higher mortgage costs.

Wealth Management contributed \$156.8 million to consolidated net income before taxes in 2024, a decrease of \$62.9 million, or 29%, compared to the prior year. The prior year included a pre-tax gain of \$31.0 million, before related professional fees, on the sale of our BOKFI insurance brokerage and consulting business.

Table 19 – Wealth Management

(Dollars in thousands)

	Year Ended December 31,		2024 vs. 2023		2024 vs. 2023		Year Ended December 31,		2023 vs. 2022		2023 vs. 2022	
					% Increase (Decrease)				Increase (Decrease)		% Increase (Decrease)	
	2024	2023	2023	2023	2022	2022	2022	2022	2022	2022	2022	2022
Net interest income from external sources	\$ 11,266	\$ 30,020	\$ (18,754)		(62) %	\$ 137,721	\$ (107,701)		(78) %			
Net interest income (expense) from internal sources	117,962	88,998	28,964		33 %	(16,851)	105,849		628 %			
Net interest income	129,228	119,018	10,210		9 %	120,870	(1,852)		(2) %			
Net loans recovered	(184)	(50)	134		268 %	(175)	(125)		(71) %			
Net interest income after net loans recovered	129,412	119,068	10,344		9 %	121,045	(1,977)		(2) %			
Other operating revenue	462,679	506,447	(43,768)		(9) %	339,505	166,942		49 %			
Personnel expense	263,686	250,671	13,015		5 %	222,892	27,779		12 %			
Non-personnel expense	114,551	100,796	13,755		14 %	88,558	12,238		14 %			
Total other operating expense	378,237	351,467	26,770		8 %	311,450	40,017		13 %			
Corporate allocations	57,073	54,401	2,672		5 %	51,136	3,265		6 %			
Net income before taxes	\$ 156,781	\$ 219,647	\$ (62,866)		(29) %	\$ 97,964	\$ 121,683		124 %			
Average assets	\$ 10,772,189	\$ 9,883,180	\$ 889,009		9 %	\$ 9,879,354	\$ 3,826		— %			
Average loans	2,177,465	2,201,614	(24,149)		(1) %	2,166,231	35,383		2 %			
Average deposits	9,654,008	7,739,490	1,914,518		25 %	8,491,377	(751,887)		(9) %			
Average invested capital	323,364	333,157	(9,793)		(3) %	279,939	53,218		19 %			

Combined net interest income and fees and commission revenue attributed to the Wealth Management segment totaled \$591.9 million for 2024, a decrease of \$2.6 million. Total revenue from institutional trading activities was consistent with the prior year.

Other operating expense increased \$26.8 million, or 8%, over the prior year. Personnel expense increased \$13.0 million, or 5%, largely due to growth in incentive compensation expense. Non-personnel expense increased \$13.8 million, or 14%, primarily due to an increased level of operational losses. FDIC insurance expense increased \$2.4 million driven by increased deposits in 2024. Data processing and communications expense increased \$1.9 million, or 6%, and net occupancy and equipment expense grew \$2.0 million, or 8%, primarily due to ongoing projects. Corporate allocations increased \$2.7 million, or 5%, over the prior year.

Average Wealth Management loans declined by \$24 million, or 1%, to \$2.2 billion. Average deposits attributed to Wealth Management increased \$1.9 billion, or 25%, to \$9.7 billion in 2024.

Table 20 - Wealth Management - Fourth Quarter 2024

(Dollars in thousands)

	Three Months Ended			% Increase (Decrease)	
	Dec. 31, 2024	Sep. 30, 2024	Increase (Decrease)	Dec. 31, 2024	Sep. 30, 2024
Net interest income from external sources	\$ 6,696	\$ 5,692	\$ 1,004	18	%
Net interest income from internal sources	31,448	27,493	3,955	14	%
Net interest income	38,144	33,185	4,959	15	%
Net loans recovered	(10)	(159)	(149)	(94)	%
Net interest income after net loans recovered	38,154	33,344	4,810	14	%
Other operating revenue	118,310	112,457	5,853	5	%
Personnel expense	69,944	66,524	3,420	5	%
Non-personnel expense	25,252	27,015	(1,763)	(7)	%
Total other operating expense	95,196	93,539	1,657	2	%
Corporate allocations	12,353	13,458	(1,105)	(8)	%
Income before taxes	\$ 48,915	\$ 38,804	\$ 10,111	26	%
Average assets	\$ 10,775,744	\$ 10,566,503	\$ 209,241	2	%
Average loans	2,160,588	2,151,196	9,392	—	%
Average deposits	9,983,232	9,837,888	145,344	1	%
Average invested capital	327,351	327,197	154	—	%

Wealth Management contributed \$48.9 million to net income before taxes in the fourth quarter of 2024, an increase of \$10.1 million over the third quarter of 2024. Combined net interest and fee revenue totaled \$156.5 million, an increase of \$10.8 million. Total revenue from institutional trading activities increased \$10.8 million, primarily driven by growth in U.S. agency residential mortgage-backed securities trading volumes and increased industry turnover as client demand returned to more normal levels following rate cuts in the prior quarter. Fiduciary and asset management revenue increased \$3.2 million led by growth in trust fees, while investment banking revenue decreased \$5.6 million following an elevated third quarter and other revenue decreased \$1.7 million. Other operating expense increased \$1.7 million, largely due to growth in sales-based incentive compensation expense driven by increased trading activity, partially offset by lower operational losses.

Financial Condition

Securities

We maintain a securities portfolio to enhance profitability, manage interest rate risk, provide liquidity, and comply with regulatory requirements. Securities are classified as trading, held for investment, or available for sale. See Note 2 to the Consolidated Financial Statements for the composition of the securities portfolio as of December 31, 2024, and December 31, 2023.

We hold an inventory of trading securities in support of sales to a variety of customers including banks, corporations, insurance companies, money managers, and others. Trading securities totaled \$4.9 billion at December 31, 2024, a decrease of \$294 million compared to December 31, 2023. As discussed in the Market Risk section of this report, trading activities involve risk of loss from adverse price movements. We mitigate this risk within board-approved value-at-risk limits through the use of derivative contracts, short-sales, and other techniques.

At December 31, 2024, the carrying value of investment (held-to-maturity) securities was \$2.0 billion, including a \$223 thousand allowance for expected credit losses, compared to \$2.2 billion at December 31, 2023, with a \$336 thousand allowance for expected credit losses. The fair value of investment securities was \$1.8 billion at December 31, 2024, and \$2.1 billion at December 31, 2023. Investment securities consist primarily of residential mortgage-backed securities issued by U.S. government agencies, intermediate and long-term, fixed rate Oklahoma and Texas municipal bonds, and taxable Texas school construction bonds. The investment security portfolio is diversified among issuers.

Available for sale securities, which may be sold prior to maturity, are carried at fair value. Unrealized gains or losses, net of deferred taxes, are recorded as Accumulated Other Comprehensive Income (Loss) in shareholders' equity. At December 31, 2024, the fair value of available for sale securities was \$12.9 billion, an increase of \$565 million compared to December 31, 2023. The amortized cost of available for sale securities totaled \$13.4 billion at December 31, 2024, an increase of \$486 million compared to December 31, 2023. Available for sale securities consist primarily of U.S. government agency residential mortgage-backed securities and U.S. government agency commercial mortgage-backed securities. Both residential and commercial mortgage-backed securities have credit risk from delinquency or default of the underlying loans. We mitigate this risk by primarily investing in securities issued by U.S. government agencies for which the principal and interest payments on the underlying loans are fully guaranteed. Commercial mortgage-backed securities have prepayment penalties similar to commercial loans. At December 31, 2024, residential mortgage-backed securities represented 73% of total fair value of available for sale securities.

A primary risk of holding residential mortgage-backed securities comes from extension during periods of rising interest rates or prepayment during periods of falling interest rates. We evaluate this risk through extensive modeling of risk both before making an investment and throughout the life of the security. Our best estimate of the effective duration of the combined residential mortgage-backed securities portfolio held in investment and available for sale securities portfolios at December 31, 2024 is 3.6 years. Management estimates the combined portfolios' duration extends to 4.2 years assuming an immediate 200 basis point upward shock. The estimated duration contracts to 2.6 years assuming a 200 basis point decline in the current rate environment.

The aggregate gross amount of unrealized losses on available for sale securities totaled \$567 million at December 31, 2024, a \$102 million decrease compared to December 31, 2023. On a quarterly basis, we perform an evaluation on debt securities to determine if the unrealized losses are temporary as more fully described in Note 2 to the Consolidated Financial Statements. No credit impairment of available for sale securities was identified in 2024.

Certain residential mortgage-backed securities issued by U.S. government agencies and included in Fair value option securities on the Consolidated Balance Sheets have been segregated and designated as economic hedges of changes in the fair value of our mortgage servicing rights. We have elected to carry these securities at fair value with changes in fair value recognized in current period income. These securities are held with the intent that gains or losses will offset changes in the fair value of mortgage servicing rights and related derivative contracts. Fair value option securities totaled \$18 million, a decrease of \$2.8 million compared to 2023. See Market Risk section for further details.

On January 23, 2024, Visa, Inc. stockholders approved an exchange offer which provided holders of Class B-1 shares an option to convert up to 50% of its Class B-1 shares to Visa Class C common stock ("Visa C shares") and subsequently to freely transferable Visa Class A common stock ("Visa A shares") subject to certain restrictions and holding period requirements (the "Exchange Offer"). The Company tendered all of its 252,233 Visa Class B-1 shares under the Exchange Offer and received 126,116 shares of Visa Class B-2 common stock ("Visa B-2 shares") and 50,053 Visa C shares. Each Visa C share automatically converts into four Visa A shares upon any transfer to a person other than a Visa member or an affiliate of a Visa member.

The Visa B-2 shares are subject to certain transfer restrictions and are convertible into Visa A shares at a specified conversion rate upon final resolution of certain litigation matters involving Visa. The conversion rate of Visa B-2 shares to Visa A shares was 1.543 at December 31, 2024, and may be adjusted by Visa depending on developments related to the litigation matters. The outcome of those litigation matters, and the effect that the resolution of those matters may have on the conversion rate, is unknown. Accordingly, as of December 31, 2024, there is significant uncertainty regarding when the transfer restrictions on Visa B-2 shares may be terminated and what the final conversion rate for the Visa B-2 shares will be. The Visa B-2 shares continue to be carried at a cost of zero as there are no observable price changes in orderly transactions for identical or similar investments of the same issuer for the Visa B-2 shares held by the Company.

Under the terms of the Exchange Offer, we were able to sell 1/3 of the Visa C shares in the market upon receipt. We sold 7,780 Visa C shares (the equivalent of 31,120 Visa A shares) in May 2024, receiving proceeds of \$8.7 million from third parties. Our realized gain matched the proceeds since our cost basis in the shares was zero.

In addition, we donated 8,905 Visa C shares (the equivalent of 35,620 Visa A shares) to the BOKF Foundation which resulted in a \$10 million gain on the contribution. The gain was based on the closing price of the Visa A shares on the date of donation.

In September 2024, we sold all our remaining Visa C shares receiving proceeds of \$38.0 million from third parties. Our realized gain matched the proceeds since our cost basis in the shares was zero. In total, our realized gain from the sale of the Visa C shares received in the Exchange Offer, including cash received in lieu of fractional shares, was \$56.9 million and is reported in Other gains, net in the Consolidated Statements of Earnings. The Visa C shares are included in the average balance of Cash and other assets for the year ended December 31, 2024, for the time that we held such shares.

Bank-Owned Life Insurance

We have approximately \$417 million of bank-owned life insurance at December 31, 2024. This investment is expected to provide a long-term source of earnings to support existing employee benefit programs. Approximately \$321 million is held in separate accounts and \$96 million represents the cash surrender value of policies held in general accounts and other amounts due from various insurance companies. Our separate account holdings are invested in diversified portfolios of investment-grade fixed income securities and cash equivalents, including U.S. Treasury and agency securities, residential mortgage-backed securities, corporate debt, asset-backed and commercial mortgage-backed securities. The portfolios are managed by unaffiliated professional managers within parameters established in the portfolio's investment guidelines. The cash surrender value of certain life insurance policies is further supported by a stable value wrap which protects against changes in the fair value of the investments. As of December 31, 2024, the fair value of investments held in separate accounts covered by the stable value wrap was approximately \$290 million. Since the underlying fair value of the investments held in separate accounts at December 31, 2024 was below the net book value of the investments, \$29 million of cash surrender value was supported by the stable value wrap. The remaining \$2.1 million of fair value held in separate accounts is not supported by the stable value wrap. The stable value wrap is provided by an investment grade financial institution.

Loans

The aggregate loan portfolio before allowance for loan losses totaled \$24.1 billion at December 31, 2024, an increase of \$210 million compared to December 31, 2023, driven by growth in loans to individuals and commercial loans, partially offset by a decrease in commercial real estate loans.

Table 21 – Loans

(In thousands)

	December 31,	
	2024	2023
Commercial:		
Healthcare	\$ 3,967,533	\$ 4,143,233
Services	3,643,203	3,576,223
Energy	3,254,724	3,437,101
General business	4,164,676	3,647,212
Total commercial	15,030,136	14,803,769
Commercial real estate:		
Multifamily	2,237,064	1,872,760
Industrial	1,127,867	1,475,165
Office	755,838	909,442
Retail	485,926	592,632
Residential construction and land development	109,120	95,052
Other commercial real estate	342,637	392,596
Total commercial real estate	5,058,452	5,337,647
Loans to individuals:		
Residential mortgage	2,436,958	2,160,640
Residential mortgage guaranteed by U.S. government agencies	136,649	149,807
Personal	1,452,529	1,453,105
Total loans to individuals	4,026,136	3,763,552
Total	\$ 24,114,724	\$ 23,904,968

Commercial

Commercial loans represent loans for working capital, facilities acquisition or expansion, purchases of equipment and other needs of commercial customers primarily located within our geographical footprint. Commercial loans are underwritten individually and represent ongoing relationships based on a thorough knowledge of the customer, the customer's industry and market. While commercial loans are generally secured by the customer's assets including real property, inventory, accounts receivable, operating equipment, interests in mineral rights and other property and may also include personal guarantees of the owners and related parties, the primary source of repayment of the loans is the ongoing cash flow from operations of the customer's business. Inherent lending risks are centrally monitored on a continuous basis from underwriting throughout the life of the loan for compliance with commercial lending policies.

Commercial loans totaled \$15.0 billion, or 62% of the loan portfolio, at December 31, 2024, increasing \$226 million, or 2%, over December 31, 2023. Growth in general business and services loan balances, was partially offset by a decrease in energy and healthcare loan balances.

Approximately 72% of commercial loans are located within our geographic footprint, based on collateral location. Loans for which the collateral location is less relevant, such as unsecured loans and reserve-based energy loans, are categorized by the borrower's primary operating location. The largest concentration of loans in this segment outside of our footprint is California, totaling 5% of the segment.

Supporting the energy industry with loans to producers and other energy-related entities has been a hallmark of the Company since its founding and represents a large portion of our commercial loan portfolio. In addition, energy production and related industries have a significant impact on the economy in our primary markets. Loans collateralized by oil and gas properties are subject to semi-annual engineering reviews by our internal staff of petroleum engineers. These reviews are used as the basis for developing the expected cash flows supporting the loan amount. The projected cash flows are discounted according to risk characteristics of the underlying oil and gas properties. Loans are evaluated to demonstrate with reasonable certainty that crude oil, natural gas and natural gas liquids can be recovered from known oil and gas reservoirs under existing economic and operating conditions at current pricing levels and with existing conventional equipment and operating methods and costs. As part of our evaluation of credit quality, we analyze rigorous stress tests over a range of commodity prices and take proactive steps to mitigate risk when appropriate.

Outstanding energy loans totaled \$3.3 billion, or 13% of total loans, at December 31, 2024. Approximately \$2.6 billion, or 80% of energy loans, were to oil and gas producers, a \$66 million decrease compared to December 31, 2023. The majority of this portfolio is first lien, senior secured, reserve-based lending, which we believe is the lowest risk form of energy lending. Approximately 70% of the committed production loans are secured by properties primarily producing oil and 30% of the committed production loans are secured by properties primarily producing natural gas.

Loans to midstream oil and gas companies totaled \$397 million, or 12% of energy loans, a decrease of \$154 million compared to the prior year. Loans to borrowers that provide services to the energy industry totaled \$225 million, or 7% of energy loans, a \$43 million increase during 2024. Loans to other energy borrowers, including those engaged in wholesale or retail energy sales, totaled \$40 million, or 1% of energy loans, a \$6.4 million decrease compared to the prior year.

Unfunded energy loan commitments were \$4.4 billion at December 31, 2024, a \$135 million decrease compared to December 31, 2023.

The healthcare sector of the loan portfolio totaled \$4.0 billion, or 16% of total loans. Healthcare loans decreased \$176 million compared to December 31, 2023, primarily due to a decrease in loans to senior housing. Healthcare sector loans consist primarily of loans for the development and operation of senior housing and care facilities including independent living, assisted living and skilled nursing. Generally, we loan to borrowers with a portfolio of multiple facilities that serves to help diversify risks specific to a single facility.

The services sector of the loan portfolio increased \$67 million to \$3.6 billion, or 15% of total loans. Service sector loans consist of a large number of loans to a variety of businesses including Native American tribal and state and local municipal government entities, Native American tribal casino operations, foundations and not-for-profit organizations, educational services, and specialty trade contractors. Service sector loans are generally secured by the assets of the borrower with repayment coming from the cash flows of ongoing operations of the customer's business.

General business loans grew by \$517 million to \$4.2 billion, or 17% of total loans. General business loans primarily consist of \$2.6 billion of wholesale/retail loans and \$1.6 billion of loans from other commercial industries.

We participate in shared national credits when appropriate to obtain or maintain business relationships with local customers. Shared national credits are defined by banking regulators as credits of more than \$100 million and with three or more non-affiliated banks as participants. At December 31, 2024, the outstanding principal balance of these loans totaled \$5.8 billion, including \$2.3 billion in the energy sector. Based on dollars committed, approximately 81% of shared national credits are to borrowers with local market relationships and we serve as the agent lender in approximately 20% of our shared national credits. We hold shared national credits to the same standard of analysis and perform the same level of review as internally originated credits. Our lending policies generally avoid loans in which we do not have the opportunity to maintain or achieve other business relationships with the customer. In addition to management's quarterly assessment of credit risk, banking regulators annually review a sample of shared national credits for proper risk grading.

Commercial Real Estate

Commercial real estate represents loans for the construction of buildings or other improvements to real estate and property held by borrowers for investment purposes generally within our geographical footprint. We require collateral values in excess of the loan amounts, demonstrated cash flows in excess of expected debt service requirements, equity investment in the project and a portion of the project already sold, leased or permanent financing already secured. The expected cash flows from all significant new or renewed income producing property commitments are stress tested to reflect the risks in varying interest rates, vacancy rates and rental rates. As with commercial loans, inherent lending risks are centrally monitored on a continuous basis from underwriting throughout the life of the loan for compliance with applicable lending policies.

The outstanding balance of commercial real estate loans totaled \$5.1 billion, or 21% of the loan portfolio, a decrease of \$279 million compared to December 31, 2023. Loans secured by industrial facilities were \$1.1 billion, or 5% of total loans, a \$347 million decrease compared to the prior year. Loans secured by office facilities decreased \$154 million to \$756 million, or 3% of total loans. Loans secured by retail facilities decreased \$107 million to \$486 million, or 2% of total loans. Loans secured by multifamily real estate totaled \$2.2 billion, or 9% of total loans, a \$364 million increase over the prior year.

Approximately 68% of commercial real estate loans are in our geographic footprint based on collateral location. The largest concentration of loans in this segment outside our footprint is Utah, totaling 9% of the segment. All other states represent less than 5% individually.

Unfunded commercial real estate loan commitments were \$1.9 billion at December 31, 2024, a \$103 million increase over the prior year. We take a disciplined approach to managing our concentration of total commercial real estate loan commitments as a percentage of Tier 1 Capital. We have ample opportunity for continued modest growth in our outstanding commercial real estate balances as loans fund up.

Loans to Individuals

Loans to individuals include residential mortgage and personal loans. Residential mortgage loans provide funds for our customers to purchase or refinance their primary residence or to borrow against the equity in their home. These loans are secured by a first or second mortgage on the customer's primary residence. Personal loans consist primarily of loans to Wealth Management clients secured by the cash surrender value of insurance policies and marketable securities. It also includes direct loans secured by and for the purchase of automobiles, recreational and marine equipment as well as unsecured loans. These loans are made in accordance with underwriting policies we believe to be conservative and are fully documented. Loans may be individually underwritten or credit scored based on size and other criteria. Credit scoring is assessed based on significant credit characteristics including credit history, residential and employment stability.

In general, we sell the majority of our conforming fixed rate mortgage loan originations in the secondary market and retain the majority of our non-conforming and adjustable rate mortgage loans. Our mortgage loan portfolio does not include payment option adjustable rate mortgage loans or adjustable rate mortgage loans with initial rates that are below market. Home equity loans are primarily first-lien and fully amortizing.

Residential mortgage loans guaranteed by U.S. government agencies have limited credit exposure because of the underlying agency guarantee. This amount includes residential mortgage loans previously sold into GNMA mortgage pools that the Company may repurchase when certain defined delinquency criteria are met. Because of this repurchase right, the Company is deemed to have regained effective control over these loans and must include them on the Consolidated Balance Sheet.

Loans to individuals totaled \$4.0 billion, or 17% of the loan portfolio, growing \$263 million over December 31, 2023. Approximately 90% of loans to individuals are secured by collateral located within our geographical footprint. Loans for which the collateral location is less relevant, such as unsecured loans, are categorized by the borrower's primary operating location.

The Company secondarily evaluates loan portfolio performance based on the primary geographical market managing the loan. Loans attributed to a geographical market may not represent the location of the borrower or the collateral. All permanent mortgage loans serviced by our mortgage banking unit and held for investment by the Company are centrally managed by the Oklahoma market.

Table 22 – Loans Managed by Primary Geographical Market
(In thousands)

	December 31,	
	2024	2023
Texas:		
Commercial	\$ 7,411,416	7,384,107
Commercial real estate	1,731,281	1,987,037
Loans to individuals	918,994	914,134
Total Texas	10,061,691	10,285,278
Oklahoma:		
Commercial	3,585,592	3,275,907
Commercial real estate	513,101	606,515
Loans to individuals	2,440,874	2,147,782
Total Oklahoma	6,539,567	6,030,204
Colorado:		
Commercial	2,188,324	2,273,179
Commercial real estate	759,168	769,329
Loans to individuals	213,768	228,257
Total Colorado	3,161,260	3,270,765
Arizona:		
Commercial	1,082,829	1,143,682
Commercial real estate	1,098,174	1,003,331
Loans to individuals	215,531	248,873
Total Arizona	2,396,534	2,395,886
Kansas/Missouri:		
Commercial	305,957	331,179
Commercial real estate	515,511	511,947
Loans to individuals	164,638	144,958
Total Kansas/Missouri	986,106	988,084
New Mexico:		
Commercial	325,246	291,736
Commercial real estate	402,217	389,106
Loans to individuals	60,703	67,485
Total New Mexico	788,166	748,327
Arkansas:		
Commercial	130,772	103,979
Commercial real estate	39,000	70,382
Loans to individuals	11,628	12,063
Total Arkansas	181,400	186,424
Total BOK Financial loans	\$ 24,114,724	\$ 23,904,968

Table 23 – Loan Maturity and Interest Rate Sensitivity at December 31, 2024

(In thousands)

	Remaining Maturities of Selected Loans				
	Total	Within 1 Year	1-5 Years	5 - 15 Years	After 15 Years
Loan maturity:					
Commercial	\$ 15,030,136	\$ 2,740,206	\$ 10,636,441	\$ 1,577,018	\$ 76,471
Commercial real estate	5,058,452	2,364,259	2,515,633	174,759	3,801
Loans to individuals	4,026,136	621,842	1,105,633	417,643	1,881,018
Total	\$ 24,114,724	\$ 5,726,307	\$ 14,257,707	\$ 2,169,420	\$ 1,961,290
Interest rate sensitivity for selected loans with:					
Predetermined interest rates	\$ 6,765,847	\$ 562,535	\$ 2,740,009	\$ 1,866,130	\$ 1,597,173
Floating or adjustable interest rates	17,348,877	5,163,772	11,517,698	303,290	364,117
Total	\$ 24,114,724	\$ 5,726,307	\$ 14,257,707	\$ 2,169,420	\$ 1,961,290

Off-Balance Sheet Commitments

We enter into certain off-balance sheet arrangements in the normal course of business as shown in Table 24. Loan commitments may be unconditional obligations to provide financing or conditional obligations that depend on the borrower's financial condition, collateral value or other factors. Standby letters of credit are unconditional commitments to guarantee the performance of our customer to a third party. Since some of these commitments are expected to expire before being drawn upon, the total commitment amounts do not necessarily represent future cash requirements.

We have off-balance sheet commitments related to certain residential mortgage loans sold into mortgage-backed securities as part of our mortgage banking activities. We retain off-balance sheet credit risk related to losses in excess of amounts guaranteed by the VA.

We also have off-balance sheet credit risk related to certain residential mortgage loans primarily originated under community development loan programs that were sold to a U.S. government agency with full recourse prior to 2007. We are obligated to repurchase these loans for the life of these loans in the event of foreclosure for the unpaid principal and interest at the time of foreclosure. The majority of our conforming fixed rate loan originations are sold in the secondary market, and we only retain repurchase obligations under standard underwriting representations and warranties.

Table 24 – Off-Balance Sheet Credit Commitments

(In thousands)

	December 31,	
	2024	2023
Loan commitments	\$ 14,735,416	\$ 14,793,025
Standby letters of credit	703,194	710,543
Unpaid principal balance of residential mortgage loans sold with recourse	33,864	39,333
Unpaid principal balance of residential mortgage loans transferred into mortgage-backed securities guaranteed by U.S. Dept. of Veteran's Affairs	913,977	959,256

Customer Derivative Programs

We offer programs that permit our customers to hedge various risks including fluctuations in energy, interest rates, foreign exchange rates, and other commodities. Each of these programs work essentially the same way. Derivative contracts are executed between the customers and the Company. Offsetting contracts are executed between the Company and selected counterparties or exchanges to minimize market risk to us from changes in commodity prices, interest rates or foreign exchange rates. The counterparty contracts are identical to the customer contracts except for a fixed pricing spread or a fee paid to us as compensation for administrative costs, credit risk and profit.

The customer derivative programs create credit risk for potential amounts due to the Company from our customers and from the counterparties. Customer credit risk is monitored through existing credit policies and procedures. The effects of changes in commodity prices, interest rates or foreign exchange rates are evaluated across a range of possible options to determine the maximum exposure we are willing to have individually to any customer. Customers may also be required to provide cash margin or other collateral in conjunction with our credit agreements to further limit our credit risk.

Counterparty credit risk is evaluated through existing policies and procedures. This evaluation considers the total relationship between BOK Financial and each of the counterparties. Individual limits are established by management, approved by Credit Administration and reviewed by the Asset/Liability Committee. Margin collateral is required if the exposure between the Company and any counterparty exceeds established limits. Based on declines in the counterparties' credit ratings, these limits may be reduced and additional margin collateral may be required.

A deterioration of the credit standing of one or more of the customers or counterparties to these contracts may result in BOK Financial recognizing a loss as the fair value of the affected contracts may no longer move in tandem with the offsetting contracts. This occurs if the credit standing of the customer or counterparty deteriorates such that either the fair value of underlying collateral no longer supports the contract or the customer or counterparty's ability to provide margin collateral becomes impaired. Credit losses on customer derivatives reduce Brokerage and trading revenue in the Consolidated Statements of Earnings.

Derivative contracts are carried at fair value. At December 31, 2024, the net fair values of derivative contracts, before consideration of cash margin, reported as assets under these programs totaled \$242 million compared to \$593 million at December 31, 2023. Derivative contracts carried as assets include energy contracts with fair values of \$123 million, interest rate swaps primarily sold to loan customers with fair values of \$77 million and foreign exchange contracts with fair values of \$42 million. Before consideration of cash margin paid to counterparties, the aggregate net fair values of derivative contracts held under these programs reported as liabilities totaled \$205 million.

At December 31, 2024, total derivative assets were reduced by \$76 million of cash collateral received from counterparties, and total derivative liabilities were reduced by \$1.4 million of cash collateral paid to counterparties related to instruments executed with the same counterparty under a master netting agreement. Derivative contracts executed with customers may be secured by non-cash collateral in conjunction with a credit agreement with that customer such as proven producing oil and gas properties. Access to this collateral in the event of default is reasonably assured.

A table showing the notional and fair value of derivative assets and liabilities on both a gross and net basis is presented in Note 6 to the Consolidated Financial Statements.

The fair value of derivative contracts reported as assets under these programs, net of cash margin held by the Company, by category of debtor at December 31, 2024 follows in Table 25.

Table 25 – Fair Value of Derivative Contracts
(In thousands)

Exchanges and clearing organizations	\$	79,496
Customers		55,443
Banks and other financial institutions		31,278
Fair value of customer hedge asset derivative contracts, net	\$	166,217

At December 31, 2024, the largest exposure to a single counterparty was to an exchange for \$61 million of net energy derivative positions and \$107 million for cash margin placed with the exchange.

Our customer derivative program also introduces liquidity and capital risk. We are required to provide cash margin to certain counterparties when the net negative fair value of the contracts exceeds established limits. Also, changes in commodity prices affect the amount of regulatory capital we are required to hold as support for the fair value of our derivative assets. These risks are modeled as part of the management of these programs. Based on current prices, a decrease in market prices down to an equivalent of \$54.19 per barrel of oil would decrease the fair value of derivative assets by \$44 million with lending customers comprising the bulk of the assets. An increase in prices up to the equivalent of \$89.25 per barrel of oil would increase the fair value of derivative assets by \$679 million. Liquidity requirements of this program are also affected by our credit rating. A decrease in our credit rating to below investment grade would increase our obligation to post cash margin on existing contracts by approximately \$10 million. The fair value of our to-be-announced residential mortgage-backed securities and interest rate swap derivative contracts is affected by changes in interest rates. Based on our assessment as of December 31, 2024, changes in interest rates would not materially impact regulatory capital or liquidity needed to support this portion of our customer derivative program.

Summary of Credit Loss Experience

Table 26 – Summary of Credit Loss Experience

(Dollars in thousands)

	Year Ended	
	Dec. 31, 2024	Dec. 31, 2023
Allowance for loan losses:		
Beginning balance	\$ 277,123	235,704
Loans charged off	(18,835)	(27,316)
Recoveries of loans previously charged off	5,956	9,217
Net loans charged off	(12,879)	(18,099)
Provision for credit losses	15,791	59,518
Ending balance	\$ 280,035	277,123
Accrual for off-balance sheet credit risk from unfunded loan commitments:		
Beginning balance	\$ 48,977	60,919
Provision for credit losses	2,663	(11,942)
Ending balance	\$ 51,640	48,977
Accrual for off-balance sheet credit risk associated with mortgage banking activities:		
Beginning balance	\$ 3,492	4,904
Net loans charged off	(3)	(58)
Provision for credit losses	(341)	(1,354)
Ending balance	\$ 3,148	3,492
Allowance for credit losses related to held-to-maturity (investment) securities:		
Beginning balance	\$ 336	558
Provision for credit losses	(113)	(222)
Ending balance	\$ 223	336
Total provision for credit losses	\$ 18,000	46,000
Average loans by portfolio segment:		
Commercial	\$ 15,061,959	14,320,970
Commercial real estate	5,069,162	5,163,569
Loans to individuals	4,034,660	3,640,810
Net charge-offs (annualized) to average loans	0.0%	0.0%
Net charge-offs (annualized) to average loans by portfolio segment:		
Commercial	0.0%	0.0%
Commercial real estate	0.0%	0.1%
Loans to individuals	0.0%	0.0%
Recoveries to gross charge-offs	31.6%	33.7%
Provision for loan losses (annualized) to average loans	0.0%	0.2%
Allowance for loan losses to loans outstanding at period end	1.1%	1.1%
Accrual for unfunded loan commitments to loan commitments	0.3%	0.3%
Combined allowance for loan losses and accrual for off-balance sheet credit risk from unfunded loan commitments to loans outstanding at period end	1.3%	1.3%

Allowance for Loan Losses and Accrual for Off-Balance Sheet Credit Risk from Unfunded Loan Commitments

Expected credit losses on assets carried at amortized cost are recognized over their expected lives based on models that measure the probability of default and loss given default over a 12-month reasonable and supportable forecast period. Models incorporate base case, downside and upside macroeconomic variables such as real GDP growth, civilian unemployment rate and WTI oil prices on a probability weighted basis. See Note 4 to the Consolidated Financial Statements for additional discussion of methodology of allowance for loan losses.

An \$18.0 million provision for credit losses was recorded for the year ended December 31, 2024. Improvement in the forecasted economic outlook during the year was offset by the impact of loan growth and some risk grade migration.

Non-pass grade loans, which include loans especially mentioned, accruing substandard and nonaccruing loans, increased \$141 million to \$594 million at December 31, 2024. Non-pass grade loans were composed primarily of \$267 million, or 7%, of commercial healthcare loans, \$126 million, or 3%, of commercial real estate loans, \$106 million, or 3%, of commercial general business loans, \$56 million, or 2%, of commercial services loans, and \$29 million, or 1%, of loans to individuals. A summary of outstanding loan balances by risk grade is included in Note 4 to the Consolidated Financial Statements.

No provision for credit losses was necessary for the fourth quarter of 2024.

At December 31, 2024, the allowance for loan losses totaled \$280 million, or 1.16% of outstanding loans. Excluding residential mortgage loans guaranteed by U.S. government agencies, the allowance for loan losses was 701% of nonaccruing loans. The combined allowance for loan losses and accrual for off-balance sheet credit risk from unfunded loan commitments was \$332 million, or 1.38% of outstanding loans and 831% of nonaccruing loans at December 31, 2024.

A \$46.0 million provision for credit losses was recorded for the year ended December 31, 2023 primarily due to loan growth and changes in our economic forecast during the year, including a more challenging commercial real estate environment.

At December 31, 2023, the allowance for loan losses was \$277 million, or 1.16% of outstanding loans. Excluding residential mortgage loans guaranteed by U.S. government agencies, the allowance for loan losses was 204% of nonaccruing loans. The combined allowance for loan losses and accrual for off-balance sheet credit risk from unfunded loan commitments was \$326 million, or 1.36% of outstanding loans and 240% of nonaccruing loans at December 31, 2023.

A summary of macroeconomic variables considered in developing our estimate of expected credit losses at December 31, 2024 follows:

	Base	Downside	Upside
Scenario probability weighting	50%	30%	20%
Economic outlook	<p>Geopolitical conflicts remain isolated.</p> <p>There are two rate cuts over the next four quarters, bringing the federal funds target range to 3.75% to 4.00% by the end of the fourth quarter of 2025. Core inflation continues to improve from the previous peaks and reaches 2.4% by the fourth quarter of 2025.</p> <p>Job openings continue to normalize, and overall hiring levels decline causing the national unemployment rate to modestly increase over the next four quarters.</p> <p>Inflation pressures ease and help stabilize household income. A restrictive credit environment slows economic activity and results in below-trend GDP growth.</p>	<p>Geopolitical conflicts remain isolated.</p> <p>The Federal Reserve is forced to adopt an accommodative monetary policy and cut the federal funds rate significantly to encourage economic activity and job creation to help limit the depth of a recession. In total, there are seven rate cuts over the next four quarters, bringing the target range to 2.50% to 2.75% by the end of the fourth quarter of 2025.</p> <p>Tight monetary conditions result in declines in consumer spending while a restrictive credit environment decreases private sector investment. This pushes the United States into a recession with a contraction in economic activity and a sharp increase in the unemployment rate.</p>	<p>Geopolitical conflicts remain isolated.</p> <p>There are three rate cuts over the next four quarters, bringing the federal funds target range to 3.50% to 3.75% by the fourth quarter of 2025. Core inflation continues to improve from the previous peaks and reaches 2.2% by the fourth quarter of 2025.</p> <p>Labor force participants continue to re-enter the job market to help fill the elevated level of job openings. This increase in employment helps real household income continue to grow above its pre-pandemic trend. This supports consumer spending and maintains GDP growth consistent with pre-pandemic levels.</p>
Macro-economic factors	<ul style="list-style-type: none"> – GDP is forecasted to grow by 1.9% over the next 12 months. – Civilian unemployment rate of 4.2% in the first quarter of 2025 increasing to 4.3% by the fourth quarter of 2025. – WTI oil prices are projected to generally follow the NYMEX forward curve that existed at the end of December 2024 and are expected to average \$67.17 per barrel over the next 12 months. 	<ul style="list-style-type: none"> – GDP is forecasted to contract 1.8% over the next 12 months. – Civilian unemployment rate of 4.8% in the first quarter of 2025 worsens to 6.6% by the fourth quarter of 2025. – WTI oil prices are projected to average \$46.98 per barrel over the next twelve months, with a peak of \$50.24 in the first quarter of 2025 and falling 13% over the following three quarters. 	<ul style="list-style-type: none"> – GDP is forecasted to grow by 2.2% over the next 12 months. – Civilian unemployment rate of 4.2% in the first quarter of 2025 decreases slightly to 4.0% by the fourth quarter of 2025. – WTI oil prices are projected to average \$66.84 per barrel over the next 12 months.

Net Loans Charged Off

In 2024, net loans charged off totaled \$13 million, or 0.05% of average loans, down from \$18 million, or 0.08% of average loans in 2023.

In 2024, net charge-offs of commercial loans were \$8.7 million, primarily related to a single healthcare borrower and a single general business borrower in the manufacturing sector. Net commercial real estate loan charge-offs were \$1.2 million primarily related to a single office loan. Net loan charge-offs of loans to individuals were \$3.0 million. Net charge-offs of loans to individuals include deposit account overdraft losses.

Nonperforming Assets

As more fully described in Note 1 to the Consolidated Financial Statements, loans are generally classified as nonaccruing when it becomes probable that we will not collect the full contractual principal and interest. Real estate and other repossessed assets are assets acquired in partial or total forgiveness of loans. The assets are carried at the lower of cost, as determined by fair value at the date of foreclosure, or current fair value, less estimated selling costs. A summary of nonperforming assets follows in Table 27:

Table 27 - Nonperforming Assets

(Dollars in thousands)

	December 31,	
	2024	2023
Nonaccruing loans:		
Commercial		
Healthcare	\$ 13,717	\$ 81,529
Services	767	3,616
Energy	49	17,843
General business	114	7,143
Total commercial	14,647	110,131
Commercial real estate	9,905	7,320
Loans to individuals		
Residential mortgage	15,261	18,056
Residential mortgage guaranteed by U.S. government agencies	6,803	9,709
Personal	109	253
Total loans to individuals	22,173	28,018
Total nonaccruing loans	46,725	145,469
Real estate and other repossessed assets	2,254	2,875
Total nonperforming assets	\$ 48,979	\$ 148,344
Total nonperforming assets excluding those guaranteed by U.S. government agencies	\$ 42,176	\$ 138,635
Allowance for loan losses to nonaccruing loans ¹	701.46 %	204.13 %
Combined allowance for loan losses and accrual for off-balance sheet credit risk from unfunded loan commitments to nonaccruing loans ¹	830.81 %	240.20 %
Nonperforming assets to outstanding loans and repossessed assets	0.20 %	0.62 %
Nonperforming assets to outstanding loans and repossessed assets ¹	0.18 %	0.58 %
Nonaccruing loans to outstanding loans	0.19 %	0.61 %
Nonaccruing commercial loans to outstanding commercial loans	0.10 %	0.74 %
Nonaccruing commercial real estate loans to outstanding commercial real estate loans	0.20 %	0.14 %
Nonaccruing loans to individuals to outstanding loans to individuals ¹	0.40 %	0.51 %
Accruing loans 90 days or more past due ¹	\$ —	\$ 170

¹ Excludes residential mortgages guaranteed by U.S. government agencies.

Excluding loans guaranteed by U.S. government agencies, nonperforming assets decreased \$96 million compared to December 31, 2023, primarily due to a \$68 million decrease in nonaccruing healthcare loans and an \$18 million decrease in nonaccruing energy loans. Newly identified nonaccruing loans totaled \$80 million, offset by \$121 million in payments, \$35 million of loans returning to accrual status and \$19 million of charge-offs. The Company generally retains nonperforming assets to maximize potential recovery, which may cause future nonperforming assets to decrease more slowly.

A rollforward of nonperforming assets for the years ended December 31, 2024, and December 31, 2023 follows in Table 28.

Table 28 – Rollforward of Nonperforming Assets
(In thousands)

	Year Ended December 31, 2024							
	Nonaccruing Loans				Real Estate and Other Repossessed Assets			Total Nonperforming Assets
	Commercial	Commercial Real Estate	Loan to Individuals	Total	Renegotiated Loans	Other Repossessed Assets	Total Nonperforming Assets	
Balance, December 31, 2023	\$ 110,131	\$ 7,320	\$ 28,018	\$ 145,469	\$ —	\$ 2,875	\$ 148,344	
Additions	45,998	18,766	15,312	80,076	—	—	80,076	
Payments	(99,436)	(14,726)	(6,793)	(120,955)	—	—	(120,955)	
Charge-offs	(11,763)	(1,455)	(5,617)	(18,835)	—	—	(18,835)	
Net gains (losses) and write-downs	—	—	—	—	—	(50)	(50)	
Foreclosure of nonaccruing loans	(186)	—	(276)	(462)	—	462	—	
Foreclosure of loans guaranteed by U.S. government agencies	—	—	(1,813)	(1,813)	—	—	(1,813)	
Proceeds from sales	—	—	—	—	—	(1,033)	(1,033)	
Net transfers to nonaccruing loans	—	—	(1,473)	(1,473)	—	—	(1,473)	
Return to accrual status	(30,097)	—	(5,185)	(35,282)	—	—	(35,282)	
Balance, December 31, 2024	\$ 14,647	\$ 9,905	\$ 22,173	\$ 46,725	\$ —	\$ 2,254	\$ 48,979	

	Year Ended December 31, 2023							
	Nonaccruing Loans				Real Estate and Other Repossessed Assets			Total Nonperforming Assets
	Commercial	Commercial Real Estate	Loan to Individuals	Total	Renegotiated Loans	Other Repossessed Assets	Total Nonperforming Assets	
Balance, December 31, 2022	\$ 60,297	\$ 16,570	\$ 44,930	\$ 121,797	\$ 163,535	\$ 14,304	\$ 299,636	
Change in accounting standard	—	—	—	—	(163,535)	—	(163,535)	
Additions	95,586	7,459	15,789	118,834	—	—	118,834	
Payments	(32,296)	(8,263)	(10,887)	(51,446)	—	—	(51,446)	
Charge-offs	(12,898)	(8,446)	(5,972)	(27,316)	—	—	(27,316)	
Net gains (losses) and write-downs	—	—	—	—	—	622	622	
Foreclosure of nonaccruing loans	—	—	(787)	(787)	—	787	—	
Foreclosure of loans guaranteed by U.S. government agencies	—	—	(4,634)	(4,634)	—	—	(4,634)	
Proceeds from sales	—	—	—	—	—	(12,838)	(12,838)	
Net transfers to nonaccruing loans	—	—	662	662	—	—	662	
Return to accrual status	(558)	—	(11,083)	(11,641)	—	—	(11,641)	
Balance, December 31, 2023	\$ 110,131	\$ 7,320	\$ 28,018	\$ 145,469	\$ —	\$ 2,875	\$ 148,344	

We foreclose on loans guaranteed by U.S. government agencies in accordance with agency guidelines. Generally these loans are not eligible for modification programs or have failed to comply with modified loan terms. Principal is guaranteed by agencies of the U.S. government, subject to limitations, and credit risk is limited. These properties will be conveyed to the agencies and receivables collected once applicable criteria have been met.

Real Estate and Other Repossessed Assets

Real estate and other repossessed assets totaled \$2.3 million at December 31, 2024, composed primarily of \$1.9 million of developed commercial real estate. Real estate and other repossessed assets decreased \$621 thousand compared to December 31, 2023.

Liquidity and Capital

BOK Financial has numerous material cash requirements in the normal course of business. These obligations include deposits and other borrowed funds, leased premises, commitments to extend credit to borrowers, and to purchase securities, derivative contracts, and contracts for services such as data processing that are integral to our operations. Additional information on loan commitments can be found in the "Loan Commitments" section of Management's Discussion and Analysis while the distribution of time deposit balances can be located in Note 8, "Deposits," and information related to Other Borrowings can be located in Note 9, "Other Borrowings."

Our funding sources, which primarily include deposits and borrowings from the Federal Home Loan Banks, provide adequate liquidity to meet our operating needs. Based on the average balances for 2024, approximately 72% of our funding was provided by deposit accounts, 15% from borrowed funds, less than 1% from long-term subordinated debt, and 11% from equity. The loan to deposit ratio decreased to 63% at December 31, 2024 from 70% at December 31, 2023, and continues to provide significant on-balance sheet liquidity to meet future loan demand and contractual obligations.

Subsidiary Bank

Deposits and borrowed funds are the primary sources of liquidity for BOKF, NA, the wholly owned subsidiary bank of BOK Financial. We compete for retail and commercial deposits by offering a broad range of products and services and focusing on customer convenience. Retail deposit growth is supported through personal and small business checking, online bill paying services, mobile banking services, an extensive network of branch locations and ATMs, and our ExpressBank call center. Commercial deposit growth is supported by offering treasury management and lockbox services. We also acquire brokered deposits when the cost of funds is advantageous to other funding sources.

Table 29 - Average Deposits by Segment

(In thousands)

	Year Ended December 31,	
	2024	2023
Commercial Banking	\$ 16,752,377	\$ 15,321,427
Consumer Banking	8,077,700	8,014,159
Wealth Management	9,654,008	7,739,490
Segment total	34,484,085	31,075,076
Funds Management and other	1,835,875	2,129,758
BOK Financial Corporation	\$ 36,319,960	\$ 33,204,834

Average deposits for 2024 totaled \$36.3 billion, an increase of \$3.1 billion compared to the prior year. Interest-bearing transaction deposit account balances increased \$4.3 billion, and average time deposits increased \$1.2 billion, while demand deposits decreased \$2.3 billion.

Average deposits attributed to Commercial Banking were \$16.8 billion for 2024, a \$1.4 billion, or 9%, increase compared to 2023. Interest-bearing transaction account balances increased \$3.2 billion, or 36%, and demand deposit balances decreased \$1.8 billion, or 30%. Our Commercial deposit portfolio is highly diversified across industries and customers. The highest concentration by industry within our commercial deposit portfolio is with our energy customers representing 8% of our total average deposits.

Average Consumer Banking deposit balances increased \$64 million, or 1%, compared to the prior year. Time deposit balances increased \$845 million, or 99%. Interest-bearing transaction account balances decreased \$504 million, or 15%, demand deposit account balances decreased \$199 million, or 7%, and savings deposits decreased \$78 million, or 9%.

Average Wealth Management deposit balances grew by \$1.9 billion, or 25%, compared to the prior year. Interest-bearing transaction balances increased \$1.8 billion, or 31%, and time deposit balances were up \$350 million, or 42%. Non-interest-bearing demand deposits decreased \$229 million, or 20%.

Average brokered deposits represented 5% of total average deposits in 2024. Excluding the reciprocal component, brokered deposits represented 2% of average deposits. Beginning in the first quarter of 2024, reciprocal deposit balances exceeded the \$5 billion general threshold as defined by the FDIC. Reciprocal deposit balances in excess of the \$5 billion general threshold are included as brokered deposits. Growth in brokered deposits during the year was entirely related to growth in reciprocal deposit balances. Average interest-bearing transaction accounts for 2024 included \$1.3 billion of brokered deposits, a \$988 million increase over 2023. Average time deposits included \$342 million of brokered deposits for 2024, a \$118 million decrease compared to 2023.

The distribution of our period end deposit account balances among principal markets follows in Table 30.

Table 30 - Period End Deposits by Principal Market Area

(In thousands)

	December 31,	
	2024	2023
Oklahoma:		
Demand	\$ 3,618,771	\$ 3,586,091
Interest-bearing:		
Transaction	13,352,732	10,929,704
Savings	497,443	500,313
Time	2,138,620	1,984,336
Total interest-bearing	15,988,795	13,414,353
Total Oklahoma	19,607,566	17,000,444
Texas:		
Demand	2,216,393	2,306,334
Interest-bearing:		
Transaction	6,205,605	5,035,856
Savings	154,112	155,652
Time	646,490	492,753
Total interest-bearing	7,006,207	5,684,261
Total Texas	9,222,600	7,990,595
Colorado:		
Demand	1,159,076	1,633,672
Interest-bearing:		
Transaction	2,089,475	1,921,605
Savings	59,244	67,646
Time	280,081	201,393
Total interest-bearing	2,428,800	2,190,644
Total Colorado	3,587,876	3,824,316
New Mexico:		
Demand	659,234	794,467
Interest-bearing:		
Transaction	1,305,044	886,089
Savings	90,580	95,453
Time	347,443	258,195
Total interest-bearing	1,743,067	1,239,737
Total New Mexico	2,402,301	2,034,204

	December 31,	
	2024	2023
Arizona:		
Demand	418,587	524,167
Interest-bearing:		
Transaction	1,277,494	1,174,715
Savings	12,336	11,636
Time	70,390	41,884
Total interest-bearing	1,360,220	1,228,235
Total Arizona	1,778,807	1,752,402
Kansas/Missouri:		
Demand	277,440	326,496
Interest-bearing:		
Transaction	1,169,541	966,166
Savings	12,158	13,821
Time	37,210	23,955
Total interest-bearing	1,218,909	1,003,942
Total Kansas/Missouri	1,496,349	1,330,438
Arkansas:		
Demand	22,396	25,266
Interest-bearing:		
Transaction	55,215	49,966
Savings	2,944	2,564
Time	15,176	9,506
Total interest-bearing	73,335	62,036
Total Arkansas	95,731	87,302
Total BOK Financial deposits	\$ 38,191,230	\$ 34,019,701

Estimated uninsured deposits totaled \$20.4 billion, or 53% of total deposits, at December 31, 2024, and \$18.7 billion, or 55% of total deposits, at December 31, 2023. In addition to insured deposits, we also hold \$3.7 billion of collateralized deposits. Municipalities, Native American tribal governments, and certain trust-related deposits are all required to be collateralized. Excluding the impact of collateralized deposits and deposits related to consolidated subsidiaries, our uninsured and uncollateralized deposit level is \$15.7 billion, or 41% of total deposits, at December 31, 2024. The portion of time deposits in excess of the FDIC limit, as applied without regard to other deposit balances held by the depositor, were \$750 million at December 31, 2024, and \$465 million at December 31, 2023.

In addition to deposits, liquidity for the subsidiary bank is provided primarily by federal funds purchased, securities repurchase agreements, and Federal Home Loan Bank borrowings. Federal funds purchased consist primarily of unsecured, overnight funds acquired from other financial institutions. Funds are primarily purchased from bankers' banks and Federal Home Loan Banks from across the country. The largest source of wholesale federal funds purchased totaled \$250 million at December 31, 2024, and December 31, 2023. Securities repurchase agreements generally mature within 90 days and are secured by certain trading or available for sale securities. Federal Home Loan Bank borrowings are generally short term and are secured by a blanket pledge of eligible collateral (generally unencumbered U.S. Treasury and mortgage-backed securities, 1-4 family residential mortgage loans, multifamily, and other qualifying commercial real estate loans). Amounts borrowed from the Federal Home Loan Bank of Topeka averaged \$6.2 billion during 2024, and \$5.9 billion during 2023.

At December 31, 2024, management estimates a total potential secured borrowing capacity of approximately \$27.5 billion. This includes current available secured capacity of \$22.9 billion from the use of programs available to U.S. banks from the Federal Home Loan Banks and Federal Reserve Banks, and an estimated \$4.6 billion of other sources that could be converted into additional secured capacity.

BOKF, NA also has a liability related to the repurchase of certain delinquent residential mortgage loans previously sold in GNMA mortgage pools. Interest is payable monthly at rates contractually due to investors.

See Note 9 to the Consolidated Financial Statements for a summary of other borrowings.

Parent Company and Other Non-Bank Subsidiaries

The primary sources of liquidity for BOK Financial are cash on hand and dividends from the subsidiary bank. Cash and cash equivalents totaled \$276 million at December 31, 2024. Dividends from the subsidiary bank are limited by various banking regulations to net profits, as defined, for the year plus retained profits for the two preceding years. Dividends are further restricted by minimum capital requirements. At December 31, 2024, based on the most restrictive limitations as well as management's internal capital policy, BOKF, NA could declare up to \$660 million of dividends without regulatory approval. Dividend constraints may be alleviated through increases in retained earnings, capital issuances, or changes in risk weighted assets. Future losses or increases in required regulatory capital could also affect the subsidiary bank's ability to pay dividends to the parent company.

As a result of the acquisition of CoBiz Financial, we obtained \$60 million of subordinated debt issued in June 2015 that will mature on June 25, 2030. This debt bears interest at the rate of 5.625% through June 25, 2025, and thereafter, the notes will bear an annual floating rate equal to 3-month SOFR plus 317 basis points and a 26 basis point tenor adjustment. We also acquired \$72 million of junior subordinated debentures. Interest is based on spreads over 3-month SOFR ranging from 145 basis points to 295 basis points with a tenor adjustment of 26 basis points and mature September 17, 2033 through September 30, 2035. The junior subordinated debentures are subject to early redemption prior to maturity.

Shareholders' equity at December 31, 2024 was \$5.5 billion, an increase of \$406 million compared to December 31, 2023. Net income less cash dividends paid increased equity \$381 million during 2024. Changes in interest rates resulted in an accumulated other comprehensive loss of \$503 million at December 31, 2024, compared to an accumulated comprehensive loss of \$599 million at December 31, 2023. We also repurchased \$90 million of common shares during 2024. Capital is managed to maximize long-term value to the shareholders. Factors considered in managing capital include projections of future earnings, asset growth and acquisition strategies, and regulatory and debt covenant requirements. Capital management may include subordinated debt issuance, share repurchase, and stock and cash dividends.

On November 1, 2022, the Company's board of directors authorized the Company to repurchase up to five million shares of the Company's common stock, subject to market conditions, securities laws, and other regulatory compliance limitations. As of December 31, 2024, the Company had repurchased 3,457,020 shares under this authorization. The Company repurchased 1,028,806 shares during 2024 at an average price of \$86.49 per share, net of the 1% excise tax on share purchases. We view share buybacks opportunistically, but within the context of maintaining our strong capital position.

BOK Financial and the subsidiary bank are subject to various capital requirements administered by federal agencies. Failure to meet minimum capital requirements, including a capital conservation buffer, can result in certain mandatory and additional discretionary actions by regulators that could have a material impact on operations including restrictions on capital distributions from dividends and share repurchases and executive bonus payments. These capital requirements include quantitative measures of assets, liabilities, and off-balance sheet items. The capital standards are also subject to qualitative judgments by the regulators.

A summary of minimum capital requirements and other performance ratios follows for BOK Financial on a consolidated basis in Table 31.

Table 31 – Capital and Performance Ratios

	Minimum Capital Requirement	Capital Conservation Buffer	Minimum Capital Requirement Including Capital Conservation Buffer	December 31,	
				2024	2023
Capital:					
Common equity Tier 1	4.50 %	2.50 %	7.00 %	13.03 %	12.06 %
Tier 1 capital	6.00 %	2.50 %	8.50 %	13.04 %	12.07 %
Total capital	8.00 %	2.50 %	10.50 %	14.21 %	13.16 %
Tier 1 Leverage	4.00 %	N/A	4.00 %	9.97 %	9.45 %
Average total equity to average assets				10.51 %	10.17 %
Tangible common equity ratio ¹				9.17 %	8.29 %
Adjusted tangible common equity ratio ¹				8.86 %	8.02 %
Performance Ratios:					
Return on average equity				9.82 %	10.82 %
Return on average tangible common equity ¹				12.37 %	14.00 %

¹ See Explanation and Reconciliation of Non-GAAP Measures following.

In March 2020, in response to the impact on the financial markets by the COVID-19 pandemic, the banking agencies issued an interim final rule permitting banking organizations that implement CECL the option to delay for two years an estimate of the CECL methodology's effect on regulatory capital, followed by a three-year transition period. The estimate includes the implementation date adjustment as of January 1, 2020 plus an estimate of the impact of the change for a two year period following implementation of CECL. We elected to delay the regulatory capital impact of the transition in accordance with the interim final rule, with the transition period ending January 1, 2025. Deferral of the impact of CECL added 3 basis points to the Company's Common equity Tier 1 capital at December 31, 2024.

Non-GAAP Measures

In this report we may sometimes use non-GAAP financial measures. Please note that although non-GAAP financial measures provide useful insight to analysts, investors and regulators, they should not be considered in isolation or relied upon as a substitute for analysis using GAAP measures.

Table 32 provides a reconciliation of the non-GAAP measures with financial measures defined by GAAP.

Table 32 – Non-GAAP Measures

(Dollars in thousands)

	December 31,	
	2024	2023
Reconciliation of tangible common equity ratio and adjusted tangible common equity ratio:		
Total shareholders' equity	\$ 5,548,353	\$ 5,142,442
Less: Goodwill and intangible assets, net	1,091,537	1,104,728
Tangible common equity	4,456,816	4,037,714
Add: Unrealized loss on investment securities, net	(199,519)	(171,903)
Add: Tax effect on unrealized loss on investment securities, net	46,925	40,430
Adjusted tangible common equity	\$ 4,304,222	\$ 3,906,241
Total assets	\$ 49,685,892	\$ 49,824,830
Less: Goodwill and intangible assets, net	1,091,537	1,104,728
Tangible assets	\$ 48,594,355	\$ 48,720,102
Tangible common equity ratio	9.17 %	8.29 %
Adjusted tangible common equity ratio	8.86 %	8.02 %
Reconciliation of return on average tangible common equity:		
Total average shareholders' equity	\$ 5,331,345	\$ 4,903,998
Less: Average goodwill and intangible assets, net	1,098,737	1,113,701
Average tangible common equity	\$ 4,232,608	\$ 3,790,297
Net Income	\$ 523,569	\$ 530,746
Return on average tangible common equity	12.37 %	14.00 %
Reconciliation of pre-provision net revenue:		
Net income before taxes	\$ 666,644	\$ 683,248
Add: Provision for expected credit losses	18,000	46,000
Less: Net income (loss) attributable to non-controlling interests	(16)	387
Pre-provision net revenue	\$ 684,660	\$ 728,861
Calculation of efficiency ratio:		
Total other operating expense	\$ 1,365,755	\$ 1,332,881
Less: Amortization of intangible assets	11,612	13,882
Numerator for efficiency ratio	\$ 1,354,143	\$ 1,318,999
Net interest and dividend income	\$ 1,210,758	\$ 1,272,180
Add: Tax-equivalent adjustment	9,147	8,811
Tax-equivalent net interest and dividend income	1,219,905	1,280,991
Add: Total other operating revenue	839,641	789,949
Less: Loss on available for sale securities, net	(45,828)	(30,636)
Denominator for efficiency ratio	\$ 2,105,374	\$ 2,101,576
Efficiency ratio	64.32 %	62.76 %

	December 31,	
	2024	2023
Information on net interest income and net interest margin excluding trading activities:		
Net interest and dividend income	\$ 1,210,758	\$ 1,272,180
Less: Trading activities net interest income	7,583	(14,202)
Net interest and dividend income excluding trading activities	1,203,175	1,286,382
Add: Tax-equivalent adjustment	9,147	8,811
Tax-equivalent net interest income excluding trading activities	\$ 1,212,322	\$ 1,295,193
Average interest-earning assets	\$ 45,538,838	\$ 42,975,672
Less: Average trading activities interest-earning assets	5,683,573	4,559,012
Average interest-earning assets excluding trading activities	\$ 39,855,265	\$ 38,416,660
Net interest margin on average interest-earning assets	2.65 %	2.93 %
Net interest margin on average trading activities interest-earning assets	0.13 %	(0.31)%
Net interest margin on average interest-earning assets excluding trading activities	3.01 %	3.31 %

Explanation of Non-GAAP Measures

The tangible common equity ratio and return on average tangible common equity are primarily based on total shareholders' equity, which includes unrealized gains and losses on available for sale securities, less intangible assets and equity that do not benefit common shareholders. The adjusted tangible common equity ratio also includes unrealized gains and losses on the investment portfolio. These measures are valuable indicators of a financial institution's capital strength since they eliminate intangible assets from shareholders' equity and retain the effect of unrealized losses on securities and other components of accumulated other comprehensive income in shareholders' equity.

Pre-provision net revenue is a measure of revenue less expenses and is calculated before provision for credit losses and income tax expense. This financial measure is frequently used by investors and analysts and enables them to assess a company's ability to generate earnings to cover credit losses through a credit cycle. It also provides an additional basis for comparing the results of operations between periods by isolating the impact of the provision for credit losses, which can vary significantly between periods.

The efficiency ratio measures the Company's ability to use its assets and manage its liabilities effectively in the current period.

Net interest income and net interest margin excluding trading activities remove the effect of trading activities on these metrics allowing management and investors to assess the performance of the Company's core lending and deposit activities without the associated volatility from trading activities.

Off-Balance Sheet Arrangements

See Note 14 to the Consolidated Financial Statements for a discussion of the Company's significant off-balance sheet commitments.

Recently Issued Accounting Standards

See Note 1 to the Consolidated Financial Statements for disclosure of newly adopted and pending accounting standards.

Forward-Looking Statements

This 10-K contains forward-looking statements that are based on management's beliefs, assumptions, current expectations, estimates and projections about BOK Financial, the financial services industry, the economy generally and the related responses of the government, consumers, and others, on our business, financial condition and results of operations. Words such as "anticipates," "believes," "estimates," "expects," "forecasts," "plans," "projects," "will," "intends," variations of such words and similar expressions are intended to identify such forward-looking statements. Management judgments relating to and discussion of the provision and allowance for credit losses, allowance for uncertain tax positions, accruals for loss contingencies and valuation of mortgage servicing rights involve judgments as to expected events and are inherently forward-looking statements. Assessments that acquisitions and growth endeavors will be profitable are necessary statements of belief as to the outcome of future events based in part on information provided by others which BOK Financial has not independently verified. These various forward-looking statements are not guarantees of future performance and involve certain risks, uncertainties, and assumptions which are difficult to predict with regard to timing, extent, likelihood and degree of occurrence. Therefore, actual results and outcomes may materially differ from what is expected, implied or forecasted in such forward-looking statements. Internal and external factors that might cause such a difference include, but are not limited to changes in commodity prices, interest rates and interest rate relationships, inflation, demand for products and services, the degree of competition by traditional and nontraditional competitors, changes in banking regulations, tax laws, prices, levies and assessments, the impact of technological advances, and trends in customer behavior as well as their ability to repay loans. BOK Financial and its affiliates undertake no obligation to update, amend or clarify forward-looking statements, whether as a result of new information, future events or otherwise.

Annualized, pro forma, projected and estimated numbers are used for illustrative purpose only, are not forecasts and may not reflect actual results.

Legal Notice

As used in this report, the term "BOK Financial" and such terms as "the Company," "the Corporation," "our," "we" and "us" may refer to one or more of the consolidated subsidiaries or all of them taken as a whole. All these terms are used for convenience only and are not intended as a precise description of any of the separate companies, each of which manages its own affairs.

ITEM 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

Market Risk

Market risk is a broad term for the risk of economic loss due to adverse changes in the fair value of a financial instrument. These changes may be the result of various factors, including interest rates, foreign exchange rates, commodity prices, or equity prices. Financial instruments that are subject to market risk can be classified either as held for trading or held for purposes other than trading. Market risk excludes changes in fair value due to credit of the individual issuers of financial instruments.

BOK Financial is subject to market risk primarily through the effect of changes in interest rates on both its assets held for purposes other than trading and trading assets. The effects of other changes such as foreign exchange rates, commodity prices or equity prices do not pose significant market risk to BOK Financial. BOK Financial has no material investments in assets that are affected by changes in foreign exchange rates or equity prices. Energy and other commodity derivative contracts, which are affected by changes in commodity prices, are matched against offsetting contracts as previously discussed.

The Asset/Liability Committee is responsible for managing market risk in accordance with policy limits established by the Board of Directors. The Committee monitors projected variation in net interest income, net income and economic value of equity due to specified changes in interest rates. These limits also set maximum levels for short-term borrowings, short-term assets, public funds and brokered deposits and establish minimum levels for unpledged assets, among other things. Further, the Board has approved market risk limits for fixed income trading, mortgage pipeline and mortgage servicing assets inclusive of economic hedge benefits. Exposure is measured daily and compliance is reviewed monthly. Deviations from the Board approved limits, which periodically occur throughout the reporting period, may require management to develop and execute plans to reduce exposure. These plans are subject to escalation to and approval by the Board.

The simulations used to manage market risk are based on numerous assumptions regarding the effects of changes in interest rates on the timing and extent of repricing characteristics, future cash flows, and customer behavior. These assumptions are inherently uncertain and, as a result, models cannot precisely estimate or precisely predict the impact of higher or lower interest rates. Actual results will differ from simulated results due to timing, magnitude and frequency of interest rate changes, market conditions and management strategies, among other factors.

Interest Rate Risk – Other than Trading

As previously noted in the Net Interest Income section of this report, management has implemented strategies to manage the Company's balance sheet exposure to changes in interest rates over a twelve-month period within established policy limits. The effectiveness of these strategies in managing the overall interest rate risk is evaluated through the use of an asset/liability model. BOK Financial performs a sensitivity analysis to identify more dynamic interest rate risk exposures, including embedded option positions, on net interest income. A simulation model is used to estimate the effect of changes in interest rates on our performance across multiple interest rate scenarios. Our current internal policy limit for net interest income variation due to a 200 basis point parallel change in market interest rates over twelve months is a maximum decline of 6.5%. Management also reviews alternative rate changes and time periods.

The Company's primary interest rate exposures include the Federal Funds rate, which affects short-term borrowings, and the prime lending rate, SOFR, which is the basis for much of the variable rate loan pricing. Additionally, residential mortgage rates directly affect the prepayment speeds for residential mortgage-backed securities and mortgage servicing rights. Derivative financial instruments and other financial instruments used for purposes other than trading are included in this simulation. In addition, the impact on the level and composition of demand deposit accounts and other core deposit balances resulting from a significant increase in short-term market interest rates and the overall interest rate environment is likely to be material. The simulation incorporates assumptions regarding the effects of such changes based on a combination of historical analysis and expected behavior. The impact of planned growth and new business activities is factored into the simulation model.

The interest rate sensitivity in Table 33 indicates management's estimation of the impact of rate changes on net interest income. Should deposit costs be 10% more sensitive to changes in rates, the variation in net interest income over the next twelve months would be 0.97%, or \$12.9 million for the 100 basis point decrease scenario. Alternatively, should deposit funding costs be 10% less sensitive to changes in rates, the variation in net interest income over the next twelve months would be (0.38)%, or (\$5.1 million) for the 100 basis point decrease scenario. Additionally, in a flattening yield curve scenario where long-term rates increase by 100 basis points and short-term rates increase by 200 basis points, net interest income would decrease approximately 5.35%, or \$71.6 million.

Table 33 – Interest Rate Sensitivity

(Dollars in thousands)

	December 31, 2024				December 31, 2023			
	200 bp Increase	100 bp Increase	100 bp Decrease	200 bp Decrease	200 bp Increase	100 bp Increase	100 bp Decrease	200 bp Decrease
Anticipated impact over the next twelve months on net interest income	\$(37,900)	\$(8,100)	\$3,900	\$13,200	\$(36,100)	\$(8,900)	\$(7,900)	\$(2,900)
	(2.83)%	(0.61)%	0.29%	0.99%	(3.03)%	(0.75)%	(0.66)%	(0.24)%
Anticipated impact over months twelve through twenty-four	\$(12,000)	\$17,000	\$(26,100)	\$(44,800)	\$(9,600)	\$15,300	\$(53,700)	\$(84,900)
	(0.82)%	1.16%	(1.78)%	(3.05)%	(0.74)%	1.18%	(4.16)%	(6.57)%

BOK Financial is also subjected to market risk through changes in the fair value of mortgage servicing rights. Changes in the fair value of mortgage servicing rights are highly dependent on changes in primary mortgage rates offered to borrowers, intermediate-term interest rates that affect the value of custodial funds, and assumptions about servicing revenues, servicing costs and discount rates. As primary mortgage rates increase, prepayment speeds slow and the value of our mortgage servicing rights increases. As primary mortgage rates fall, prepayment speeds increase and the value of our mortgage servicing rights decreases.

We maintain a portfolio of financial instruments which may include debt securities issued by the U.S. government or its agencies and interest rate derivative contracts held as an economic hedge of the changes in the fair value of our mortgage servicing rights. Composition of this portfolio will change based on our assessment of market risk. Changes in the fair value of residential mortgage-backed securities are highly dependent on changes in secondary mortgage rates required by investors, and interest rate derivative contracts are highly dependent on changes in other market interest rates. While primary and secondary mortgage rates generally move in the same direction, the spread between them may widen and narrow due to market conditions and government intervention. Changes in the forward-looking spread between the primary and secondary rates can cause significant earnings volatility.

Management performs a stress test to measure market risk due to changes in interest rates inherent in its MSR portfolio and hedges. The stress test shocks applicable interest rates up and down 50 basis points and calculates an estimated change in fair value, net of economic hedging activity, that may result. The Board has approved a \$20 million market risk limit for mortgage servicing rights, net of economic hedges.

Table 34 - MSR Asset and Hedge Sensitivity Analysis

(In thousands)

	December 31,			
	2024		2023	
	Up 50 bp	Down 50 bp	Up 50 bp	Down 50 bp
MSR Asset	\$ 9,730	\$ (11,956)	\$ 7,974	\$ (9,877)
MSR Hedge		(12,269)	12,537	(8,444)
Net Exposure	\$ (2,539)	\$ 581	\$ (470)	\$ (1,271)

Trading Activities

The Company bears market risk by originating residential mortgages held for sale. RMHFS are generally outstanding for 60 to 90 days, which represents the typical period from commitment to originate a loan to sale of the closed loan to an investor. Primary mortgage interest rate changes during this period affect the value of RMHFS commitments and loans. We use forward sale contracts to mitigate market risk on all closed mortgage loans held for sale and on an estimate of mortgage loan commitments that are expected to result in closed loans.

A variety of methods are used to monitor market risk of mortgage origination activities. These methods include daily marking of all positions to market value, independent verification of inventory pricing and revenue sensitivity limits.

Management performs a stress test to measure market risk due to changes in interest rates inherent in the mortgage production pipeline. The stress test shocks applicable interest rates up and down 50 basis points and calculates an estimated change in fair value, net of economic hedging activity that may result. The Board has approved a \$3 million market risk limit for the mortgage production pipeline, net of forward sale contracts.

Table 35 - Mortgage Pipeline Sensitivity Analysis

(In thousands)

	Year Ended December 31,			
	2024		2023	
	Up 50 bp	Down 50 bp	Up 50 bp	Down 50 bp
Average ¹	\$ (87)	\$ (63)	\$ (61)	\$ (38)
Low ²	93	126	49	61
High ³	(316)	(241)	(186)	(168)
Period End	(96)	(117)	14	(41)

¹ Average represents the simple average of each daily value observed during the reporting period.

² Low represents least risk of loss in fair value measured as the smallest negative value or the largest positive value observed daily during the reporting period.

³ High represents the greatest risk of loss in fair value measured as the largest negative value or the smallest positive value observed daily during the reporting period.

BOK Financial enters into trading activities both as an intermediary for customers and for its own account. As an intermediary, we take positions in securities, generally residential mortgage-backed securities, government agency securities and municipal bonds. These securities are purchased for resale to customers, which include individuals, corporations, foundations, and financial institutions. On a limited basis, we may also take trading positions in U.S. Treasury securities, residential mortgage-backed securities and municipal bonds to enhance returns on securities portfolios. Both of these activities involve interest rate risk, liquidity risk and price risk. BOK Financial has an insignificant exposure to foreign exchange risk and does not take positions in commodity derivatives.

A variety of methods are used to monitor and manage the market risk of trading activities. These methods include daily marking of all positions to market value, independent verification of inventory pricing and position limits for each trading activity. Risk management tools include VaR, stress testing and sensitivity analysis. Economic hedges in either the futures or cash markets may be used to reduce the risk associated with some trading programs. Basis risk can result when trading asset values and the instruments used to hedge them move at different rates.

VaR measures the potential loss of a given position or portfolio of positions at a specified confidence level and time horizon. BOK Financial utilizes a historical VaR methodology to measure and aggregate risks across its covered trading positions. For Market Risk Rule purposes, the Company calculates VaR using a historical simulation approach and measures the potential trading losses using a 10-day holding period and a 99% confidence level.

Due to inherent limitations of the VaR methodology, including its reliance on past market behavior which might not be indicative of future market performance, VaR is only one of several tools used to measure and manage market risk. Other tools used to actively manage market risk include stress testing (SVaR) and sensitivity analysis.

SVaR is calculated using the same internal models as used for the VaR-based measure. SVaR is calculated over a ten-day holding period at a one-tail, 99% confidence level and employs a historical simulation approach based on a continuous twelve-month historical window selected to reflect a period of significant financial stress for the Company's trading portfolio.

The trading portfolio's VaR and SVaR profiles are influenced by a variety of factors, including the size and composition of the portfolio, market volatility and the correlation between different positions. A portfolio of trading positions is typically less risky than the sum of the risk from each of the individual sub-portfolios because, under normal market conditions, risk within each category partially offsets the exposure to other risk categories. Table 36 below summarizes certain VaR- and SVaR-based measures for the three months ended December 31, 2024, September 30, 2024, December 31, 2023, and September 30, 2023.

Table 36 - VaR and SVaR Measures

(In thousands)

	Three Months Ended				Three Months Ended			
	Dec. 31, 2024		Sep. 30, 2024		Dec. 31, 2023		Sep. 30, 2023	
	10 day 99% VaR	10 day 99% SVaR	10 day 99% VaR	10 day 99% SVaR	10 day 99% VaR	10 day 99% SVaR	10 day 99% VaR	10 day 99% SVaR
Average ¹	\$ 4,178	\$ 8,122	\$ 4,858	\$ 8,504	\$ 4,757	\$ 8,154	\$ 5,954	\$ 6,118
Low	1,284	4,017	2,443	4,887	2,338	4,067	3,893	4,027
High	7,005	11,200	9,645	13,914	7,776	13,045	9,312	9,312
Period End	3,050	8,374	2,735	6,173	2,977	4,925	6,455	6,455

¹ Average represents the simple average of each daily value observed during the reporting period.

The Company monitors the accuracy of internal VaR models and modeling processes by back-testing model performance. The Company updates historical data used by the VaR model on a regular basis and model validators independent of business lines perform regular modeled validations to access model input, processing and reporting components. These models are required to be independently validated and approved prior to implementation.

Limit Structure

Beyond VaR and SVaR described above, management also performs a sensitivity analysis to measure market risk from changes in interest rates on its trading portfolio. Applicable interest rates are shocked up and down 50 basis points, calculating an estimated change in fair value, net of economic hedging activity that may result. The Board has approved an \$11 million interest rate risk limit for the trading portfolio, net of economic hedges.

Table 37 - Trading Securities Sensitivity Analysis
(In thousands)

	Year Ended December 31,			
	2024		2023	
	Up 50 bp	Down 50 bp	Up 50 bp	Down 50 bp
Average ¹	\$ (3,007)	\$ 4,946	\$ (1,144)	\$ 1,881
Low ²	4,622	11,070	4,513	8,955
High ³	(8,243)	(3,120)	(8,223)	(4,538)
Period End	(3,513)	5,475	(527)	1,920

¹ Average represents the simple average of each daily value observed during the reporting period.

² Low represents least risk of loss in fair value measured as the smallest negative value or the largest positive value observed daily during the reporting period.

³ High represents the greatest risk of loss in fair value measured as the largest negative value or the smallest positive value observed daily during the reporting period.

Model Risk Management

BOK Financial has an internal independent Model Risk Management staff that validates models to verify they are conceptually sound, computationally accurate, are performing as expected and are in line with their intended use. Model Risk Management staff also enforces the Company's model risk governance program that defines roles and responsibilities, including the authority to levy findings requiring remediation and to restrict model usage.

Model Validation

Model validation staff maintain independence from both the developers and users of the models. Models are validated through an evaluation process that assesses the data, theory, implementation, outcomes and governance of each scenario. Each model receives a model risk score, which determines the frequency and scope of validation activities. Validations comprise an assessment of model performance as well as a model's potential limitations given its particular assumptions or weaknesses. Based on the results of the review, the team determines whether the use case for the model is appropriate. The ultimate validation results may require remediation actions from the business line. Model validation results are communicated with one of the following three outcomes: "Approved for use," "Approved with findings," or "Unapproved."

ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

Report of Management on Internal Control over Financial Reporting

Management of BOK Financial Corporation is responsible for establishing and maintaining adequate internal control over financial reporting and for assessing the effectiveness of internal control over financial reporting, as such term is defined in Exchange Act Rules 13a-15(f) and 15d-15(f), as amended. Management has assessed the effectiveness of the Company's internal control over financial reporting based on the criteria established in "Internal Control – Integrated Framework," issued by the COSO of the Treadway Commission in 2013. Based on that assessment and criteria, management has determined that the Company maintained effective internal control over financial reporting as of December 31, 2024.

Ernst & Young LLP (PCAOB ID: 42), the independent registered public accounting firm that audited the Consolidated Financial Statements of the Company included in this annual report, has issued an audit report on the effectiveness of the Company's internal control over financial reporting as of December 31, 2024. Their report, which expresses an unqualified opinion on the effectiveness of the Company's internal control over financial reporting as of December 31, 2024, is included in this annual report.

Report of Independent Registered Public Accounting Firm

To the Shareholders and the Board of Directors of BOK Financial Corporation

Opinion on Internal Control Over Financial Reporting

We have audited BOK Financial Corporation's internal control over financial reporting as of December 31, 2024, 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, BOK Financial Corporation (the Company) maintained, in all material respects, effective internal control over financial reporting as of December 31, 2024, 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 the Company as of December 31, 2024 and 2023, the related consolidated statements of earnings, comprehensive income, changes in equity and cash flows for each of the three years in the period ended December 31, 2024, and the related notes and our report dated February 19, 2025 expressed an unqualified opinion thereon.

Basis for Opinion

The Company'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 Report of Management on Internal Control over Financial Reporting. Our responsibility is to express an opinion on the Company'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 the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our 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.

/s/ Ernst & Young LLP

Tulsa, Oklahoma

February 19, 2025

Report of Independent Registered Public Accounting Firm

To the Shareholders and the Board of Directors of BOK Financial Corporation

Opinion on the Financial Statements

We have audited the accompanying consolidated balance sheets of BOK Financial Corporation (the Company) as of December 31, 2024 and 2023, the related consolidated statements of earnings, comprehensive income, changes in equity and cash flows for each of the three years in the period ended December 31, 2024, 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 the Company at December 31, 2024 and 2023, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2024, 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), the Company's internal control over financial reporting as of December 31, 2024, based on the 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 19, 2025 expressed an unqualified opinion thereon.

Basis for Opinion

These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on the Company'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 the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the 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 accounts or disclosures to which it relates.

Allowance for credit losses

Description of the Matter

The Company's loan portfolio totaled \$24.1 billion as of December 31, 2024, and the associated allowance for credit losses (ACL) was \$332 million. An \$ 18 million provision for credit losses was recorded for the year ended December 31, 2024. As discussed in Note 1 and 4 to the consolidated financial statements, management's estimate for the expected credit losses within the loan portfolio represents the portion of amortized cost basis of loans and related unfunded commitments they do not expect to collect over the asset's contractual life, considering past events, current conditions, as well as reasonable and supportable forecasts of future economic conditions. The allowance for credit losses consists of specific allowances attributed to certain individual loans, generally non-accruing loans, with dissimilar risk characteristics that have not yet been charged down to amounts they expect to recover, general allowances for estimated credit losses on pools of loans that share similar risk characteristics, and qualitative reserves with the estimated impact of factors that are not captured in the modeled results or historical experience.

Auditing management's estimate of the ACL and related provision for credit losses was complex due to the allowance models used, high degree of subjectivity in evaluating management's development of forecasts of future economic conditions ("economic scenarios"), probability weighting of economic scenarios, and qualitative reserves used in the general allowance.

How We Addressed the Matter in Our Audit

We obtained an understanding, evaluated the design and tested the operating effectiveness of internal controls over the ACL process, including, among others, controls over the development, operation, and monitoring of economic scenarios, probability weighting of economic scenarios and qualitative reserves used in the allowance results.

We involved EY specialists in testing management's models including evaluating model methodology, model performance and testing key modeling assumptions as well as controls covering the economic scenarios used by the ACL models. Additionally, with the support of EY specialists, we assessed the economic scenarios and related probability weights by evaluating management's methodology and agreeing a sample of key economic variables used to external sources. We also performed various sensitivity analyses and analytical procedures, including comparison of a sample of the key economic variables to alternative external sources and historical statistics.

With respect to general ACL models, with the support of EY specialists, we evaluated model design and re-performed the calculation for a sample of models. We also tested the appropriateness of key inputs and assumptions used in these models by agreeing a sample of inputs to source documentation.

We evaluated the overall ACL amount, including model estimates, qualitative reserves, and whether the recorded ACL appropriately reflects expected credit losses. We performed analytical procedures on the ACL, charge-off and delinquency rates, and coverage ratios of the ACL. Our audit response also included specific substantive tests of management's process to measure qualitative reserves, including those related to the significant judgments made by management. We compared calculations to industry peer data and compared qualitative reserves to prior periods and prior economic cycles. We also evaluated if the qualitative reserves were applied based on a comprehensive framework and that available information was considered, well-documented, and consistently applied. We searched for and evaluated information that corroborates or contradicts management's economic scenarios and related probability weights as well as identification and measurement of qualitative reserves.

/s/ Ernst & Young LLP

We have served as the Company's auditor since 1990.

Tulsa, Oklahoma

February 19, 2025

Consolidated Statements of Earnings

(In thousands, except share and per share data)

	Year Ended December 31,		
	2024	2023	2022
Interest and dividend revenue			
Loans	\$ 1,760,774	\$ 1,630,620	\$ 976,653
Residential mortgage loans held for sale	5,062	4,341	6,027
Trading securities	288,182	215,994	115,048
Investment securities	30,005	33,822	24,072
Available for sale securities	490,543	387,891	248,323
Fair value option securities	761	7,760	2,145
Restricted equity securities	32,903	29,683	8,282
Interest-bearing cash and cash equivalents	28,234	32,353	11,552
Total interest and dividend revenue	2,636,464	2,342,464	1,392,102
Interest expense			
Deposits	1,025,729	626,597	121,749
Borrowed funds	390,761	434,735	52,483
Subordinated debentures	9,216	8,952	6,490
Total interest expense	1,425,706	1,070,284	180,722
Net interest and dividend income	1,210,758	1,272,180	1,211,380
Provision for credit losses	18,000	46,000	30,000
Net interest and dividend income after provision for credit losses	1,192,758	1,226,180	1,181,380
Other operating revenue			
Brokerage and trading revenue	218,092	240,610	140,978
Transaction card revenue	108,865	106,858	104,266
Fiduciary and asset management revenue	230,860	207,318	196,326
Deposit service charges and fees	118,745	108,514	110,636
Mortgage banking revenue	74,107	55,698	49,365
Other revenue	59,354	62,120	55,642
Total fees and commissions	810,023	781,118	657,213
Other gains, net	79,726	56,795	123
Loss on derivatives, net	(22,461)	(9,921)	(73,011)
Loss on fair value option securities, net	(256)	(4,292)	(20,358)
Change in fair value of mortgage servicing rights	18,437	(3,115)	80,261
Loss on available for sale securities, net	(45,828)	(30,636)	(971)
Total other operating revenue	839,641	789,949	643,257
Other operating expense			
Personnel	811,239	766,610	670,918
Business promotion	33,274	31,796	26,435
Charitable contributions to BOKF Foundation	13,610	2,707	2,500
Professional fees and services	53,921	55,337	56,342
Net occupancy and equipment	125,328	121,502	116,867
FDIC and other insurance	31,105	30,780	17,994
FDIC special assessment	5,521	43,773	—
Data processing and communications	187,273	181,365	165,907
Printing, postage and supplies	15,079	15,225	15,857
Amortization of intangible assets	11,612	13,882	15,692
Mortgage banking costs	34,638	30,524	35,834
Other expense	43,155	39,380	40,134
Total other operating expense	1,365,755	1,332,881	1,164,480
Net income before taxes	666,644	683,248	660,157
Federal and state income taxes	143,091	152,115	139,864
Net income	523,553	531,133	520,293
Net income (loss) attributable to non-controlling interests	(16)	387	20
Net income attributable to BOK Financial Corporation shareholders	\$ 523.569	\$ 530.746	\$ 520.273

Earnings per share:

Basic	\$	8.14	\$	8.02	\$	7.68
Diluted	\$	8.14	\$	8.02	\$	7.68
Average shares used in computation:						
Basic		63,745,088		65,651,569		67,212,728
Diluted		63,745,088		65,651,569		67,212,735
Dividends declared per share	\$	2.22	\$	2.17	\$	2.13

See accompanying notes to Consolidated Financial Statements.

Consolidated Statements of Comprehensive Income

(In thousands)

	Year Ended December 31,		
	2024	2023	2022
Net income	\$ 523,553	\$ 531,133	\$ 520,293
Other comprehensive income (loss) before income taxes:			
Net change in unrealized gain (loss)	33,461	218,293	(1,227,414)
Reclassification adjustments included in earnings:			
Interest revenue, Investment securities	46,020	60,394	42,514
Operating expense, Personnel	—	—	(3,483)
Loss on available for sale securities, net	45,828	30,636	971
Other comprehensive income (loss), before income taxes	125,309	309,323	(1,187,412)
Federal and state income taxes	29,249	71,468	(278,086)
Other comprehensive income (loss), net of income taxes	96,060	237,855	(909,326)
Comprehensive income (loss)	619,613	768,988	(389,033)
Comprehensive income (loss) attributable to non-controlling interests	(16)	387	20
Comprehensive income (loss) attributable to BOK Financial Corp. shareholders	\$ 619,629	\$ 768,601	\$ (389,053)

See accompanying notes to Consolidated Financial Statements.

Consolidated Balance Sheets

(In thousands, except share data)

	December 31,	
	2024	2023
Assets		
Cash and due from banks	\$ 1,043,969	\$ 947,613
Interest-bearing cash and cash equivalents	390,732	400,652
Trading securities	4,899,090	5,193,505
Investment securities, net of allowance (fair value: 2024 – \$ 1,817,929 ; 2023 – \$ 2,072,586)	2,017,225	2,244,153
Available for sale securities	12,851,600	12,286,681
Fair value option securities	17,876	20,671
Restricted equity securities	406,178	423,099
Residential mortgage loans held for sale	77,561	56,935
Loans	24,114,724	23,904,968
Allowance for loan losses	(280,035)	(277,123)
Loans, net of allowance	23,834,689	23,627,845
Premises and equipment, net	634,485	622,223
Receivables	281,091	317,922
Goodwill	1,044,749	1,044,749
Intangible assets, net	46,788	59,979
Mortgage servicing rights	338,145	293,884
Real estate and other repossessed assets, net of allowance (2024 – \$ 5,537 ; 2023 – \$ 5,355)	2,254	2,875
Derivative contracts, net	242,809	410,304
Cash surrender value of bank-owned life insurance	416,741	409,548
Receivable on unsettled securities sales	4,825	391,910
Other assets	1,135,085	1,070,282
Total assets	\$ 49,685,892	\$ 49,824,830
Liabilities and Equity		
Liabilities:		
Noninterest-bearing demand deposits	\$ 8,371,897	\$ 9,196,493
Interest-bearing deposits:		
Transaction	25,455,106	20,964,101
Savings	828,817	847,085
Time	3,535,410	3,012,022
Total deposits	38,191,230	34,019,701
Funds purchased and repurchase agreements	1,292,856	1,122,748
Other borrowings	3,030,123	7,701,552
Subordinated debentures	131,200	131,150
Accrued interest, taxes, and expense	352,345	338,996
Derivative contracts, net	237,582	587,473
Due on unsettled securities purchases	405,494	254,057
Other liabilities	494,105	523,734
Total liabilities	44,134,935	44,679,411
Shareholders' equity:		
Common stock (\$ 0.00006 par value; 2,500,000,000 shares authorized; shares issued and outstanding: 2024 – 76,817,607 ; 2023 – 76,593,292)	5	5
Capital surplus	1,429,628	1,406,745
Retained earnings	5,592,100	5,211,512
Treasury stock (shares at cost: 2024 – 12,696,308 ; 2023 – 11,626,115)	(970,340)	(876,720)
Accumulated other comprehensive loss	(503,040)	(599,100)
Total shareholders' equity	5,548,353	5,142,442
Non-controlling interests	2,604	2,977
Total equity	5,550,957	5,145,419
Total liabilities and equity	\$ 49,685,892	\$ 49,824,830

See accompanying notes to Consolidated Financial Statements.

Consolidated Statements of Changes in Equity

(In thousands)

	Accumulated										Non-Controlling Interests		Total Equity	
	Common Stock		Capital Surplus		Retained Earnings		Treasury Stock		Other Comprehensive Income (Loss)		Shareholders' Equity			
	Shares	Amount	Shares	Amount	Shares	Amount	Shares	Amount	Income (Loss)	Equity	Interest			
Balance, December 31, 2021	76,254	\$ 5	\$ 1,378,794	\$ 4,447,691	7,786	\$)	72,371	\$ 5,363,732	\$ 4,639	\$ 5,368,371				
Net income	—	—	—	520,273	—	—	—	—	520,273	20	520,293			
Other comprehensive loss	—	—	—	—	—	—	—	(909,326)	(909,326)	—	(909,326)			
Repurchase of common stock	—	—	—	—	1,633	(154,887)	—	—	(154,887)	—	(154,887)			
Share-based compensation plans:														
Stock options exercised	1	—	37	—	—	—	—	—	37	—	37			
Non-vested shares awarded, net	168	—	—	—	—	—	—	—	—	—	—	—	—	—
Vesting of non-vested shares	—	—	—	—	46	(4,944)	—	—	(4,944)	—	(4,944)			
Share-based compensation	—	—	11,564	—	—	—	—	—	11,564	—	11,564			
Cash dividends on common stock	—	—	—	(143,800)	—	—	—	—	(143,800)	—	(143,800)			
Capital calls and distributions, net	—	—	—	—	—	—	—	—	—	—	50	50	50	50
						(694,960)								
Balance, December 31, 2022	76,423	\$ 5	\$ 1,390,395	\$ 4,824,164	9,465	\$)	\$ (836,955)	\$ 4,682,649	\$ 4,709	\$ 4,687,358				
Net income	—	—	—	530,746	—	—	—	—	530,746	387	531,133			
Other comprehensive income	—	—	—	—	—	—	—	237,855	237,855	—	237,855			
Repurchase of common stock	—	—	—	—	2,114	(176,819)	—	—	(176,819)	—	(176,819)			
Share-based compensation plans:														
Non-vested shares awarded, net	170	—	—	—	—	—	—	—	—	—	—	—	—	—
Vesting of non-vested shares	—	—	—	—	47	(4,941)	—	—	(4,941)	—	(4,941)			
Share-based compensation	—	—	16,350	—	—	—	—	—	16,350	—	16,350			
Cash dividends on common stock	—	—	—	(143,398)	—	—	—	—	(143,398)	—	(143,398)			
Capital calls and distributions, net	—	—	—	—	—	—	—	—	—	—	(2,119)	(2,119)	(2,119)	(2,119)
						(876,720)								
Balance, December 31, 2023	76,593	\$ 5	\$ 1,406,745	\$ 5,211,512	11,626	\$)	\$ (599,100)	\$ 5,142,442	\$ 2,977	\$ 5,145,419				

(In thousands)

	Accumulated												
	Common Stock		Capital Surplus		Retained Earnings		Treasury Stock		Other Comprehensive Income (Loss)		Total Shareholders' Equity	Non-Controlling Interests	Total Equity
	Shares	Amount			Shares	Amount							
(876,720)													
Balance, December 31, 2023	76,593	\$ 5	\$ 1,406,745	\$ 5,211,512	11,626	\$)	\$ (599,100)	\$ 5,142,442	\$ 2,977	\$ 5,145,419			
Net income (loss)	—	—	—	523,569	—	—	—	523,569	(16)	523,553			
Other comprehensive income	—	—	—	—	—	—	96,060	96,060	—	96,060			
Repurchase of common stock	—	—	—	—	1,029	(89,856)	—	(89,856)	—	(89,856)			
Share-based compensation plans:													
Non-vested shares awarded, net	225	—	—	—	—	—	—	—	—	—	—	—	
Vesting of non-vested shares	—	—	—	—	41	(3,764)	—	(3,764)	—	(3,764)			
Share-based compensation	—	—	22,883	—	—	—	—	22,883	—	22,883			
Cash dividends on common stock	—	—	—	(142,981)	—	—	—	(142,981)	—	(142,981)			
Capital calls and distributions, net	—	—	—	—	—	—	—	—	—	(357)	(357)		
(970,340)													
Balance, December 31, 2024	76,818	\$ 5	\$ 1,429,628	\$ 5,592,100	12,696	\$)	\$ (503,040)	\$ 5,548,353	\$ 2,604	\$ 5,550,957			

See accompanying notes to Consolidated Financial Statements.

Consolidated Statements of Cash Flows

(In thousands)

	Year Ended		
	2024	2023	2022
Cash Flows From Operating Activities:			
Net income	\$ 523,553	\$ 531,133	\$ 520,293
Adjustments to reconcile net income to net cash provided by (used in) operating activities:			
Provision for credit losses	18,000	46,000	30,000
Change in fair value of mortgage servicing rights due to market changes	(18,437)	3,115	(80,261)
Change in fair value of mortgage servicing rights due to principal payments	30,807	27,343	31,741
Net unrealized losses (gains) from derivative contracts	(173,247)	133,118	(52,214)
Share-based compensation	22,883	16,350	11,564
Depreciation and amortization	105,306	109,893	107,563
Net amortization of discounts and premiums	(45,069)	(19,985)	9,215
Net losses (gains) on financial instruments and other losses (gains), net	(33,898)	(26,162)	846
Net loss (gain) on mortgage loans held for sale	(7,625)	4,483	(2,948)
Mortgage loans originated for sale	(812,263)	(666,391)	(1,180,403)
Proceeds from sale of mortgage loans held for sale	800,376	679,389	1,295,588
Capitalized mortgage servicing rights	(14,976)	(12,141)	(18,215)
Charitable contributions to BOKF Foundation	13,610	—	—
Change in trading and fair value option securities	297,198	(453,340)	4,419,761
Change in receivables	321,945	(316,819)	(34,301)
Change in other assets	106,972	89,930	13,205
Change in other liabilities	295,319	(79,733)	50,836
Net cash provided by (used in) operating activities	1,430,454	66,183	5,122,270
Cash Flows From Investing Activities:			
Proceeds from maturities or redemptions of investment securities	224,077	268,263	157,796
Proceeds from maturities or redemptions of available for sale securities	2,138,581	1,558,160	2,192,200
Purchases of investment securities	—	(2,504)	(10,000)
Purchases of available for sale securities	(3,467,059)	(2,951,422)	(4,533,892)
Proceeds from sales of available for sale securities	839,352	834,704	307,481
Change in amount receivable on unsettled available for sale securities transactions	100,758	(86,110)	9,629
Loans originated, net of principal collected	(195,624)	(1,349,900)	(2,348,586)
Net payments or proceeds on derivative asset contracts	12,204	154,602	(7,099)
Proceeds from sale of BOKF Insurance	—	32,601	—
Net change in restricted equity securities	16,921	(123,448)	(216,538)
Proceeds from disposition of assets	25,147	39,708	60,769
Purchases of assets	(171,589)	(165,918)	(215,046)
Net cash provided by (used in) investing activities	(477,232)	(1,791,264)	(4,603,286)
Cash Flows From Financing Activities:			
Net change in demand deposits, transaction deposits and savings accounts	3,648,141	(2,011,184)	(6,518,868)
Net change in time deposits	523,388	1,550,180	(242,486)
Net change in other borrowed funds	(4,526,879)	1,802,549	4,609,824
Change in amount due on unsettled security purchases	(180,074)	190,085	(17,782)
Issuance of common and treasury stock, net	(3,764)	(4,941)	(4,907)
Net change in derivative margin accounts	(81,284)	631,433	519,797
Net payments or proceeds on derivative liability contracts	(13,477)	(166,275)	(1,569)
Repurchase of common stock	(89,856)	(176,819)	(154,887)
Dividends paid	(142,981)	(143,398)	(143,800)
Net cash provided by (used in) financing activities	(866,786)	1,671,630	(1,954,678)
Net increase (decrease) in cash and cash equivalents	86,436	(53,451)	(1,435,694)
Cash and cash equivalents at beginning of period	1,348,265	1,401,716	2,837,410
Cash and cash equivalents at end of period	\$ 1,434,701	\$ 1,348,265	\$ 1,401,716

Supplemental Cash Flow Information:

Cash paid for interest	\$ 1,428,059	\$ 1,044,950	\$ 176,081
Cash paid for taxes	100,512	173,916	79,532
Net loans and bank premises transferred to repossessed real estate and other assets	462	787	12,326
Transfer of available for sale securities to investment securities	—	—	2,454,273
Residential mortgage loans guaranteed by U.S. government agencies that became eligible for repurchase during the period	25,558	14,466	34,259
Conveyance of other real estate owned guaranteed by U.S. government agencies	3,848	5,534	8,451
Right-of-use assets obtained in exchange for operating lease liabilities	19,100	71,865	22,059

See accompanying notes to Consolidated Financial Statements.

Notes to Consolidated Financial Statements

(1) Significant Accounting Policies

Basis of Presentation

The Consolidated Financial Statements of BOK Financial have been prepared in conformity with U.S. GAAP, including interpretations of U.S. GAAP issued by federal banking regulators and general practices of the banking industry. The Consolidated Financial Statements include the accounts of BOK Financial and its subsidiaries, principally BOKF, NA, BOK Financial Securities, Inc., BOK Financial Private Wealth, Inc. and Cavanal Hill Distributors, Inc. All significant intercompany transactions are eliminated in consolidation.

The Consolidated Financial Statements include the assets, liabilities, non-controlling interests and results of operations of VIEs when BOK Financial is determined to be the primary beneficiary. VIEs are generally defined as entities that either do not have sufficient equity to finance their activities without support from other parties or whose equity investors lack a controlling financial interest. Determination that the Company is the primary beneficiary considers the power to direct the activities that most significantly impact the variable interest's economic performance and the obligation to absorb losses of the variable interest or the right to receive benefits of the variable interest that could be significant to the variable interest.

Certain prior year amounts have been reclassified to conform to current year presentation.

Nature of Operations

BOK Financial, through its subsidiaries, provides a wide range of financial services to commercial and industrial customers, other financial institutions, municipalities and consumers. These services include depository and cash management; lending and lease financing; mortgage banking; securities brokerage, trading and underwriting; and personal and corporate trust.

BOKF, NA operates as Bank of Oklahoma primarily in the Tulsa and Oklahoma City metropolitan areas of the state of Oklahoma and Bank of Texas primarily in the Dallas, Fort Worth, Houston and San Antonio metropolitan areas of the state of Texas. In addition, BOKF, NA does business as BOK Financial in the metropolitan areas of Phoenix, Arizona; Northwest Arkansas; Denver, Colorado; Kansas City, Kansas/Missouri; and as Bank of Albuquerque in Albuquerque, New Mexico. BOKF, NA also operates the TransFund electronic funds network and Cavanal Hill Investment Management.

Use of Estimates

Preparation of BOK Financial's Consolidated Financial Statements requires management to make estimates of future economic activities, including loan collectability, loss contingencies, prepayments and cash flows from customer accounts. These estimates are based upon current conditions and information available to management. Actual results may differ significantly from these estimates.

Acquisitions

Assets and liabilities acquired, including identifiable intangible assets, are recorded at fair value on the acquisition date. The purchase price includes consideration paid at closing and the estimated fair value of contingent consideration that will be paid in the future, subject to achieving defined performance criteria. Premiums and discounts assigned to interest-earning assets and interest-bearing liabilities are amortized over the lives of the acquired assets and liabilities on either an individual instrument or pool basis. Goodwill is recognized as the excess of the purchase price over the net fair value of assets acquired and liabilities assumed.

Acquired loans with more than an insignificant credit deterioration since inception are recorded at fair value plus a gross-up amount which is offset by an allowance for credit losses. Acquired loans without a more than insignificant credit deterioration since inception are recorded at fair value. An allowance for credit losses is recognized through a provision for credit losses, similar to origination loans.

The Consolidated Statements of Earnings include the results of operations from the acquisition date.

Goodwill and Intangible Assets

Goodwill for each reporting unit is evaluated for impairment annually as of October 1st or more frequently if conditions indicate that impairment may have occurred. The evaluation of possible goodwill impairment involves significant judgment based upon short-term and long-term projections of future performance. Reporting units are defined by the Company as significant lines of business within each operating segment. This definition is consistent with the manner in which the CODM assesses the performance of the Company and makes decisions concerning the allocation of resources.

During the evaluation for impairment, management qualitatively assesses whether it is more likely than not that the fair value of the reporting units is less than their carrying value. Reporting unit carrying value includes sufficient capital to exceed regulatory requirements plus goodwill. This assessment includes consideration of relevant events and circumstances including, but not limited to, macroeconomic conditions, industry and market conditions, the financial and stock performance of the Company and other relevant factors. Specifically, the analysis may include:

- General economic conditions including overall economic activity, consumer spending and mobility, unemployment rates, consumer confidence, and duration and severity of any current market moving instability.
- Global health concerns including ongoing pandemics or potential for widespread health issues, the future course of a pandemic and the potential for medical advances.
- Regional economic conditions including demand for oil and price stability of oil, other overarching conditions that may be affecting any of the Company's primary states such as weather or other catastrophes, pandemics and health related lockdowns, or other state mandates.
- Industry conditions including federal funds rate movement by the Federal Reserve, the interest rate environment and the resulting effect on net interest income and operating revenue, and regulatory mandates that hinder or provide relief to the financial services industry.
- Company specific conditions including current and forecasted income, changes in stock price, the Company's stock price compared to peers and other indexes, book value per share compared to fair value per share, goodwill compared to total shareholders' equity, current capital and liquidity position, demand for products and services, health of the loan portfolio and other credit related factors, and current credit ratings with the ratings agencies, and regulatory ratings.
- Reporting unit performance and forecasts including any event that may significantly impact a reporting unit.

If management concludes based on the qualitative assessment that goodwill may be impaired, a quantitative impairment test will be applied to goodwill at all reporting units. The quantitative analysis compares the fair value of the reporting unit with its carrying value. The fair value of each reporting unit is estimated by the discounted future earnings method. Goodwill is considered impaired if the fair value of the reporting unit is less than the carrying value of the reporting unit, including goodwill.

Both the qualitative assessment and quantitative analysis require significant management judgment, including estimates of changes in future economic conditions and their underlying causes and duration, the reasonableness and effectiveness of management's responses to those changes, changes in governmental fiscal and monetary policies, and fair value measurements based largely on significant unobservable inputs. The results of these judgments may have a significant impact on the Company's reported results of operations.

Intangible assets are generally composed of customer relationships, naming rights, non-compete agreements and core deposit premiums. They are amortized using accelerated or straight-line methods, as appropriate, over the estimated benefit periods. These periods range from 3 years to 20 years. The net book values of identifiable intangible assets are evaluated for impairment when economic conditions indicate impairment may exist.

Cash Equivalents

Due from banks, funds sold (generally federal funds sold for one day), resell agreements (which generally mature within one day to 30 days) and investments in money market funds are considered cash equivalents.

Securities

Securities are identified as trading, investment (held-to-maturity), or available for sale at the time of purchase based upon the intent of management, liquidity and capital requirements, regulatory limitations, and other relevant factors. Trading securities, which are acquired for profit through resale, are carried at fair value with unrealized gains and losses included in current period earnings. Investment securities are carried at amortized cost.

Amortization is computed by methods that approximate level yield and is adjusted for changes in prepayment estimates. Securities identified as available for sale are carried at fair value. Unrealized gains and losses are recorded, net of deferred income taxes, as accumulated other comprehensive income in shareholders' equity. Available for sale securities are separately identified as pledged to creditors if the creditor has the right to sell or repledge the collateral.

The purchase or sale of securities is recognized on a trade date basis. Realized gains and losses on sales of securities are based upon specific identification of the security sold. A receivable or payable is recognized for subsequent transaction settlement.

On a quarterly basis, the Company performs separate evaluations of debt investment and available for sale securities for the presence of impairment. We assess whether impairment is present on an individual security basis when the fair value of a debt security is less than the amortized cost.

Management determines whether it intends to sell or if it is more likely than not that it will be required to sell impaired securities. This determination considers current and forecasted liquidity requirements and securities portfolio management. If the Company intends to sell or it is more likely than not that it will be required to sell the impaired debt security, a charge is recognized against earnings for the entire unrealized loss. For all impaired debt securities for which there is no intent or expected requirement to sell, the evaluation considers all available evidence to assess whether it is more likely than not that all amounts due would not be collected according to the security's contractual terms and whether there is any impairment attributable to credit-related factors. If an impairment exists, the amount attributed to credit-related factors is measured and an allowance for credit loss is recognized. Declines in fair value that are not recorded in the allowance are recorded in other comprehensive income, net of taxes.

BOK Financial may elect to carry certain securities that are not held for trading purposes at fair value with changes in fair value recognized in current period income. These securities are held with the intent that gains or losses will offset changes in the fair value of mortgage servicing rights or other financial instruments.

Restricted equity securities represent equity interests the Company is required to hold in the Federal Reserve Banks and Federal Home Loan Banks. Restricted equity securities are carried at cost as these securities do not have a readily determined fair value because ownership of these shares is restricted and they lack a market.

The fair value of our securities portfolio is generally based on a single price for each financial instrument provided to us by a third-party pricing service determined by one or more of the following:

- quoted prices for similar, but not identical, assets or liabilities in active markets;
- quoted prices for identical or similar assets or liabilities in inactive markets;
- inputs other than quoted prices that are observable, such as interest rate and yield curves, volatilities, prepayment speeds, loss severities, credit risks and default rates; and
- other inputs derived from or corroborated by observable market inputs.

The underlying methods used by the third-party pricing services are considered in determining the primary inputs used to determine fair values. We evaluate the methodologies employed by the third-party pricing services by comparing the price provided by the pricing service with other sources, including brokers' quotes, sales or purchases of similar instruments and discounted cash flows to establish a basis for reliance on the pricing service values. Significant differences between the pricing service provided value and other sources are discussed with the pricing service to understand the basis for their values. Based on all observable inputs, management may adjust prices obtained from third-party pricing services to more appropriately reflect the prices that would be received to sell assets or paid to transfer liabilities in orderly transactions in the current market.

Derivative Instruments

Derivative instruments may be used by the Company as part of its internal risk management programs or may be offered to customers. All derivative instruments are carried at fair value and changes in fair value are generally reported in income as they occur. The determination of fair value of derivative instruments considers changes in interest rates, commodity prices and foreign exchange rates. Fair values for exchange-traded contracts are based on quoted prices in an active market for identical instruments. Fair values for over-the-counter contracts are generated internally using third-party valuation models. Inputs used in third-party valuation models to determine fair values are considered significant other observable inputs. Credit risk is also considered in determining fair value. Deterioration in the credit rating of customers or other counterparties reduces the fair value of asset contracts. Deterioration of our credit rating could decrease the fair value of our derivative liabilities.

When bilateral netting agreements or similar agreements exist between the Company and its counterparties that create a single legal claim or obligation to pay or receive the net amount in settlement of the individual derivative contracts, the Company reports derivative assets and liabilities on a net by derivative contract by counterparty basis.

Derivative contracts may also require the Company to provide or receive cash margin as collateral for derivative assets and liabilities. Derivative assets and liabilities are reported net of cash margin when certain conditions are met. In addition, derivative contracts executed with customers under Customer Risk Management Programs may be secured by non-cash collateral in conjunction with a credit agreement with that customer. Access to collateral in the event of default is reasonably assured.

BOK Financial offers programs that permit its customers to manage various risks, including fluctuations in energy prices, interest rates, foreign exchange rates and other commodities with derivative contracts. Customers may also manage interest rate risk through interest rate swaps used by the borrower to modify interest rate terms of their loans. Derivative contracts are executed between the customers and BOK Financial. Offsetting contracts are executed between BOK Financial and other selected counterparties to minimize market risk from changes in commodity prices, interest rates or foreign exchange rates. The counterparty contracts are identical to customer contracts, except for a fixed pricing spread or fee paid to BOK Financial as profit and compensation for administrative costs and credit risk which is recognized over the life of the contracts and included in Other Operating Revenue - Brokerage and trading revenue in the Consolidated Statements of Earnings.

BOK Financial may offer derivative instruments such as to-be-announced U.S. agency residential mortgage-backed securities to mortgage banking customers to enable them to manage their market risk or to mitigate the Company's market risk of holding trading securities. Changes in the fair value of derivative instruments for trading purposes or used to mitigate the market risk of holding trading securities are included in Other Operating Revenue - Brokerage and trading revenue in the Consolidated Statements of Earnings.

BOK Financial may use derivative instruments in managing its interest rate sensitivity as part of its economic hedge of the changes in the fair value of mortgage servicing rights. Changes in the fair value of derivative instruments used in managing interest rate sensitivity and as part of its economic hedge of changes in the fair value of mortgage servicing rights are included in Other Operating Revenue - Gain (loss) on derivatives, net in the Consolidated Statements of Earnings.

BOK Financial also enters into mortgage loan commitments that are considered derivative contracts. Forward sales contracts that have not been designated as hedging instruments are used to economically hedge these mortgage loan commitments as well as mortgage loans held for sale. Mortgage loan commitments, forward sales contracts and residential mortgage loans held for sale are carried at fair value. Changes in the fair value are reported in Other Operating Revenue - Mortgage banking revenue in the Consolidated Statements of Earnings.

Loans

Loans are either secured or unsecured based on the type of loan and the financial condition of the borrower. Repayment is generally expected from cash flow or proceeds from the sale of selected assets of the borrower. BOK Financial is exposed to risk of loss on loans due to the borrower's financial difficulties, which may arise from any number of factors, including problems within the respective industry or local economic conditions. Access to collateral, in the event of borrower default, is reasonably assured through adherence to applicable lending laws and through sound lending standards and credit review procedures. Accounting policies for all loans, excluding residential mortgage loans guaranteed by U.S. government agencies, are as follows.

Interest is accrued at the applicable interest rate on the outstanding principal amount. Loans are placed on nonaccruing status when, in the opinion of management, full collection of principal or interest is uncertain. Internally risk graded loans are individually evaluated for nonaccruing status quarterly. Non-risk graded loans are generally placed on nonaccruing status when 90 days or more past due or within 60 days of being notified of the borrower's bankruptcy filing. Interest previously accrued but not collected is charged against interest income when the loan is placed on nonaccruing status. Payments received on nonaccruing loans are applied to principal or recognized as interest income, according to management's judgment as to the collectability of principal. Loans may be returned to accruing status when, in the opinion of management, full collection of principal and interest, including principal previously charged off, is probable based on improvements in the borrower's financial condition or a sustained period of performance.

For loans acquired with no evidence of credit deterioration, discounts are accreted on either an individual basis for loans with unique characteristics or on a pool basis for groups of homogeneous loans. Accretion is discontinued when a loan with an individually attributed discount is placed on nonaccruing status.

Modifications of loans to existing borrowers generally consist of interest rate reductions, extension of payment terms or a combination of these. Modifications may arise either voluntarily through negotiations with the borrower or involuntarily through court order. Payment deferrals up to six months are generally considered to be short-term modifications. Generally, principal and accrued but unpaid interest are not voluntarily forgiven. A change to the allowance for credit losses is generally not recorded upon modification because the effect of most modifications made to borrowers experiencing financial difficulty is already included in the allowance methodology.

Performing loans may be renewed under the then current collateral, debt service ratio and other underwriting standards. Nonaccruing loans may also be renewed and will remain classified as nonaccruing.

Occasionally, loans, other than residential mortgage loans, may be held for sale in order to manage credit concentration. These loans are carried at the lower of cost or fair value with gains or losses recognized in gain (loss) on assets.

All loans are charged off when the loan balance or a portion of the loan balance is no longer supported by the paying capacity of the borrower or when the required cash flow is reduced in a modification. The charge-off amount is determined through an evaluation of available cash resources and collateral value. Internally risk graded loans are evaluated quarterly and charge-offs are taken in the quarter in which the loss is identified. Non-risk graded loans that are past due between 60 days and 180 days, based on the loan product type, are charged off. Loans to borrowers whose personal obligation has been discharged through Chapter 7 bankruptcy proceedings are charged off within 60 days of notice of the bankruptcy filing, regardless of payment status.

Loan origination and commitment fees and direct loan acquisition and origination costs are deferred and amortized as an adjustment to yield over the life of the loan or over the commitment period, as applicable. Amortization does not anticipate loan prepayments. Net unamortized fees are recognized in full at time of payoff.

We sell qualifying residential mortgage loans guaranteed by U.S. government agencies into GNMA pools. GNMA optional repurchase programs allow financial institutions to buy back individual delinquent mortgage loans that meet certain criteria from the securitized loan pool for which the institution provides servicing. At the servicer's option and without GNMA's prior authorization, the servicer may repurchase a delinquent loan for an amount equal to 100% of the remaining principal balance of the loan. These loans no longer qualify for sale accounting and are recognized in the Consolidated Balance Sheets. A portion of the principal balance continues to be guaranteed; however, interest accrues at a curtailed rate as specified in the programs. The carrying value of these loans is reduced based on an estimate of expected cash flows discounted at the original note rate plus a liquidity spread. These loans may be modified in accordance with U.S. government agency guidelines. Interest continues to accrue at the modified rate. Loans repurchased from GNMA under the program may either be resold into GNMA pools after a performance period specified by the program or foreclosed and conveyed to the guarantors.

Loans are disaggregated into portfolio segments and further disaggregated into classes. The portfolio segment is the level at which the Company develops and documents a systematic method for determining its allowance for credit losses. Classes are based on the risk characteristics of the loans and the Company's method for monitoring and assessing credit risk.

Allowances for Credit Losses and Accrual for Off-balance Sheet Credit Risk from Unfunded Loans Commitments

The allowance for loan losses and accrual for off-balance sheet credit risk from unfunded loan commitments represent the portion of the amortized cost basis of loans and related unfunded commitments that we do not expect to collect over the asset's contractual life, considering past events, current conditions and reasonable and supportable forecasts of future economic conditions. Quarterly, a senior management Allowance Committee assesses the appropriateness of the allowance for loan losses and accrual for off-balance sheet credit risk. This assessment requires judgment about effects of uncertain matters, resulting in a subjective calculation which is inherently imprecise. Because of the subjective forward-looking nature of the calculation, changes in these measures may not directly correlate with actual economic events. In future periods, management judgment may consider new or changed information which may cause significant changes in these allowances in those future periods.

The allowance for loan losses consists of specific allowances attributed to certain individual loans, generally nonaccruing loans, with dissimilar risk characteristics that have not yet been charged down to amounts we expect to recover and general allowances for estimated credit losses on pools of loans that share similar risk characteristics.

When full collection of principal or interest is uncertain, the loan's risk characteristics have changed and we exclude the loan from the general allowance pool, typically designating it as nonaccruing. For these loans, a specific allowance reflects the expected credit loss.

We measure specific allowances for loans excluded from the general allowance pool by an evaluation of estimated future cash flows discounted at the loan's initial effective interest rate or the fair value of collateral for certain collateral-dependent loans. For a non-collateral-dependent loan, the specific allowance is the amount by which the loan's amortized cost basis exceeds its net realizable value. We measure the specific allowance for collateral-dependent loans as the amount by which the loan's amortized cost basis exceeds its fair value. When repayment is expected to be provided substantially through the sale of collateral, we deduct estimated selling costs from the collateral's fair value. Generally, third-party appraisals that conform to Uniform Standards of Professional Appraisal Practice serve as the basis for the fair value of real property held as collateral. These appraised values are on an "as is" basis and generally are not adjusted by the Company. We obtain updated appraisals at least annually or more frequently if market conditions indicate collateral values may have declined. For energy loans, our internal staff of engineers generally determines collateral value of mineral rights based on projected cash flows from proven oil and gas reserves under existing economic and operating conditions. Our special assets staff generally determines the value of other collateral based on projected liquidation cash flows under current market conditions. We evaluate collateral values and available cash resources quarterly. Historical statistics may be used to estimate specific allowances in limited situations, such as when a collateral-dependent loan is removed from the general allowance pool near the end of a reporting period until an appraisal of collateral value is received or a full assessment of future cash flows is completed.

General allowances estimate expected credit losses on pools of loans sharing similar risk characteristics that are expected to occur over the loan's estimated remaining life. The loan's estimated remaining life represents the contractual term adjusted for amortization, estimates of prepayments and borrower-owned extension options. Approximately 90% of the committed dollars in the loan portfolio is risk graded loans with general allowance model inputs that include probability of default, loss given default and exposure at default. Probability of default is based on the migration of loans from performing to nonperforming using historical life of loan analysis periods. Loss given default is based on the aggregate losses incurred, net of estimated recoveries. Exposure at default represents an estimate of the outstanding amount of credit exposure at the time a default may occur.

Charge-off migration is used to calculate the general allowance for the majority of non-risk graded loans to individuals. The expected credit loss on less than 10% of the committed dollars in the portfolio is calculated using charge-off migration.

The expected credit loss on approximately 1% of the committed dollars in the portfolio is calculated using a non-modeled approach. Specifically, the calculation applies a long-term net charge-off rate to the loan balances, adjusted for the weighted average remaining maturity of each portfolio.

In estimating the expected credit losses for general allowances on performing risk-graded loans, each portfolio class is assigned relevant economic loss drivers which best explain variations in portfolio net loss rates. The probability of default estimates for each portfolio class are adjusted for current and forecasted economic conditions. The result is applied to the exposure at default and loss given default to calculate the lifetime expected credit loss estimate. Selection of relevant economic loss drivers is re-evaluated periodically and involves statistical analysis as well as management judgment. The unemployment rate factors significantly in the allowance for loan losses calculation, affecting commercial and loans to individuals segments. Other primary factors impacting the commercial portfolio include BBB corporate spreads, real gross domestic product growth rate and energy commodity prices. The primary commercial real estate variables are vacancy rate and BBB corporate spreads. In addition to the unemployment rate, the forecast for loans to individuals is tied to home price index. The forecasts may include regional economic factors when localized conditions diverge from national conditions.

An Economic Forecast Committee, consisting of senior management with members largely independent of the allowance process, develops a twelve-month forward-looking forecast for the relevant economic loss drivers. Management develops these forecasts based on external data as well as a view of future economic conditions, which may include adjustments for regional conditions. The forecast includes three economic scenarios and probability weights for each scenario. The base forecast represents management's view of the most likely outcome, while the downside forecast reflects reasonably possible worsening economic conditions, and the upside forecast projects reasonably possible improving conditions.

At the end of the one-year reasonable and supportable forecast period, we transition from shorter-term expected losses to long-term loss averages for the loan's estimated remaining life. The difference between short-term loss forecasts and long-term loss averages is run-off over the reversion horizon, up to three years, depending on the forecasted economic scenarios.

General allowances also consider the estimated impact of factors that are not captured in the modeled results or historical experience. These factors may increase or decrease modeled results by amounts determined by the Allowance Committee. Factors not captured in modeled results or historical experience may include, for example, new lines of business, market conditions that have not been previously encountered, observed changes in credit risk that are not yet reflected in macro-economic factors or economic conditions that impact loss given default assumptions.

The accrual for off-balance sheet credit risk is maintained at a level that is appropriate to cover estimated losses associated with credit instruments that are not currently recognized as assets such as loan commitments, standby letters of credit or guarantees that are not unconditionally cancellable by the bank. This accrual is included in other liabilities in the Consolidated Balance Sheets. The appropriateness of the accrual is determined in the same manner as the allowance for loan losses, with the added consideration of commitment usage over the remaining life for those loans that the bank cannot unconditionally cancel.

A provision for credit losses is charged against or credited to earnings in amounts necessary to maintain an appropriate allowance for credit losses. Recoveries of loans previously charged off are added to the allowance when received.

Real Estate and Other Repossessed Assets

Real estate and other repossessed assets are acquired in partial or total forgiveness of loans. These assets are carried at the lower of cost, which is the fair value at date of foreclosure less estimated disposal costs, or current fair value less estimated disposal costs. Decreases in fair value below cost are recognized as asset-specific valuation allowances which may be reversed when supported by future increases in fair value. Subsequent increases in fair value may be used to reduce the valuation allowance but not below zero.

Fair values of real estate are based on "as is" appraisals which are updated at least annually or more frequently for certain asset types or assets located in certain distressed markets. Fair values based on appraisals are generally considered to be based on significant other observable inputs. The Company also considers decreases in listing price and other relevant information in quarterly evaluations and reduces the carrying value of real estate and other repossessed assets when necessary. Fair values based on list prices and other relevant information are generally considered to be based on significant unobservable inputs. Additional costs incurred to complete real estate and other repossessed assets may increase the carrying value, up to current fair value based on "as completed" appraisals. The fair value of mineral rights included in repossessed assets is generally determined by our internal staff of engineers based on projected cash flows from proven oil and gas reserves under existing economic and operating conditions. Proven oil and gas reserves are estimated quantities that geological and engineering data demonstrate, with reasonable certainty, to be recoverable in future years from known reservoirs using existing prices and costs. Projected cash flows incorporate assumptions related to a number of factors including production, sales prices, operating expenses, severance, ad valorem taxes, capital costs and appropriate discount rate. Fair values determined through this process are considered to be based on Level 3 inputs. The value of other repossessed assets is generally determined by our special assets staff based on projected liquidation cash flows under current market conditions.

Income generated by these assets is recognized as received. Operating expenses are recognized as incurred. Gains or losses on sales of real estate and other repossessed assets are based on the cash proceeds received less the cost basis of the asset, net of any valuation allowances. The estimated disposal costs of real estate and other repossessed assets are evaluated by the Company on an annual basis based on actual results.

Transfers of Financial Assets

BOK Financial regularly transfers financial assets as part of its mortgage banking activities and periodically may transfer other financial assets. Transfers are recorded as sales when the criteria for surrender of control are met.

The Company has elected to carry certain residential mortgage loans held for sale at fair value under the fair value option. Changes in fair value are recognized in net income as they occur. These loans are reported separately in the Consolidated Balance Sheets and changes in fair value are recorded in Other operating revenue - Mortgage banking revenue in the Consolidated Statements of Earnings.

Fair value of conforming residential mortgage loans that will be sold to U.S. government agencies is based on sales commitments or market quotes considered Level 2 inputs. Fair value of mortgage loans that are unable to be sold to U.S. government agencies is based on Level 3 inputs using quoted prices of loans that are sold in securitization transactions with a liquidity discount applied. The fair value is corroborated with an independent third party on at least an annual basis.

BOK Financial retains a repurchase obligation under underwriting representations and warranties related to residential mortgage loans transferred and generally retains the right to service the loans. These are not credit obligations. The Company may incur a recourse obligation in limited circumstances. Separate accruals are recognized in Other liabilities in the Consolidated Balance Sheets for repurchase and recourse obligations. These reserves reflect the estimated amount of probable loss the Company will incur as a result of repurchasing a loan, indemnifications, and other settlement resolutions.

Repurchases of loans with an origination defect that are also credit impaired are considered collateral-dependent and are initially recognized at net realizable value (appraised value less the cost to sell). The difference between unpaid principal balance and net realizable value is not accreted. Repurchases of loans with an origination defect that are not credit impaired are carried at fair value as of the repurchase date. Interest income continues to accrue on these loans and the discount is accreted over the estimated life of the loan.

The Company may also choose to purchase GNMA loans once certain mandated delinquency criteria are met. The loans that are eligible and are chosen to be repurchased are initially recognized at fair value based on expected cash flows discounted using the average agency guaranteed debenture rates, average actual principal loss rates and liquidity premium.

The Company may also retain a residual interest in excess cash flows generated by the assets. All assets obtained, including cash, servicing rights and residual interests, and all liabilities incurred, including recourse obligations, are initially recognized at fair value. All assets transferred are de-recognized and any gain or loss on the sale is recognized in earnings. Subsequently, servicing rights and residual interest are carried at fair value with changes in fair value recognized in earnings as they occur.

Mortgage Servicing Rights

Mortgage servicing rights may be purchased or may be recognized when mortgage loans are originated and sold with servicing rights retained. All mortgage servicing rights are carried at fair value. Changes in the fair value are recognized in earnings as they occur.

Mortgage servicing rights are not traded in active markets. A cash flow model is used to determine fair value. Key assumptions and estimates, including projected prepayment speeds and assumed servicing costs, earnings on escrow deposits, ancillary income and discount rates, used by this model are based on current market sources. Assumptions used to value mortgage servicing rights are considered significant unobservable inputs. A separate third-party model is used to estimate prepayment speeds based on interest rates, housing turnover rates, estimated loan curtailment, anticipated defaults and other relevant factors. The prepayment model is updated daily for changes in market conditions and adjusted to better correlate with actual performance of BOK Financial's servicing portfolio. Fair value estimates from outside sources are received at least quarterly to corroborate the results of the valuation model.

Premises and Equipment

Premises and equipment are carried at cost, including capitalized interest when appropriate, less accumulated depreciation and amortization. Depreciation and amortization are computed on a straight-line basis over the estimated useful lives of the assets or, for leasehold improvements, over the shorter of the estimated useful lives or remaining lease terms. Useful lives range from 5 years to 40 years for buildings and improvements, 3 years to 10 years for software and related implementation costs, and 3 years to 10 years for furniture and equipment. Construction in progress represents facilities construction and data processing systems projects underway that have not yet been placed into service. Depreciation and amortization begin once the assets are placed into service.

Repair and maintenance costs, including software maintenance and enhancement costs, are charged to expense as incurred. Software licensing costs are generally charged to expense as incurred. Software licensing costs are capitalized if the contractual right to take possession of the software exists and it is feasible to take possession without significant penalty. Capitalized costs are amortized over the shorter of the estimated useful life of the software or remaining contractual life of the license.

Premises no longer used by the Company are transferred to real estate and other reposessed assets. The transferred amount is the lower of cost less accumulated depreciation or fair value less estimated disposal costs as of the transfer date.

Premises and equipment includes rights to use leased facilities and equipment. Right-of-use assets are initially measured by the present value of future rent payments over lease terms, adjusted for rent concessions. Rent payments exclude both payments made for non-lease components such as services and variable lease payments other than payments dependent on an index at lease commencement. Lease term includes options reasonably certain to be exercised. The right-of-use assets and lease liabilities are amortized to achieve straight-line expense over the lease term. Upon lease modification, the right-of-use asset and liability are reassessed and remeasured. Right-of-use assets are evaluated for impairment when facts and circumstances change that indicate an impairment may be necessary. Leases less than twelve months are excluded from capitalization.

Ongoing technology projects of significant size or length are reviewed at least annually for impairment. Accumulated costs are reviewed for projects or components of projects that do not support the value of the asset being developed. Findings of obsolescence, duplicate effort or other conditions that do not support the recorded value are impaired, with the cost of the impaired components being charged to current-year earnings.

Federal and State Income Taxes

Determination of income tax expense and related assets and liabilities is complex and requires estimates and judgments when applying tax laws, rules, regulations and interpretations. It also requires judgments as to future earnings and the timing of future events. Accrued income taxes represent an estimate of net amounts due to or from taxing jurisdictions based upon these estimates, interpretations and judgments.

BOK Financial and its eligible subsidiaries file consolidated tax returns. The subsidiaries provide for income taxes on a separate return basis and remit to BOK Financial amounts determined to be currently payable. BOK Financial is an agent for its subsidiaries under the Company's tax sharing agreements and has no ownership rights to any refunds received for the benefit of its subsidiaries.

Management evaluates the Company's current tax expense or benefit based upon estimates of taxable income, tax credits and statutory federal and state income tax rates. The amount of current income tax expense or benefit recognized in any period may differ from amounts reported to taxing authorities. Annually, we file tax returns with each jurisdiction where we conduct business and adjust recognized income tax expense or benefit to filed tax returns.

Deferred tax assets and liabilities are recognized based upon the differences between the values of assets and liabilities as recognized in the financial statements and their related tax basis using enacted tax rates in effect for the year in which the differences are expected to be recovered or settled. The effect of changes in statutory tax rates on the measurement of deferred tax assets and liabilities is recognized through income tax expense in the period the change is enacted. A valuation allowance is provided when it is more likely than not that some portion of the entire deferred tax asset may not be realized.

BOK Financial also recognizes the benefit of uncertain tax positions when based upon all relevant evidence, it is more-likely-than-not that our position would prevail upon examination, including resolution of related appeals or litigation, based upon the technical merits of the position. Unrecognized tax benefits, including estimated interest and penalties, are assessed quarterly and are part of our current accrued income tax liability. These may be adjusted through current income tax expense in future periods based on changing facts and circumstances, completion of examinations by taxing authorities or expiration of a statute of limitations. Estimated penalties and interest are recognized in income tax expense. Income tax expense in future periods may decrease if an uncertain tax position is favorably resolved, generally upon completion of an examination by the taxing authorities, expiration of a statute of limitations, or changes in facts and circumstances.

Employee Benefit Plans

BOK Financial sponsors a Thrift Plan. Employer contributions to the Thrift Plan, which matches employee contributions subject to percentage and years of service limits, are expensed when incurred. BOK Financial previously sponsored a Pension Plan. Pension Plan benefits were curtailed as of April 1, 2006. At December 31, 2022, the Pension Plan has been terminated, all benefits have been paid and all obligations settled. Prior to termination, BOK Financial recognized the funded status of its Pension Plan and related Plan costs, which were based upon actuarial computations of current costs, were expensed annually. Adjustments required to recognize the Pension Plan's net funded status were made through accumulated other comprehensive income, net of deferred income taxes. See Note 11, "Employee Benefits" for further discussion.

Share-Based Compensation Plans

BOK Financial's share-based compensation plans allow for the issuance of non-vested common shares, stock options, and RSUs as compensation to certain officers. While permitted, the Company does not currently grant options. The grant date fair value of non-vested shares is based on the then-current market value of BOK Financial common stock. Non-vested shares generally cliff vest in 3 years and are subject to a holding period after vesting of 2 years.

Compensation cost is initially based on the grant date fair value of the award and recognized as expense over the service period, which is generally the vesting period. Expense is reduced for estimated forfeitures over the vesting period and adjusted for actual forfeitures as they occur. Share-based compensation awarded to certain officers has performance conditions that affect the number of awards granted. Compensation cost is adjusted based on the probable outcome of the performance conditions.

RSUs may also be awarded for certain executives who have elected to defer income recognition upon vesting of their awards. RSUs are subject to the same vesting criteria as non-vested shares. Upon vesting and meeting other relevant conditions, RSUs are settled through cash distributions. The value of the awards will vary in amounts equal to changes in the fair value of an equal number of BOK Financial common shares.

Tax effects of share-based payments are recognized through tax expense. Dividends on non-vested shares are charged to retained earnings. Dividend equivalents on RSUs are charged to expense.

Other Operating Revenue

Fees and commissions revenue is generated through the sales of products, consisting primarily of financial instruments, and the performance of services for customers under contractual obligations. Revenue from providing services for customers is recognized at the time services are provided in an amount that reflects the consideration we expect to be entitled to for those services. Revenue is recognized based on the application of five steps:

- Identify the contract with a customer.
- Identify the performance obligations in the contract.
- Determine the transaction price.
- Allocate the transaction price to the performance obligations in the contract.
- Recognize revenue when (or as) the Company satisfies a performance obligation.

For contracts with multiple performance obligations, individual performance obligations are accounted for separately if the customer can benefit from the good or service on its own or with other resources readily available to the customer and the promise to transfer goods and services to the customer is separately identifiable in the contract. The transaction price is allocated to the performance obligations based on relative standalone selling prices.

Revenue is recognized on a gross basis whenever we have primary responsibility and risk in providing the services or products to our customers and have discretion in establishing the price for the services or products. Revenue is recognized on a net basis whenever we act as an agent for products or services of others.

Brokerage and trading revenue includes revenues from trading, customer hedging, retail brokerage, investment banking and insurance brokerage. Trading revenue includes net realized and unrealized gains primarily related to sales of securities to institutional customers and related derivative contracts. Customer hedging revenue includes realized and unrealized changes in the fair value of derivative contracts held for customer risk management programs including credit valuation adjustments, as necessary. We offer commodity, interest rate, foreign exchange and equity derivatives to our customers. These customer contracts are offset with contracts with selected counterparties and exchanges to minimize changes in market risk from changes in commodity prices, interest rates or foreign exchange rates. Retail brokerage revenue represents fees and commissions earned on sales of fixed income securities, annuities, mutual funds and other financial instruments to retail customers. Investment banking revenue includes fees earned upon completion of underwriting and financial advisory services. Investment banking revenue also includes fees earned in conjunction with loan syndications. Insurance brokerage revenues represent fees and commissions earned on placement of insurance products with carriers for property and casualty and health coverage.

Transaction card revenue includes merchant discount fees and electronic funds transfer network fees, net of interchange fees paid to card issuers and assessments paid to card networks. Merchant discount fees represent fees paid by customers for account management and electronic processing of card transactions. Merchant discount fees are recognized at the time the customer's transactions are processed or other services are performed. The Company also maintains TransFund for the benefit of its members, which includes BOKF, NA. Electronic funds transfer fees are recognized as electronic transactions are processed on behalf of its members.

Fiduciary and asset management revenue includes fees from asset management, custody, recordkeeping, investment advisory and administration services. Revenue is recognized on an accrual basis at the time the services are performed and may be based on either the fair value of the account or the service provided.

Deposit service charges and fees include commercial account service charges, overdraft fees, check card fee revenue and automated service charges and other deposit service fees. Fees are recognized at least quarterly in accordance with published deposit account agreements and disclosure statements for retail accounts or contractual agreements for commercial accounts. Item charges for overdraft or non-sufficient funds items are recognized as items are presented for payment. Account balance charges and activity fees are accrued monthly and collected in arrears. Commercial account activity fees may be offset by an earnings credit based on account balances. Check card fees represent interchange fees paid by a merchant bank for transactions processed from cards issued by the Company. Check card fees are recognized when transactions are processed.

Mortgage banking revenue includes revenues recognized in conjunction with the origination, marketing and servicing of conventional and government-sponsored residential mortgage loans. Mortgage production revenue includes net realized gains (losses) on sales of residential mortgage loans in the secondary market and the net change in unrealized gains (losses) on residential mortgage loans held for sale. Mortgage production revenue also includes changes in the fair value of derivative contracts not designated as hedging instruments related to residential mortgage loan commitments and forward sales contracts. Mortgage servicing revenue includes servicing fee income and late charges on loans serviced for others.

Newly Adopted and Pending Accounting Pronouncements

Financial Accounting Standards Board

FASB ASU 2023-01, Leases (Topic 842): Common Control Arrangements

On March 27, 2023, the FASB issued ASU 2023-01 which, in part, amends the accounting for leasehold improvements in common-control arrangements. Under previous guidance, a lessee is generally required to amortize leasehold improvements that it owns over the shorter of the useful life of those improvements or the lease term. However, due to the nature of leasehold improvements made under leases between entities under common control, ASU 2023-01 requires a lessee in a common-control arrangement to amortize such leasehold improvements that it owns over the improvements' useful lives to the common control group, regardless of the lease term. ASU 2023-01 is effective for fiscal years beginning after December 15, 2023, including interim periods within those fiscal years. Adoption of ASU 2023-01 did not have a material impact on the Company's financial statements.

FASB ASU 2023-07, Segment Reporting (Topic 280): Improvements to Reportable Segment Disclosures

The FASB issued ASU 2023-07 on November 27, 2023, which is intended to improve reportable segment disclosure requirements. Under previous guidance, while entities were required to disclose segment revenue and measure of profit or loss, there has been limited disclosure around the reporting of segment expenses. In addition to enhanced disclosures about significant segment expenses, the amendments enhance interim disclosure requirements, clarify circumstances in which an entity can disclose multiple segment measures of profit or loss, provide new segment disclosure requirements for entities with a single reportable segment, and contain other disclosure requirements. The purpose of the amendments is to enable investors to better understand an entity's overall performance and assess potential future cash flows. ASU 2023-07 is effective for fiscal years beginning after December 15, 2023, and interim periods within fiscal years beginning after December 15, 2024. The Company has adopted the requirements of the expanded segment disclosures as of December 31, 2024.

FASB ASU 2023-09, Income Taxes (Topic 740): Improvements to Income Tax Disclosures

The FASB issued ASU 2023-09 on December 14, 2023, which amends income tax disclosures to provide information to better assess how an entity's operations and related tax risks and tax planning and operational opportunities affect its tax rate and prospects for future cash flows. The new guidance requires the entity to disclose specific categories in the rate reconciliation and provide additional information for reconciling items that meet a quantitative threshold. ASU 2023-09 is effective for annual periods beginning after December 15, 2024. The Company is currently assessing the impact ASU 2023-09 will have on its income tax disclosures.

FASB ASU 2024-01, Compensation—Stock Compensation (Topic 718): Scope Application of Profits Interest and Similar Awards

The FASB issued ASU 2024-01 on March 21, 2024, which provides illustrative guidance to help entities determine whether profits interest and similar awards should be accounted for as share-based payment arrangements within the scope of Topic 718, *Compensation—Stock Compensation*. The ASU is effective for annual periods beginning after December 15, 2024, including interim periods within those periods. The Company is evaluating the requirements of ASU 2024-01 and does not expect adoption to have a material impact on the Company's financial statements.

FASB ASU 2024-03, Income Statement—Reporting Comprehensive Income—Expense Disaggregation Disclosures (Subtopic 220-40): Disaggregation of Income Statement Expenses

The FASB issued ASU 2024-03 on November 4, 2024, which amends the disclosure of certain costs and expenses. The amendments intend to bring improvement by requiring further disaggregation of expenses that are not already required to be disclosed in the notes to the financial statements at interim and annual reporting periods. ASU 2024-03 is effective for annual reporting periods beginning after December 15, 2026, and interim reporting periods beginning after December 15, 2027. The Company is currently assessing the impact ASU 2024-03 will have on its expense disclosures.

(2) Securities

Trading Securities

The fair value and net unrealized gain (loss) included in trading securities is as follows (in thousands):

	December 31, 2024		December 31, 2023	
	Fair Value	Net Unrealized	Fair Value	Net Unrealized
		Gain (Loss)		Gain (Loss)
U.S. government securities	\$ 21,275	\$ (60)	\$ 10,959	\$ 28
Residential agency mortgage-backed securities	4,792,695	(37,439)	5,105,137	98,124
Municipal securities	62,230	(566)	37,413	323
Other trading securities	22,890	33	39,996	160
Total trading securities	\$ 4,899,090	\$ (38,032)	\$ 5,193,505	\$ 98,635

Investment Securities

The amortized cost and fair values of investment securities are as follows (in thousands):

	December 31, 2024				
	Amortized	Carrying	Fair	Gross Unrealized	
		Cost	Value ¹	Value	Gain
Municipal securities	\$ 104,467	\$ 104,467	\$ 106,489	\$ 2,370	\$ (348)
Mortgage-backed securities:					
Residential agency	1,998,017	1,880,473	1,680,800	81	(199,754)
Commercial agency	17,257	16,220	15,357	—	(863)
Other debt securities	16,288	16,288	15,283	—	(1,005)
Total investment securities	2,136,029	2,017,448	1,817,929	2,451	(201,970)
Allowance for credit losses	(223)	(223)	—	—	—
Investment securities, net of allowance	\$ 2,135,806	\$ 2,017,225	\$ 1,817,929	\$ 2,451	\$ (201,970)

¹ Carrying value includes \$ 119 million of net unrealized loss which remains in AOCI in the Consolidated Balance Sheets related to certain securities transferred during the second quarter of 2022 from the Available for Sale securities portfolio to the Investment securities portfolio.

	December 31, 2023				
	Amortized	Carrying	Fair	Gross Unrealized	
		Cost	Value ¹	Value	Gain
Municipal securities	\$ 120,705	\$ 120,705	\$ 125,525	\$ 5,014	\$ (194)
Mortgage-backed securities:					
Residential agency	2,255,340	2,092,083	1,917,810	125	(174,398)
Commercial agency	17,258	15,914	15,067	—	(847)
Other debt securities	15,787	15,787	14,184	—	(1,603)
Total investment securities	2,409,090	2,244,489	2,072,586	5,139	(177,042)
Allowance for credit losses	(336)	(336)	—	—	—
Investment securities, net of allowance	\$ 2,408,754	\$ 2,244,153	\$ 2,072,586	\$ 5,139	\$ (177,042)

¹ Carrying value includes \$ 165 million of net unrealized loss which remains in AOCI in the Consolidated Balance Sheets related to certain securities transferred during the second quarter of 2022 from the Available for Sale securities portfolio to the Investment securities portfolio.

The amortized cost and fair values of investment securities at December 31, 2024, by contractual maturity, are as shown in the following table (dollars in thousands):

	Less than One Year	One to Five Years	Six to Ten Years	Over Ten Years	Total	Weighted Average Maturity ¹
Fixed maturity debt securities:						
Carrying value	\$ 19,306	\$ 100,805	\$ 16,851	\$ 13	\$ 136,975	2.65
Fair value	19,350	102,098	15,668	13	137,129	
Residential mortgage-backed securities:						
Carrying value ²					\$ 1,880,473	
Fair value					1,680,800	
Total investment securities:						
Carrying value					\$ 2,017,448	
Fair value					1,817,929	

¹ Expected maturities may differ from contractual maturities because borrowers may have the right to call or prepay obligations with or without penalty.

² The average expected lives of residential mortgage-backed securities were 4.7 years based upon current prepayment assumptions.

Temporarily Impaired Investment Securities

(Dollars in thousands)

	December 31, 2024						
	Less Than 12 Months			12 Months or Longer		Total	
	Number of Securities	Fair Value	Unrealized Loss	Fair Value	Unrealized Loss	Fair Value	Unrealized Loss
Investment:							
Municipal securities	20	\$ 14,485	\$ 65	\$ 7,107	\$ 283	\$ 21,592	\$ 348
Mortgage-backed securities:							
Residential agency	116	—	—	1,679,889	199,754	1,679,889	199,754
Commercial agency	2	—	—	15,357	863	15,357	863
Other debt securities	3	—	—	9,271	1,005	9,271	1,005
Total investment securities	141	\$ 14,485	\$ 65	\$ 1,711,624	\$ 201,905	\$ 1,726,109	\$ 201,970

	December 31, 2023						
	Less Than 12 Months			12 Months or Longer		Total	
	Number of Securities	Fair Value	Unrealized Loss	Fair Value	Unrealized Loss	Fair Value	Unrealized Loss
Investment:							
Municipal securities	13	\$ 1,931	\$ 5	\$ 6,600	\$ 189	\$ 8,531	\$ 194
Mortgage-backed securities:							
Residential agency	116	—	—	1,916,732	174,398	1,916,732	174,398
Commercial agency	2	—	—	15,067	847	15,067	847
Other debt securities	3	—	—	8,672	1,603	8,672	1,603
Total investment securities	134	\$ 1,931	\$ 5	\$ 1,947,071	\$ 177,037	\$ 1,949,002	\$ 177,042

Available for Sale Securities

The amortized cost and fair value of available for sale securities are as follows (in thousands):

	December 31, 2024				
	Amortized		Fair	Gross Unrealized	
	Cost	Value	Gain	Loss	
U.S. Treasury	\$ 1,000	\$ 945	\$ —	\$ (55)	
Municipal securities	240,528	225,568	2	(14,962)	
Mortgage-backed securities:					
Residential agency	8,895,900	8,639,389	17,936	(274,447)	
Residential non-agency	814,542	781,209	11,247	(44,580)	
Commercial agency	3,436,465	3,204,016	726	(233,175)	
Other debt securities	500	473	—	(27)	
Total available for sale securities	\$ 13,388,935	\$ 12,851,600	\$ 29,911	\$ (567,246)	

	December 31, 2023				
	Amortized		Fair	Gross Unrealized	
	Cost	Value	Gain	Loss	
J.S. Treasury	\$ 1,000	\$ 925	\$ —	\$ (75)	
Municipal securities	544,707	502,833	1	(41,875)	
Mortgage-backed securities:					
Residential agency	7,066,645	6,834,720	36,983	(268,908)	
Residential non-agency	833,535	799,877	12,865	(46,523)	
Commercial agency	4,456,918	4,147,853	2,972	(312,037)	
Other debt securities	500	473	—	(27)	
Total available for sale securities	\$ 12,903,305	\$ 12,286,681	\$ 52,821	\$ (669,445)	

The amortized cost and fair values of available for sale securities at December 31, 2024, by contractual maturity, are as shown in the following table (dollars in thousands):

	Less than	One to	Six to	Over	Total	Weighted
	One Year	Five Years	Ten Years	Ten Years		Average
						Maturity ¹
Fixed maturity debt securities:						
Amortized cost	\$ 236,710	\$ 2,469,580	\$ 544,215	\$ 427,988	\$ 3,678,493	4.99
Fair value	234,816	2,290,038	493,883	412,265	3,431,002	
Residential mortgage-backed securities:						
Amortized cost ²					\$ 9,710,442	
Fair value					9,420,598	
Total available for sale securities:						
Amortized cost					\$ 13,388,935	
Fair value					12,851,600	

¹ Expected maturities may differ from contractual maturities, because borrowers may have the right to call or prepay obligations with or without penalty.

² The average expected lives of residential mortgage-backed securities were 4.4 years based upon current prepayment assumptions.

Sales of available for sale securities resulted in gains and losses as follows (in thousands):

	Year Ended December 31,		
	2024	2023	2022
Proceeds	\$ 839,352	\$ 834,704	\$ 307,481
Gross realized gains	2,257	1,180	5,054
Gross realized losses	(48,085)	(31,816)	(6,025)
Related federal and state income tax expense (benefit)	(10,779)	(7,206)	(227)

The fair value of debt securities pledged as collateral for repurchase agreements, public trust funds on deposit and for other purposes, as required by law was \$ 9.9 billion at December 31, 2024 and \$ 13.9 billion at December 31, 2023. The secured parties do not have the right to sell or repledge these securities.

Temporarily Impaired Available for Sale Securities

(Dollars in thousands)

	December 31, 2024						
	Number of Securities	Less Than 12 Months		12 Months or Longer		Total	
		Fair Value	Unrealized Loss	Fair Value	Unrealized Loss	Fair Value	Unrealized Loss
Available for sale:							
U.S. Treasury	1	\$ —	\$ —	\$ 945	\$ 55	\$ 945	\$ 55
Municipal securities	113	\$ 1,041	\$ 13	\$ 222,432	\$ 14,949	\$ 223,473	\$ 14,962
Mortgage-backed securities:							
Residential agency	831	\$ 3,561,318	\$ 50,102	\$ 2,880,641	\$ 224,345	\$ 6,441,959	\$ 274,447
Residential non-agency	36	\$ 93,113	\$ 1,124	\$ 457,701	\$ 43,456	\$ 550,814	\$ 44,580
Commercial agency	220	\$ 190,718	\$ 1,878	\$ 2,819,206	\$ 231,297	\$ 3,009,924	\$ 233,175
Other debt securities	1	\$ —	\$ —	\$ 473	\$ 27	\$ 473	\$ 27
Total available for sale securities	1,202	\$ 3,846,190	\$ 53,117	\$ 6,381,398	\$ 514,129	\$ 10,227,588	\$ 567,246

	December 31, 2023						
	Number of Securities	Less Than 12 Months		12 Months or Longer		Total	
		Fair Value	Unrealized Loss	Fair Value	Unrealized Loss	Fair Value	Unrealized Loss
Available for sale:							
U.S. Treasury	1	\$ —	\$ —	\$ 925	\$ 75	\$ 925	\$ 75
Municipal securities	190	\$ 6,799	\$ 410	\$ 494,955	\$ 41,465	\$ 501,754	\$ 41,875
Mortgage-backed securities:							
Residential agency	630	\$ 690,118	\$ 3,689	\$ 3,717,975	\$ 265,219	\$ 4,408,093	\$ 268,908
Residential non-agency	32	\$ 116,077	\$ 1,244	\$ 451,370	\$ 45,279	\$ 567,447	\$ 46,523
Commercial agency	269	\$ 392,828	\$ 2,626	\$ 3,421,757	\$ 309,411	\$ 3,814,585	\$ 312,037
Other debt securities	1	\$ —	\$ —	\$ 473	\$ 27	\$ 473	\$ 27
Total available for sale securities	1,123	\$ 1,205,822	\$ 7,969	\$ 8,087,455	\$ 661,476	\$ 9,293,277	\$ 669,445

No credit impairment of available for sale securities was identified in 2024. Unrealized losses are related to changes in interest rates subsequent to purchase and are not attributable to credit. Based on evaluations of impaired securities as of December 31, 2024, the Company does not intend to sell any impaired available for sale securities before fair value recovers to the current amortized cost, and it is more-likely-than-not that the Company will not be required to sell impaired securities before fair value recovers, which may be maturity.

Fair Value Option Securities

Fair value option securities represent securities which the Company has elected to carry at fair value and are separately identified on the Consolidated Balance Sheets with changes in the fair value recognized in earnings as they occur. Certain residential mortgage-backed securities issued by U.S. government agencies and derivative contracts are held as an economic hedge of the mortgage servicing rights.

The fair value and net unrealized gain (loss) included in fair value option securities is as follows (in thousands):

	December 31, 2024		December 31, 2023	
	Fair Value	Net Unrealized Gain (Loss)	Fair Value	Net Unrealized Gain (Loss)
Residential agency mortgage-backed securities	\$ 17,876	\$ (1,662)	\$ 20,671	\$ (1,406)

(3) Derivatives

The following table summarizes the fair values of derivative contracts recorded as "derivative contracts" assets and liabilities in the balance sheet at December 31, 2024 (in thousands):

	Assets					
	Notional ¹	Gross Fair Value	Netting Adjustments	Net Fair Value Before		Fair Value Net of Cash Collateral
				Cash Collateral	Cash Collateral	
Customer risk management programs:						
Interest rate contracts	\$ 3,064,418	\$ 82,191	\$ (5,369)	\$ 76,822	\$ (71,485)	\$ 5,337
Energy contracts	7,169,926	521,032	(398,457)	122,575	(3,816)	118,759
Foreign exchange contracts	80,510	42,792	(395)	42,397	(434)	41,963
Equity option contracts	1,593	208	—	208	(50)	158
Total customer risk management programs	10,316,447	646,223	(404,221)	242,002	(75,785)	166,217
Trading	19,577,362	132,581	(56,764)	75,817	(242)	75,575
Interest rate risk management programs	168	1,017	—	1,017	—	1,017
Total derivative contracts	\$ 29,893,977	\$ 779,821	\$ (460,985)	\$ 318,836	\$ (76,027)	\$ 242,809

	Liabilities					
	Notional ¹	Gross Fair Value	Netting Adjustments	Net Fair Value Before		Fair Value Net of Cash Collateral
				Cash Collateral	Cash Collateral	
Customer risk management programs:						
Interest rate contracts	\$ 3,064,418	\$ 82,141	\$ (5,369)	\$ 76,772	\$ —	\$ 76,772
Energy contracts	7,076,929	488,113	(398,457)	89,656	(1,020)	88,636
Foreign exchange contracts	76,906	39,253	(395)	38,858	(380)	38,478
Equity option contracts	1,593	208	—	208	—	208
Total customer risk management programs	10,219,846	609,715	(404,221)	205,494	(1,400)	204,094
Trading	14,196,406	87,082	(56,764)	30,318	(1,292)	29,026
Interest rate risk management programs	602,176	4,462	—	4,462	—	4,462
Total derivative contracts	\$ 25,018,428	\$ 701,259	\$ (460,985)	\$ 240,274	\$ (2,692)	\$ 237,582

¹ Notional amounts for commodity contracts are converted into dollar-equivalent amounts based on dollar prices at the inception of the contract.

The following table summarizes the fair values of derivative contracts recorded as "derivative contracts" assets and liabilities in the balance sheet at December 31, 2023 (in thousands):

	Assets						Fair Value Net of Cash Collateral	
	Notional ¹	Gross Fair Value	Netting Adjustments	Net Fair Value Before				
				Cash Collateral	Cash Collateral			
Customer risk management programs:								
Interest rate contracts	\$ 2,754,476	\$ 108,450	\$ (6,810)	\$ 101,640	\$ (94,608)	\$ 7,032		
Energy contracts	7,846,190	836,425	(399,148)	437,277	(169,141)	268,136		
Foreign exchange contracts	54,999	53,863	—	53,863	(872)	52,991		
Equity option contracts	3,316	54	—	54	(44)	10		
Total customer risk management programs	10,658,981	998,792	(405,958)	592,834	(264,665)	328,169		
Trading	16,264,818	118,545	(37,111)	81,434	(6,996)	74,438		
Internal risk management programs	425,014	7,697	—	7,697	—	7,697		
Total derivative contracts	\$ 27,348,813	\$ 1,125,034	\$ (443,069)	\$ 681,965	\$ (271,661)	\$ 410,304		
Liabilities								
	Notional ¹	Gross Fair Value	Netting Adjustments	Net Fair Value Before			Fair Value Net of Cash Collateral	
				Cash Collateral	Cash Collateral			
Customer risk management programs:								
Interest rate contracts	\$ 2,754,476	\$ 108,402	\$ (6,810)	\$ 101,592	\$ —	\$ 101,592		
Energy contracts	8,254,004	831,467	(399,148)	432,319	(6,441)	425,878		
Foreign exchange contracts	54,405	53,065	—	53,065	—	53,065		
Equity option contracts	3,316	54	—	54	—	54		
Total customer risk management programs	11,066,201	992,988	(405,958)	587,030	(6,441)	580,589		
Trading	20,644,156	224,648	(37,111)	187,537	(181,917)	5,620		
Internal risk management programs	2,244	1,264	—	1,264	—	1,264		
Total derivative contracts	\$ 31,712,601	\$ 1,218,900	\$ (443,069)	\$ 775,831	\$ (188,358)	\$ 587,473		

¹ Notional amounts for commodity contracts are converted into dollar-equivalent amounts based on dollar prices at the inception of the contract.

The following summarizes the pre-tax net gains (losses) on derivative instruments and where they are recorded in the Consolidated Statements of Earnings (in thousands):

	Year Ended December 31,					
	2024		2023		2022	
	Brokerage and Trading Revenue	Gain (Loss) on Derivatives, Net	Brokerage and Trading Revenue	Gain (Loss) on Derivatives, Net	Brokerage and Trading Revenue	Gain (Loss) on Derivatives, Net
Customer risk management programs:						
Interest rate contracts	\$ 5,455	\$ —	\$ 5,531	\$ —	\$ 10,690	\$ —
Energy contracts	21,913	—	30,715	—	34,435	—
Foreign exchange contracts	370	—	276	—	591	—
Total customer risk management programs	27,738	—	36,522	—	45,716	—
Trading ¹	149,613	—	(139,235)	—	48,616	—
Internal risk management programs	—	(22,461)	—	(9,921)	—	(73,011)
Total derivative contracts	\$ 177,351	\$ (22,461)	\$ (102,713)	\$ (9,921)	\$ 94,332	\$ (73,011)

¹ Includes changes in fair value of to-be-announced U.S. agency residential mortgage-backed securities and other derivative instruments offered to mortgage banking customers to manage their market risk or held to mitigate market risk of trading securities portfolio, which is offset by changes in fair value of trading securities also included in Brokerage and trading revenue in the Consolidated Statements of Earnings.

As discussed in Note 7, certain derivative contracts not designated as hedging instruments related to mortgage loan commitments and forward sales contracts are included in Residential mortgage loans held for sale on the Consolidated Balance Sheets. See Note 7 for additional discussion of notional, fair value and impact on earnings of these contracts.

No derivative contracts have been designated as hedging instruments for financial reporting purposes.

(4) Loans and Allowances for Credit Losses

The portfolio segments of the loan portfolio are as follows (in thousands):

	December 31, 2024				December 31, 2023			
	Fixed	Variable	Non-accrual	Total	Fixed	Variable	Non-accrual	Total
	Rate	Rate			Rate	Rate		
Commercial	\$ 3,450,238	\$ 11,565,251	\$ 14,647	\$ 15,030,136	\$ 3,558,563	\$ 11,135,075	\$ 110,131	\$ 14,803,769
Commercial real estate	668,532	4,380,015	9,905	5,058,452	791,757	4,538,570	7,320	5,337,647
Loans to individuals	2,620,936	1,383,027	22,173	4,026,136	2,282,914	1,452,620	28,018	3,763,552
Total	\$ 6,739,706	\$ 17,328,293	\$ 46,725	\$ 24,114,724	\$ 6,633,234	\$ 17,126,265	\$ 145,469	\$ 23,904,968
Foregone interest on nonaccrual loans				\$ 10,061				\$ 7,863

At December 31, 2024, loans to businesses and individuals with collateral primarily located in Texas totaled \$ 7.8 billion or 32 % of the total loan portfolio. Loans to businesses and individuals with collateral primarily located in Oklahoma totaled \$ 3.7 billion or 15 % of our total loan portfolio. Loans to businesses and individuals with collateral primarily located in Colorado totaled \$ 2.9 billion or 12 % of our total loan portfolio. Loans for which the collateral location is not relevant, such as unsecured loans and reserve-based energy loans, are distributed by the borrower's primary operating location. These geographic concentrations subject the loan portfolio to the general economic conditions within these areas.

At December 31, 2023, loans to businesses and individuals with collateral primarily located in Texas totaled \$ 7.6 billion or 32 % of the loan portfolio, loans to businesses and individuals with collateral primarily located in Oklahoma totaled \$ 3.3 billion or 14 % of the loan portfolio and loans to businesses and individuals with collateral primarily located in Colorado totaled \$ 2.7 billion or 11 % of the loan portfolio.

Commercial

Commercial loans represent loans for working capital, facilities acquisition or expansion, purchases of equipment and other needs of commercial customers primarily located within our geographical footprint. Commercial loans are underwritten individually and represent on-going relationships based on a thorough knowledge of the customer, the customer's industry and market. While commercial loans are generally secured by the customer's assets including real property, inventory, accounts receivable, operating equipment, interest in mineral rights and other property and may also include personal guarantees of the owners and related parties, the primary source of repayment of the loans is the on-going cash flow from operations of the customer's business. Inherent lending risk is centrally monitored on a continuous basis from underwriting throughout the life of the loan for compliance with commercial lending policies.

At December 31, 2024, commercial loans with collateral primarily located in Texas totaled \$ 5.0 billion or 34 % of the commercial loan portfolio segment. Commercial loans with collateral primarily located in Oklahoma totaled \$ 2.3 billion or 15 % of the commercial loan portfolio segment. Commercial loans with collateral primarily located in Colorado totaled \$ 1.7 billion or 12 % of the commercial loan portfolio segment. The commercial loan portfolio segment is further divided into loan classes. The healthcare loan class totaled \$ 4.0 billion or 16 % of total loans. The healthcare loan class consists primarily of loans for the development and operation of senior housing and care facilities, including independent living, assisted living and skilled nursing. Healthcare also includes loans to hospitals and other medical service providers. The services loan class totaled \$ 3.6 billion or 15 % of total loans. Businesses included in the services class include Native American tribal and state and local municipal government entities, Native American tribal casino operations, foundations and not-for-profit organizations, educational services, and specialty trade contractors. The energy loan class totaled \$ 3.3 billion or 13 % of total loans, including \$ 2.6 billion of outstanding loans to energy producers. Approximately 70 % of the committed production loans are secured by properties primarily producing oil and 30 % of the committed production loans are secured by properties primarily producing natural gas. General business loans represent \$ 4.2 billion or 17 % of total loans. General business loans primarily consist of wholesale/retail loans and loans from other commercial industries.

At December 31, 2023, commercial loans with collateral primarily located in Texas totaled \$ 4.8 billion or 33 % of the commercial loan portfolio segment, commercial loans with collateral primarily located in Oklahoma totaled \$ 1.8 billion or 12 % of the commercial loan portfolio segment, and commercial loans with collateral primarily located in Colorado totaled \$ 1.8 billion or 12 % of the commercial loan portfolio segment. The healthcare loan class totaled \$ 4.1 billion or 17 % of total loans. The services loan class totaled \$ 3.6 billion or 15 % of total loans. The energy loan class totaled \$ 3.4 billion or 14 % of total loans, including \$ 2.7 billion of outstanding loans to energy producers. At December 31, 2023, approximately 69 % of committed production loans were secured by properties primarily producing oil and 31 % were secured by properties producing natural gas.

Commercial Real Estate

Commercial real estate loans are for the construction of buildings or other improvements to real estate and property held by borrowers for investment purposes primarily within our geographical footprint. We require collateral values in excess of the loan amounts, demonstrated cash flows in excess of expected debt service requirements, equity investment in the project and a portion of the project already sold, leased or permanent financing already secured. The expected cash flows from all significant new or renewed income producing property commitments are stress tested to reflect the risks in varying interest rates, vacancy rates and rental rates. As with commercial loans, inherent lending risks are centrally monitored on a continuous basis from underwriting throughout the life of the loan for compliance with applicable lending policies.

At December 31, 2024, 29 % of commercial real estate loans were secured by properties primarily located in the Dallas and Houston metropolitan areas of Texas, 11 % of commercial real estate loans were secured by properties primarily located in the Denver metropolitan area of Colorado, while concentrations in all other states were less than 10 %. At December 31, 2023, 31 % of commercial real estate loans are secured by properties primarily located in the Dallas and Houston metropolitan areas of Texas while concentrations in all other states were less than 10 %.

Loans to Individuals

Loans to individuals include residential mortgage and personal loans. Residential mortgage loans provide funds for our customers to purchase or refinance their primary residence or to borrow against the equity in their home. These loans are secured by a first or second mortgage on the customer's primary residence. Personal loans consist primarily of loans to Wealth Management clients secured by the cash surrender value of insurance policies and marketable securities. Personal loans also include direct loans secured by and for the purchase of automobiles, recreational and marine equipment as well as unsecured loans. These loans are made in accordance with underwriting policies we believe to be conservative and are fully documented. Loans may be individually underwritten or credit scored based on size and other criteria. Credit scoring is assessed based on significant credit characteristics including credit history, residential and employment stability.

In general, we sell the majority of our conforming fixed rate residential mortgage loan originations in the secondary market and retain the majority of our non-conforming and adjustable-rate mortgage loans. Our mortgage loan portfolio does not include payment option adjustable rate mortgage loans or adjustable rate mortgage loans with initial rates that are below market. Home equity loans are primarily first-lien and fully amortizing.

Residential mortgage loans guaranteed by U.S. government agencies have limited credit exposure because of the agency guarantee. This amount includes residential mortgage loans previously sold into GNMA mortgage pools that the Company may repurchase when certain defined delinquency criteria are met. Because of this repurchase right, the Company is deemed to have regained effective control over these loans and must include them on the Consolidated Balance Sheet.

Approximately 90 % of the loans in this segment are secured by collateral located within our geographical footprint. Loans for which the collateral location is less relevant, such as unsecured loans, are categorized by the borrower's primary location.

Credit Commitments

Commitments to extend credit are agreements to lend to a customer as long as there is no violation of conditions established in the contract. Commitments generally have fixed expiration dates or other termination clauses and may require payment of a fee. At December 31, 2024, outstanding commitments totaled \$ 14.7 billion. Because some commitments are expected to expire before being drawn upon, the total commitment amounts do not necessarily represent future cash requirements. BOK Financial uses the same credit policies in making commitments as it does loans.

The amount of collateral obtained, if deemed necessary, is based upon management's credit evaluation of the borrower.

Standby letters of credit are conditional commitments issued to guarantee the performance of a customer to a third party. Because the credit risk involved in issuing standby letters of credit is essentially the same as that involved in extending loan commitments, BOK Financial uses the same credit policies in evaluating the creditworthiness of the customer. Additionally, BOK Financial uses the same evaluation process in obtaining collateral on standby letters of credit as it does for loan commitments. The term of these standby letters of credit is defined in each commitment and typically corresponds with the underlying loan commitment. At December 31, 2024, outstanding standby letters of credit totaled \$ 703 million.

Allowances for Credit Losses and Accrual for Off-balance Sheet Credit Risk from Unfunded Loans Commitments

BOK Financial maintains an allowance for loan losses and accrual for off-balance sheet credit risk from unfunded commitments. The allowance consists of specific allowances attributed to certain individual loans, generally nonaccruing loans, with dissimilar risk characteristics that have not yet been charged down to amounts we expect to recover and general allowances for estimated credit losses on pools of loans that share similar risk characteristics based on probability of default, loss given default and exposure at default for each loan class developed based on current and forecasted relevant economic loss drivers.

The accrual for off-balance sheet credit risk is maintained at a level that is appropriate to cover estimated losses associated with credit instruments that are not currently recognized as assets such as loan commitments, standby letters of credit or guarantees that are not unconditionally cancellable by the bank.

The activity in the allowance for loan losses and the allowance for off-balance sheet credit losses related to loan commitments and standby letters of credit for the year ended December 31, 2024 is summarized as follows (in thousands):

	Commercial	Commercial Real Estate	Loans to Individuals	Total
Allowance for loan losses:				
Beginning balance	\$ 141,232	\$ 94,718	\$ 41,173	\$ 277,123
Provision for loan losses	12,614	(2,481)	5,658	15,791
Loans charged off	(11,763)	(1,455)	(5,617)	(18,835)
Recoveries of loans previously charged off	3,070	290	2,596	5,956
Ending balance	\$ 145,153	\$ 91,072	\$ 43,810	\$ 280,035
Allowance for off-balance sheet credit risk from unfunded loan commitments:				
Beginning balance	\$ 19,762	\$ 27,439	\$ 1,776	\$ 48,977
Provision for off-balance sheet credit risk	(1,716)	4,520	(141)	2,663
Ending balance	\$ 18,046	\$ 31,959	\$ 1,635	\$ 51,640

An \$ 18.0 million provision for credit losses was recorded for the year ended December 31, 2024. Improvement in the forecasted economic outlook during the year was offset by the impact of loan growth and some risk grade migration.

The activity in the allowance for loan losses and the allowance for off-balance sheet credit losses related to loan commitments and standby letters of credit for the year ended December 31, 2023 is summarized as follows (in thousands):

	Commercial	Commercial Real Estate	Loans to Individuals	Total
Allowance for loan losses:				
Beginning balance	\$ 131,586	\$ 57,648	\$ 46,470	\$ 235,704
Provision for loan losses	19,308	42,151	(1,941)	59,518
Loans charged off	(12,898)	(8,446)	(5,972)	(27,316)
Recoveries of loans previously charged off	3,236	3,365	2,616	9,217
Ending balance	\$ 141,232	\$ 94,718	\$ 41,173	\$ 277,123
Allowance for off-balance sheet credit risk from unfunded loan commitments:				
Beginning balance	\$ 18,246	\$ 40,490	\$ 2,183	\$ 60,919
Provision for off-balance sheet credit risk	1,516	(13,051)	(407)	(11,942)
Ending balance	\$ 19,762	\$ 27,439	\$ 1,776	\$ 48,977

The activity in the allowance for loan losses and the allowance for off-balance sheet credit losses related to loan commitments and standby letters of credit is for the year ended December 31, 2022 summarized as follows (in thousands):

	Commercial	Commercial Real Estate	Loans to Individuals	Total
Allowance for loan losses:				
Beginning balance	\$ 162,056	\$ 58,553	\$ 35,812	\$ 256,421
Provision for loan losses	(12,782)	(813)	14,023	428
Loans charged off	(22,382)	(269)	(6,095)	(28,746)
Recoveries of loans previously charged off	4,694	177	2,730	7,601
Ending balance	\$ 131,586	\$ 57,648	\$ 46,470	\$ 235,704
Allowance for off-balance sheet credit risk from unfunded loan commitments:				
Beginning balance	\$ 13,812	\$ 17,442	\$ 1,723	\$ 32,977
Provision for off-balance sheet credit losses	4,434	23,048	460	27,942
Ending balance	\$ 18,246	\$ 40,490	\$ 2,183	\$ 60,919

The allowance for loan losses and recorded investment of the related loans by portfolio segment for each impairment measurement method at December 31, 2024 is as follows (in thousands):

	Collectively Measured for General Allowances		Individually Measured for Specific Allowances		Total	
	Recorded Investment	Related Allowance	Recorded Investment	Related Allowance	Recorded Investment	Related Allowance
Commercial	\$ 15,015,489	\$ 144,877	\$ 14,647	\$ 276	\$ 15,030,136	\$ 145,153
Commercial real estate	5,048,547	91,072	9,905	—	5,058,452	91,072
Loans to individuals	4,003,963	43,810	22,173	—	4,026,136	43,810
Total	\$ 24,067,999	\$ 279,759	\$ 46,725	\$ 276	\$ 24,114,724	\$ 280,035

The allowance for loan losses and recorded investment of the related loans by portfolio segment for each impairment measurement method at December 31, 2023 is as follows (in thousands):

	Collectively Measured for General Allowances		Individually Measured for Specific Allowances		Total	
	Recorded Investment	Related Allowance	Recorded Investment	Related Allowance	Recorded Investment	Related Allowance
Commercial	\$ 14,693,638	\$ 138,540	\$ 110,131	\$ 2,692	\$ 14,803,769	\$ 141,232
Commercial real estate	5,330,327	94,718	7,320	—	5,337,647	94,718
Loans to individuals	3,735,534	41,173	28,018	—	3,763,552	41,173
Total	\$ 23,759,499	\$ 274,431	\$ 145,469	\$ 2,692	\$ 23,904,968	\$ 277,123

Credit Quality Indicators

The Company utilizes risk grading as primary credit quality indicators as it influences the probability of default which is a key attribute in the expected credit losses calculation. Substantially all commercial as well as commercial real estate loans and certain loans to individuals are risk graded based on a quarterly evaluation of the borrowers' ability to repay the loans. Certain commercial loans and most loans to individuals are small, homogeneous pools that are not risk-graded. The credit quality of these loans is based on past due days in accordance with regulatory guidelines.

We have included in the credit quality indicator "pass" loans that are in compliance with the original terms of the agreement and currently exhibit no factors that cause management to have doubts about the borrowers' ability to remain in compliance with the original terms of the agreement, which is consistent with the regulatory guideline of "pass." This also includes past due residential mortgages that are guaranteed by agencies of the U.S. government that continue to accrue interest based on criteria of the guarantors' programs.

Other loans especially mentioned ("Special Mention") are currently performing in compliance with the original terms of the agreement but may have a potential weakness that deserves management's close attention, consistent with regulatory guidelines. Non-graded loans 30 to 59 days past due are categorized as Special Mention.

The risk grading process identifies certain loans that have a well-defined weakness (for example, inadequate debt service coverage or liquidity or marginal capitalization; repayment may depend on collateral or other risk mitigation) that may jeopardize liquidation of the debt and represent a greater risk due to deterioration in the financial condition of the borrower. This is consistent with the regulatory guideline for "substandard." Because the borrowers are still performing in accordance with the original terms of the loan agreements, these loans remain on accruing status. Non-graded loans 60 to 89 days past due are categorized as Accruing Substandard.

Nonaccruing loans represent loans for which full collection of principal and interest is uncertain. This includes certain loans considered "substandard" and all loans considered "doubtful" by regulatory guidelines. Non-graded loans 90 or more days past due are categorized as Nonaccrual.

Probability of default is lowest for pass graded loans and increases for each credit quality indicator, Special Mention, and Accruing Substandard.

Vintage represents the year of origination, except for revolving loans which are considered in aggregate. Loans that were once revolving but have converted to term loans without additional underwriting appear in a separate vintage column.

The following table summarizes the Company's loan portfolio at December 31, 2024 by the risk grade categories and vintage (in thousands):

	Origination Year							Revolving Loans			Converted to Term Loans		Total
	2024	2023	2022	2021	2020	Prior	Revolving	Revolving	Converted to				
							Loans	Loans	Term Loans				
Commercial:													
Healthcare													
Pass	\$ 539,305	\$ 544,103	\$ 896,042	\$ 481,816	\$ 344,609	\$ 644,441	\$ 249,793	\$ 10	\$ 3,700,119				
Special Mention	—	15,000	64,895	110	—	32,555	255	—	—	112,815			
Accruing Substandard	—	38,180	5,253	15,529	51,134	29,151	1,635	—	—	140,882			
Nonaccrual	—	—	96	463	—	13,158	—	—	—	13,717			
Total healthcare	539,305	597,283	966,286	497,918	395,743	719,305	251,683	10	—	3,967,533			
Loans charged off, year-to-date	—	—	—	—	—	7,240	—	—	—	7,240			
Energy													
Pass	148,972	46,094	39,050	2,621	6,488	16,989	2,985,161	—	—	3,245,375			
Accruing Substandard	—	—	—	—	—	—	9,300	—	—	9,300			
Nonaccrual	—	—	—	—	—	49	—	—	—	49			
Total energy	148,972	46,094	39,050	2,621	6,488	17,038	2,994,461	—	—	3,254,724			
Loans charged off, year-to-date	—	—	—	—	—	—	—	226	—	—	226		
Services													
Pass	629,978	625,969	422,015	404,949	187,324	570,775	745,853	379	—	3,587,242			
Special Mention	—	3,324	123	1,537	—	11,796	17,923	—	—	34,703			
Accruing Substandard	—	675	9,030	20	1,217	7,750	1,399	400	—	20,491			
Nonaccrual	—	—	—	—	—	—	767	—	—	767			
Total services	629,978	629,968	431,168	406,506	188,541	590,321	765,942	779	—	3,643,203			
Loans charged off, year-to-date	—	—	—	—	22	80	9	—	—	111			
General business													
Pass	740,440	571,897	267,528	176,468	117,755	319,986	1,862,643	1,938	—	4,058,655			
Special Mention	4,399	5,749	4,285	7,002	224	1,736	3,037	—	—	26,432			
Accruing Substandard	3,980	15,872	43,300	4,764	992	4,708	5,859	—	—	79,475			
Nonaccrual	—	32	—	—	—	23	—	59	—	114			
Total general business	748,819	593,550	315,113	188,234	118,971	326,453	1,871,539	1,997	—	4,164,676			
Loans charged off, year-to-date	—	27	1,465	—	—	166	2,425	103	—	4,186			
Total commercial	2,067,074	1,866,895	1,751,617	1,095,279	709,743	1,653,117	5,883,625	2,786	—	15,030,136			
Commercial real estate:													
Pass	436,206	512,614	2,004,558	793,161	233,619	810,497	141,307	—	—	4,931,962			
Special Mention	—	313	14,907	32,131	—	—	—	—	—	47,351			
Accruing Substandard	—	—	36,981	—	—	32,253	—	—	—	69,234			
Nonaccrual	—	—	—	—	—	9,905	—	—	—	9,905			
Total commercial real estate	436,206	512,927	2,056,446	825,292	233,619	852,655	141,307	—	—	5,058,452			
Loans charged off, year-to-date	—	—	—	—	—	1,455	—	—	—	1,455			

	Origination Year							Revolving Loans			Converted to Term Loans		Total
	2024	2023	2022	2021	2020	Prior	Revolving	Loans	Converted to	Term Loans			
							Loans						
Loans to individuals:													
Residential mortgage													
Pass	530,186	338,187	286,865	318,935	314,814	210,251	395,943	22,929	2,418,110				
Special Mention	—	167	148	219	—	113	1,767	—	2,414				
Accruing Substandard	—	—	163	—	—	45	898	67	1,173				
Nonaccrual	245	1,758	990	522	583	7,420	3,221	522	15,261				
Total residential mortgage	530,431	340,112	288,166	319,676	315,397	217,829	401,829	23,518	2,436,958				
Loans charged off, year-to-date	—	43	—	—	—	18	10	—	71				
Residential mortgage guaranteed by U.S. government agencies													
Pass	462	4,337	6,618	2,432	3,506	112,491	—	—	129,846				
Nonaccrual	—	—	—	—	280	6,523	—	—	6,803				
Total residential mortgage guaranteed by U.S. government agencies	462	4,337	6,618	2,432	3,786	119,014	—	—	136,649				
Personal													
Pass	245,737	149,572	167,272	115,710	107,291	151,030	510,147	2,619	1,449,378				
Special Mention	18	17	30	825	8	—	8	—	906				
Accruing Substandard	16	—	—	—	1	129	1,990	—	2,136				
Nonaccrual	31	3	30	13	4	5	23	—	109				
Total personal	245,802	149,592	167,332	116,548	107,304	151,164	512,168	2,619	1,452,529				
Loans charged off, year-to-date ¹	5,269	69	101	52	9	—	26	20	5,546				
Total loans to individuals	776,695	494,041	462,116	438,656	426,487	488,007	913,997	26,137	4,026,136				
Total loans	\$ 3,279,975	\$ 2,873,863	\$ 4,270,179	\$ 2,359,227	\$ 1,369,849	\$ 2,993,779	\$ 6,938,929	\$ 28,923	\$ 24,114,724				

¹ Includes charge-offs on deposit overdrafts, which are generally charged off at 60 days past due.

The following table summarizes the Company's loan portfolio at December 31, 2023 by the risk grade categories and vintage (in thousands):

	Origination Year							Revolving Loans			Converted to	
								Revolving	Loans	Term Loans	Total	
	2023	2022	2021	2020	2019	Prior						
Commercial:												
Healthcare												
Pass	\$ 650,768	\$ 895,602	\$ 590,736	\$ 409,001	\$ 331,897	\$ 809,858	\$ 281,378	\$ 15	\$ 3,969,255			
Special Mention	—	—	—	21,791	—	31,235	5	—	53,031			
Accruing Substandard	—	2,128	18,508	6,911	—	10,896	975	—	39,418			
Nonaccrual	—	—	—	30,290	23,129	28,110	—	—	81,529			
Total healthcare	650,768	897,730	609,244	467,993	355,026	880,099	282,358	15	4,143,233			
Loans charged off, year-to-date	—	—	—	—	2,500	—	—	—	2,500			
Energy												
Pass	190,122	100,006	43,769	7,876	9,562	11,583	3,025,590	—	3,388,508			
Special Mention	—	—	—	—	—	—	13,950	—	13,950			
Accruing Substandard	—	—	—	—	—	—	16,800	—	16,800			
Nonaccrual	—	—	—	—	—	99	17,744	—	17,843			
Total energy	190,122	100,006	43,769	7,876	9,562	11,682	3,074,084	—	3,437,101			
Services												
Pass	900,090	526,776	401,872	228,818	106,112	643,477	730,729	595	3,538,469			
Special Mention	—	1,085	1,520	1,341	534	4,522	81	—	9,083			
Accruing Substandard	—	13,712	178	326	3,972	3,746	3,108	13	25,055			
Nonaccrual	—	—	1,635	338	—	—	1,643	—	3,616			
Total services	900,090	541,573	405,205	230,823	110,618	651,745	735,561	608	3,576,223			
Loans charged off, year-to-date	—	—	3,060	—	—	—	2,642	—	5,702			
General business												
Pass	942,468	436,832	224,735	138,951	101,100	287,744	1,389,128	2,164	3,523,122			
Special Mention	10,264	16,167	8,420	1,253	321	8,295	897	—	45,617			
Accruing Substandard	4,401	33,194	1,716	27	—	—	31,992	—	71,330			
Nonaccrual	—	1,134	—	—	—	48	5,956	5	7,143			
Total general business	957,133	487,327	234,871	140,231	101,421	296,087	1,427,973	2,169	3,647,212			
Loans charged off, year-to-date	—	—	4,598	2	—	48	10	38	4,696			
Total commercial	2,698,113	2,026,636	1,293,089	846,923	576,627	1,839,613	5,519,976	2,792	14,803,769			
Commercial real estate:												
Pass	396,891	1,941,913	1,194,759	416,647	513,555	705,092	136,095	—	5,304,952			
Special Mention	—	476	—	—	—	19,171	—	—	19,647			
Accruing Substandard	2,992	—	3	—	—	2,733	—	—	5,728			
Nonaccrual	—	—	—	—	7,170	150	—	—	7,320			
Total commercial real estate	399,883	1,942,389	1,194,762	416,647	520,725	727,146	136,095	—	5,337,647			
Loans charged off, year-to-date	—	—	—	—	—	8,446	—	—	8,446			

	Origination Year							Revolving Loans					
								Revolving Loans	Converted to Term Loans	Total			
	2023	2022	2021	2020	2019	Prior							
Loans to individuals:													
Residential mortgage													
Pass	426,089	320,733	342,927	349,742	54,801	243,356	375,739	23,895	2,137,282				
Special Mention	157	140	131	1,361	18	134	2,982	93	5,016				
Accruing Substandard	—	150	—	—	37	49	50	—	286				
Nonaccrual	79	1,419	237	544	344	12,381	2,387	665	18,056				
Total residential mortgage	426,325	322,442	343,295	351,647	55,200	255,920	381,158	24,653	2,160,640				
Loans charged off, year-to-date	—	—	51	4	—	17	—	1	73				
Residential mortgage guaranteed by U.S. government agencies													
Pass	633	1,788	2,220	4,297	6,441	124,719	—	—	140,098				
Nonaccrual	—	—	—	280	375	9,054	—	—	9,709				
Total residential mortgage guaranteed by U.S. government agencies	633	1,788	2,220	4,577	6,816	133,773	—	—	149,807				
Personal													
Pass	218,401	229,580	149,291	136,215	75,348	137,629	503,841	145	1,450,450				
Special Mention	66	39	106	30	8	—	1,918	3	2,170				
Accruing Substandard	—	64	12	9	144	—	3	—	232				
Nonaccrual	4	51	9	16	3	12	158	—	253				
Total personal	218,471	229,734	149,418	136,270	75,503	137,641	505,920	148	1,453,105				
Loans charged off, year-to-date ¹	5,636	82	96	43	—	10	6	26	5,899				
Total loans to individuals	645,429	553,964	494,933	492,494	137,519	527,334	887,078	24,801	3,763,552				
Total loans	\$ 3,743,425	\$ 4,522,989	\$ 2,982,784	\$ 1,756,064	\$ 1,234,871	\$ 3,094,093	\$ 6,543,149	\$ 27,593	\$ 23,904,968				

¹ Includes charge-offs on deposit overdrafts, which are generally charged off at 60 days past due.

Nonaccruing Loans

A summary of nonaccruing loans as of December 31, 2024 follows (in thousands):

	Total	With No Allowance	With Allowance	Related Allowance
Commercial:				
Healthcare	\$ 13,717	\$ 13,717	\$ —	\$ —
Energy	49	49	—	—
Services	767	491	276	276
General business	114	114	—	—
Total commercial	14,647	14,371	276	276
Commercial real estate	9,905	9,905	—	—
Loans to individuals:				
Residential mortgage	15,261	15,261	—	—
Residential mortgage guaranteed by U.S. government agencies	6,803	6,803	—	—
Personal	109	109	—	—
Total loans to individuals	22,173	22,173	—	—
Total	\$ 46,725	\$ 46,449	\$ 276	\$ 276

The majority of our nonaccruing loans are considered collateral dependent where repayment is expected to be provided through operation or sale of the collateral. Nonaccruing commercial and commercial real estate loans are primarily secured by commercial real estate and nonaccruing residential mortgage loans are secured by residential real estate.

A summary of nonaccruing loans as of December 31, 2023 follows (in thousands):

	Total	With No Allowance	With Allowance	Related Allowance
Commercial:				
Healthcare	\$ 81,529	\$ 40,372	\$ 41,157	\$ 1,478
Energy	17,843	17,843	—	—
Services	3,616	1,684	1,932	1,214
General business	7,143	7,143	—	—
Total commercial	110,131	67,042	43,089	2,692
Commercial real estate	7,320	7,320	—	—
Loans to individuals:				
Residential mortgage	18,056	18,056	—	—
Residential mortgage guaranteed by U.S. government agencies	9,709	9,709	—	—
Personal	253	253	—	—
Total loans to individuals	28,018	28,018	—	—
Total	\$ 145,469	\$ 102,380	\$ 43,089	\$ 2,692

Loan Modifications to Borrowers Experiencing Financial Difficulty

For the year ended December 31, 2024, the Company had \$ 100 million of loan modifications to borrowers experiencing financial difficulty, including \$ 72 million of healthcare loans, \$ 9.3 million of energy loans, and \$ 8.6 million of residential mortgage loans guaranteed by U.S. government agencies. Modifications generally consist of interest rate reductions, an other than insignificant payment delay, term extension, or a combination. Approximately \$ 91 million of the modifications are term extensions of commercial loans and personal loans, and \$ 8.6 million are combination modifications to residential mortgage loans guaranteed by U.S. government agencies. During the year ended December 31, 2024, \$ 31 million of loans that were modified in the previous twelve months defaulted. Approximately \$ 25 million of these defaults were related to term extensions of commercial loans, and \$ 5.2 million of these defaults were related to combination modifications to residential mortgage loans guaranteed by U.S. government agencies. A payment default is defined as being 30 or more days past due after modification.

For the year ended December 31, 2023, the Company had \$ 130 million of loan modifications to borrowers experiencing financial difficulty, including \$ 67 million of general business loans, \$ 47 million of healthcare loans, and \$ 13 million of residential mortgage loans guaranteed by U.S. government agencies. Approximately \$ 93 million of the modifications are term extensions of general business, healthcare, and services loans, and \$ 36 million are combination modifications to healthcare loans and residential mortgage loans guaranteed by U.S. government agencies. During the year ended December 31, 2023, \$ 4.8 million of residential mortgage loans guaranteed by U.S. government agencies were modified and subsequently defaulted.

Past Due Loans

Past due status for all loan classes is based on the actual number of days since the last payment was due according to the contractual terms of the loans, as modified for short-term payment deferral forbearance.

A summary of loans currently performing and past due as of December 31, 2024 is as follows (in thousands):

	Past Due					Total	Past Due 90 Days or More and Accruing
	Current	30 to 59 Days	60 to 89 Days	90 Days or More			
Commercial:							
Healthcare	\$ 3,932,142	\$ 25,778	\$ —	\$ 9,613	\$ 3,967,533	\$ —	
Services	3,642,436	—	767	—	3,643,203	—	
Energy	3,254,724	—	—	—	3,254,724	—	
General business	4,161,510	3,067	70	29	4,164,676	—	
Total commercial	14,990,812	28,845	837	9,642	15,030,136	—	
Commercial real estate	5,048,667	—	—	9,785	5,058,452	—	
Loans to individuals:							
Permanent mortgage	2,416,633	10,930	5,622	3,773	2,436,958	—	
Permanent mortgages guaranteed by U.S. government agencies	45,910	18,514	15,268	56,957	136,649	52,504	
Personal	1,451,397	1,061	48	23	1,452,529	—	
Total loans to individuals	3,913,940	30,505	20,938	60,753	4,026,136	52,504	
Total	\$ 23,953,419	\$ 59,350	\$ 21,775	\$ 80,180	\$ 24,114,724	\$ 52,504	

A summary of loans currently performing and past due as of December 31, 2023 is as follows (in thousands):

	Past Due					Total	Past Due 90 Days or More and Accruing
	Current	30 to 59 Days		60 to 89 Days	90 Days or More		
		Days	Days	Days	or More		
Commercial:							
Healthcare	\$ 4,071,336	\$ 18,019	\$ 30,290	\$ 23,588	\$ 4,143,233	\$ —	—
Services	3,575,787	2	—	434	3,576,223	—	—
Energy	3,437,101	—	—	—	3,437,101	—	—
General business	3,639,775	412	1,157	5,868	3,647,212	—	—
Total commercial	14,723,999	18,433	31,447	29,890	14,803,769	—	—
Commercial real estate	5,327,481	2,992	—	7,174	5,337,647	3	—
Loans to individuals:							
Permanent mortgage	2,149,927	6,340	1,494	2,879	2,160,640	36	—
Permanent mortgages guaranteed by U.S. government agencies	54,122	25,085	17,053	53,547	149,807	48,201	—
Personal	1,450,302	2,561	88	154	1,453,105	131	—
Total loans to individuals	3,654,351	33,986	18,635	56,580	3,763,552	48,368	—
Total	\$ 23,705,831	\$ 55,411	\$ 50,082	\$ 93,644	\$ 23,904,968	\$ 48,371	—

(5) Premises and Equipment and Leases

Premises and equipment at December 31, 2024 and 2023 are summarized as follows (in thousands):

	December 31,	
	2024	2023
Land	\$ 68,816	\$ 69,121
Buildings and improvements	540,832	525,941
Software and related integration	270,991	219,646
Furniture and equipment	245,796	211,082
Construction in progress	45,422	68,412
Premises and equipment	1,171,857	1,094,202
Less: Accumulated depreciation	537,372	471,979
Premises and equipment, net of accumulated depreciation	\$ 634,485	\$ 622,223

Depreciation expense of premises and equipment was \$ 68.5 million, \$ 68.7 million, and \$ 68.4 million for the years ended December 31, 2024, 2023, and 2022, respectively.

Premises and equipment, net includes right-of-use assets for leased office space and facilities. Leases are at market rates at inception and may contain escalations based on consumer price index or similar benchmarks and options to renew at then market rates.

Right-of-use assets of \$ 213 million at December 31, 2024, and \$ 221 million at December 31, 2023, are included in Premises and equipment, net, and the related right-of-use liabilities are included in Other liabilities in the Consolidated Balance Sheets.

At December 31, 2024, undiscounted operating lease liabilities are scheduled to mature as follows (in thousands):

2025	\$ 36,324
2026	33,508
2027	30,813
2028	29,390
2029	28,360
Thereafter	172,090
Total undiscounted lease payments	330,485
Less: Interest	81,821
Lease liabilities	\$ 248,664

Operating cash flows from operating leases were \$ 28.6 million, \$ 26.8 million, and \$ 23.3 million for the years ended December 31, 2024, 2023, and 2022, respectively.

The following table presents lease expense included in Net occupancy and equipment in the Consolidated Statements of Earnings for the years indicated (in thousands).

	Year Ended December 31,		
	2024	2023	2022
Operating lease expense	\$ 26,800	\$ 25,282	\$ 24,520
Variable lease expense	14,962	15,327	12,845
Finance lease expense	3,497	3,592	2,962
Short-term lease expense	447	283	189

At December 31, 2024, the weighted-average remaining lease term was 9.1 years and the weighted average discount rate on operating leases was 3.4 %. At December 31, 2024, the weighted-average remaining lease term was 4.4 years and the weighted-average discount rate on finance leases was 2.7 %.

BOKF, NA is obligated under a long-term lease for its bank premises in downtown Tulsa. The original lease dated November 1, 1976 was renegotiated on July 1, 2019. The new lease will terminate on December 31, 2034. The Company has the option to renew for an additional 10 years. Premises leases may include options to renew at then current market rates and may include escalation provisions based upon changes in consumer price index or similar benchmarks.

The Company may lease owned properties or sublease unoccupied leased facilities. Income on these leases is immaterial.

(6) Goodwill and Intangible Assets

The following table presents the original cost and accumulated amortization of intangible assets (in thousands):

	December 31,	
	2024	2023
Core deposit premiums	\$ 103,200	\$ 103,200
Less: Accumulated amortization	74,654	65,275
Net core deposit premiums	28,546	37,925
Other identifiable intangible assets	51,671	67,151
Less: Accumulated amortization	33,429	45,097
Net other identifiable intangible assets	18,242	22,054
Total intangible assets, net	\$ 46,788	\$ 59,979

Expected amortization expense for intangible assets that will continue to be amortized (in thousands):

	Core Deposit Premiums	Identifiable Intangible Assets	Other	Total
2025	\$ 8,675	\$ 1,840	\$ 10,515	
2026	7,986	1,521	9,507	
2027	6,956	1,336	8,292	
2028	4,929	1,044	5,973	
2029	—	1,010	1,010	
Thereafter	—	11,491	11,491	
Total	\$ 28,546	\$ 18,242	\$ 46,788	

The changes in the carrying value of goodwill by operating segment are as follows (in thousands):

	Commercial Banking	Consumer Banking	Wealth Management	Funds Management and Other	Total
Balance, December 31, 2022	\$ 910,589	\$ 43,458	\$ 90,702	\$ —	\$ 1,044,749
Balance, December 31, 2023	910,589	43,458	90,702	—	1,044,749
Balance, December 31, 2024	910,589	43,458	90,702	—	1,044,749

The Company performed its annual impairment assessment of goodwill on October 1, 2024 based on factors including, but not limited to, general economic conditions, financial services industry considerations, regional economic conditions, global health concerns and related medical developments, general BOKF Financial performance, and reporting unit performance. No impairment was indicated for any reporting unit.

(7) Mortgage Banking Activities

Residential Mortgage Loan Production

The Company originates, markets, and services conventional and government-sponsored residential mortgage loans. Generally, conforming fixed rate residential mortgage loans are held for sale in the secondary market and non-conforming and adjustable-rate residential mortgage loans are held for investment. The volume of mortgage loans originated for sale and secondary market prices are the primary drivers of originating and marketing revenue.

Residential mortgage loan commitments are generally outstanding for 60 to 90 days which represents the typical period from commitment to originate a residential mortgage loan to when the closed loan is sold to an investor. Residential mortgage loan commitments are subject to both credit and interest rate risk. Credit risk is managed through underwriting policies and procedures, including collateral requirements, which are generally accepted by the secondary loan markets. Exposure to interest rate fluctuations is partially managed through forward sales of residential mortgage-backed securities and forward sales contracts. These latter contracts set the price for loans that will be delivered in the next 60 to 90 days.

The unpaid principal balance of residential mortgage loans held for sale, notional amounts of derivative contracts related to residential mortgage loan commitments, and forward contract sales with their related fair values included in Mortgage loans held for sale on the Consolidated Balance Sheets were (in thousands):

	December 31, 2024		December 31, 2023	
	Unpaid Principal Balance/ Notional		Unpaid Principal Balance/ Notional	
	Notional	Fair Value	Notional	Fair Value
Residential mortgage loans held for sale	\$ 77,080	\$ 75,969	\$ 56,922	\$ 56,457
Residential mortgage loan commitments	36,590	1,119	34,783	1,379
Forward sales contracts	82,000	473	75,448	(901)
	\$ 77,561		\$ 56,935	

No residential mortgage loans held for sale were 90 days or more past due or considered impaired as of December 31, 2024 or December 31, 2023. No credit losses were recognized on residential mortgage loans held for sale for the years ended December 31, 2024, 2023 and 2022.

Mortgage banking revenue was as follows (in thousands):

	Year Ended		
	2024	2023	2022
Production revenue:			
Net realized gain (loss) on sales of mortgage loans	\$ 8,271	\$ (5,021)	\$ 7,416
Net change in unrealized gain (loss) on mortgage loans held for sale	(646)	538	(4,468)
Net change in the fair value of mortgage loan commitments	(260)	325	(5,113)
Net change in the fair value of forward sales contracts	1,374	(1,181)	327
Total mortgage production revenue	8,739	(5,339)	(1,838)
Servicing revenue			
	65,368	61,037	51,203
Total mortgage banking revenue	\$ 74,107	\$ 55,698	\$ 49,365

Mortgage production revenue includes gain (loss) on residential mortgage loans held for sale, changes in the fair value of derivative contracts not designated as hedging instruments related to residential mortgage loan commitments, and forward sales contracts. Servicing revenue includes servicing fee income and late charges on loans serviced for others.

Residential Mortgage Servicing

The Company generally retains the right to service residential mortgage loans sold and may purchase mortgage servicing rights. The unpaid principal balance of loans serviced for others is the primary driver of servicing revenue.

The following represents a summary of mortgage servicing rights (dollars in thousands):

	December 31,		
	2024	2023	2022
Number of residential mortgage loans serviced for others	125,728	115,967	110,541
Outstanding principal balance of residential mortgage loans serviced for others	\$ 22,269,513	\$ 20,382,192	\$ 18,863,201
Weighted average interest rate	3.73 %	3.64 %	3.59 %
Remaining contractual term (in months)	276	280	283

Activity in capitalized mortgage servicing rights during the three years ended December 31, 2024 is as follows (in thousands):

Balance, December 31, 2021	\$ 163,198
Additions	18,215
Acquisitions	47,675
Change in fair value due to principal payments	(31,741)
Change in fair value due to market assumption changes	80,261
Balance, December 31, 2022	277,608
Additions	12,142
Acquisitions	34,593
Change in fair value due to principal payments	(27,344)
Change in fair value due to market assumption changes	(3,115)
Balance, December 31, 2023	293,884
Additions	14,976
Acquisitions	41,655
Change in fair value due to principal payments	(30,807)
Change in fair value due to market assumption changes	18,437
Balance, December 31, 2024	\$ 338,145

Changes in the fair value of mortgage servicing rights due to market changes are included in Other operating revenue in the Consolidated Statements of Earnings. Changes in fair value due to loan runoff are included in Mortgage banking costs.

Mortgage servicing rights are not traded in active markets. Fair value is determined by discounting the projected net cash flows. Significant assumptions used to determine fair value considered to be significant unobservable inputs were as follows:

	December 31,	
	2024	2023
Discount rate – risk-free rate plus a market premium	9.60 %	9.72 %
Prepayment rate - based upon loan interest rate, original term, and loan type	7.09 %	7.34 %
Loan servicing costs – annually per loan based upon loan type:		
Performing loans	\$ 73 - \$ 94	\$ 69 - \$ 94
Delinquent loans	\$ 150 - \$ 500	\$ 150 - \$ 500
Loans in foreclosure	\$ 875 - \$ 6,000	\$ 875 - \$ 8,000
Primary/secondary mortgage rate spread	115 bps	105 bps
Escrow earnings rate – indexed to rates paid on deposit accounts with a comparable average life	4.44 %	3.90 %
Delinquency rate	2.19 %	2.06 %

Changes in primary residential mortgage interest rates directly affect the prepayment speeds used in valuing our mortgage servicing rights. A separate third-party model is used to estimate prepayment speeds based on interest rates, housing turnover rates, estimated loan curtailment, anticipated defaults, and other relevant factors. The prepayment model is updated periodically for changes in market conditions and adjusted to better correlate with actual performance of BOK Financial's servicing portfolio.

(8) Deposits

Interest expense on deposits is summarized as follows (in thousands):

	Year Ended December 31,		
	2024	2023	2022
Transaction deposits	\$ 861,538	\$ 540,068	\$ 108,956
Savings	4,845	2,913	489
Total time	159,346	83,616	12,304
Total	\$ 1,025,729	\$ 626,597	\$ 121,749

The aggregate amounts of time deposits in denominations of \$250,000 or more at December 31, 2024 and 2023 were \$ 956 million and \$ 1.1 billion, respectively.

Time deposit maturities are as follows: 2025 – \$ 2.4 billion, 2026 – \$ 1.1 billion, 2027 – \$ 67 million, 2028 – \$ 13 million, 2029 – \$ 7.7 million and \$ 6.6 million thereafter.

The aggregate amount of overdrawn customer transaction deposits that have been reclassified as loan balances was \$ 5.2 million at December 31, 2024 and \$ 5.7 million at December 31, 2023.

(9) Other Borrowed Funds

Information relating to other borrowings is summarized as follows (dollars in thousands):

	As of		Year Ended		
	December 31, 2024		December 31, 2024		
	Balance	Rate	Average Balance	Rate	Maximum Outstanding At Any Month End
Funds purchased	\$ 615,809	4.21 %	\$ 613,294	4.66 %	\$ 899,447
Repurchase agreements	677,047	1.45 %	682,699	3.49 %	1,627,169
Other borrowings:					
Federal Home Loan Bank advances	3,000,000	4.58 %	6,181,011	5.45 %	6,700,000
GNMA repurchase liability	17,628	3.83 %	13,914	4.17 %	17,628
Other	12,495	4.78 %	13,729	6.04 %	14,800
Total other borrowings	3,030,123		6,208,654	5.45 %	
Subordinated debentures ¹	131,200	6.43 %	131,163	7.03 %	131,200
Total other borrowed funds	\$ 4,454,179		\$ 7,635,810	5.24 %	

	As of		Year Ended		
	December 31, 2023		December 31, 2023		
	Balance	Rate	Average Balance	Rate	Maximum Outstanding At Any Month End
Funds purchased	\$ 515,747	5.17%	847,676	4.83%	1,711,580
Repurchase agreements	607,001	1.70%	1,805,978	4.32%	4,433,480
Other borrowings:					
Federal Home Loan Bank advances	7,675,000	5.51%	5,948,863	5.28%	7,875,000
GNMA repurchase liability	11,660	4.13%	11,224	4.04%	12,414
Other	14,892	5.50%	19,008	3.91%	26,311
Total other borrowings	7,701,552		5,979,095	5.28%	
Subordinated debentures ¹	131,150	6.93%	131,155	6.83%	131,164
Total other borrowed funds	\$ 8,955,450		\$ 8,763,904	5.08%	

	As of		Year Ended		
	December 31, 2022		December 31, 2022		
	Balance	Rate	Average Balance	Rate	Maximum Outstanding At Any Month End
Funds purchased	\$ 99,843	0.05%	266,344	1.12%	444,069
Repurchase agreements	2,170,534	4.42%	998,701	1.02%	3,034,312
Other borrowings:					
Federal Home Loan Bank advances	4,700,000	4.48%	1,593,699	2.37%	4,700,000
GNMA repurchase liability	10,608	4.06%	6,692	4.38%	11,011
Other	26,300	3.20%	28,581	3.12%	30,382
Total other borrowings	4,736,908		1,628,972	2.41%	
Subordinated debentures ¹	131,205	6.34%	131,206	4.95%	131,230
Total other borrowed funds	\$ 7,138,490		\$ 3,025,223	1.95%	

¹ Parent Company only.

Aggregate annual principal repayments at December 31, 2024 are as follows (in thousands):

2025	\$ 4,214,262
2026	103,288
2027	1,807
2028	—
2029	—
Thereafter	134,822
Total	\$ 4,454,179

Funds purchased are unsecured and generally mature within one day to ninety days from the transaction date. Securities repurchase agreements are recorded as secured borrowings that generally mature within ninety days and are secured by certain available for sale securities.

Borrowings from the Federal Home Loan Banks are used for funding purposes. In accordance with policies of the Federal Home Loan Banks, BOK Financial has granted a blanket pledge of eligible assets (generally unencumbered U.S. Treasury and residential mortgage-backed securities, 1-4 family loans and multifamily loans) as collateral for these advances. The Federal Home Loan Banks have issued letters of credit totaling \$ 604 million to secure BOK Financial's obligations to depositors of public funds. The unused credit available to BOK Financial at December 31, 2024 pursuant to the Federal Home Loan Bank's collateral policies is \$ 4.3 billion.

As a result of the acquisition of CoBiz Financial in 2018, we obtained \$ 60 million of subordinated debt issued in June 2015 that will mature on June 25, 2030 . This debt bears interest at the rate of 5.625 % through June 2025 and thereafter, the notes will bear interest at an annual floating rate equal to three-month SOFR plus 0.26% tenor spread adjustment plus 3.17% . The debt contains a call option that allows for repayment prior to contractual maturity. The call option is available on June 25, 2025 and quarterly thereafter at 100% of the principal amount.

Also through CoBiz Financial, we acquired junior subordinated debentures split across three issuance tranches. Junior subordinated debentures of \$ 21 million will mature September 17, 2033 and bear an interest rate of three-month SOFR plus 0.26% tenor spread adjustment plus 2.95% that resets quarterly. Junior subordinated debentures of \$ 31 million will mature on July 23, 2034 and bear an interest rate of three-month SOFR plus 0.26% tenor spread adjustment plus 2.60% that resets quarterly. Junior subordinated debentures of \$ 20 million will mature on September 30, 2035 and bear an interest rate of three-month SOFR plus 0.26% tenor spread adjustment plus 1.45% that resets quarterly. The junior subordinated debentures are subject to early redemption prior to maturity.

BOK Financial Securities, Inc. may borrow funds from Pershing, LLC, a clearing broker/dealer and a wholly owned subsidiary of Bank of New York Mellon, for the purposes of financing securities purchases or to facilitate funding of investment banking activities on terms to be negotiated at the time of the borrowing. BOK Financial Securities, Inc. had no borrowings outstanding at December 31, 2024 and December 31, 2023.

The Company has a liability related to the repurchase of certain delinquent residential mortgage loans previously sold into GNMA mortgage pools. Interest is payable at rates contractually due to investors.

(10) Federal and State Income Taxes

Deferred income taxes reflect the net tax effects of temporary differences between the carrying amounts of assets and liabilities for financial reporting purposes and the amounts used for income tax purposes. Significant components of deferred tax assets and liabilities are as follows (in thousands):

	December 31,	
	2024	2023
Deferred tax assets:		
Available for sale securities mark to market	\$ 154,277	\$ 183,723
Credit loss reserves	78,016	76,361
Lease liability	58,399	61,204
Compensation and employee benefits	51,545	47,418
Unearned fees	13,268	12,682
Other	25,918	29,193
Total deferred tax assets	381,423	410,581
Deferred tax liabilities:		
Right-of-use asset	49,249	51,943
Mortgage servicing rights	35,464	32,723
Goodwill and intangibles	20,619	21,678
Depreciation	5,878	4,578
Lease financing	9,342	12,148
Other	29,002	17,915
Total deferred tax liabilities	149,554	140,985
Net deferred tax assets	\$ 231,869	\$ 269,596

No valuation allowance was necessary on deferred tax assets as of December 31, 2024 and 2023.

The significant components of the provision for income taxes attributable to continuing operations for BOK Financial are shown below (in thousands):

	Year Ended December 31,		
	2024	2023	2022
Current income tax expense:			
Federal	\$ 116,663	\$ 152,600	\$ 127,144
State	18,148	19,298	18,185
Total current income tax expense	134,811	171,898	145,329
Deferred income tax expense (benefit):			
Federal	7,632	(17,973)	(4,700)
State	648	(1,810)	(765)
Total deferred income tax expense (benefit)	8,280	(19,783)	(5,465)
Total income tax expense	\$ 143,091	\$ 152,115	\$ 139,864

The reconciliations of income attributable to continuing operations at the U.S. federal statutory tax rate to income tax expense are as follows (in thousands):

	Year Ended December 31,		
	2024	2023	2022
Amount:			
Federal statutory tax	\$ 139,996	\$ 143,482	\$ 138,633
Tax exempt revenue	(6,341)	(5,786)	(5,714)
State income taxes, net of federal benefit	15,055	13,330	13,490
Tax credits, net of proportional amortization	(8,857)	(2,673)	(8,883)
Other, net	3,238	3,762	2,338
Total income tax expense	\$ 143,091	\$ 152,115	\$ 139,864

	Year Ended December 31,		
	2024	2023	2022
Percent of pretax income:			
Federal statutory tax	21.0 %	21.0 %	21.0 %
Tax exempt revenue	(1.0)	(0.8)	(0.8)
State income taxes, net of federal benefit	2.3	2.0	2.0
Tax credits, net of proportional amortization	(1.3)	(0.4)	(1.4)
Other, net	0.5	0.5	0.4
Total	21.5 %	22.3 %	21.2 %

A reconciliation of the beginning and ending amount of unrecognized tax benefits is as follows (in thousands):

	2024	2023	2022
Balance as of January 1	\$ 17,957	\$ 19,583	\$ 21,092
Additions for tax for current year positions	3,397	3,239	3,465
Lapses of applicable statute of limitations	(4,855)	(4,865)	(4,974)
Balance as of December 31	\$ 16,499	\$ 17,957	\$ 19,583

Of the above unrecognized tax benefits, \$ 13.0 million, if recognized, would have affected the effective tax rate.

BOK Financial recognizes interest and penalties accrued related to unrecognized tax benefits in income tax expense. The Company recognized \$ 1.6 million for 2024, \$ 1.6 million for 2023 and \$ 1.8 million for 2022 in interest and penalties. The Company had approximately \$ 5.0 million and \$ 5.7 million accrued for the payment of interest and penalties at December 31, 2024 and 2023, respectively. Federal statutes remain open for federal tax returns filed in the previous three reporting periods. Various state income tax statutes remain open for the previous three to six reporting periods.

(11) Employee Benefits

Employee contributions to the Thrift Plan are eligible for Company matching equal to 6 % of base compensation, as defined in the Plan. The Company-provided matching contribution rates range from 50 % for employees with less than 4 years of service to 200 % for employees with 15 or more years of service. Additionally, a maximum Company-provided, non-elective annual contribution of up to \$ 600 per participant is provided for employees whose annual base compensation is less than \$ 60,000 . Participants may direct investments in their accounts to a variety of options, including a BOK Financial common stock fund and Cavanal Hill funds. Employer contributions, which are invested in accordance with the participant's investment options, vest over five years . Thrift Plan expenses were \$ 35.5 million for 2024, \$ 32.9 million for 2023, and \$ 31.7 million for 2022.

(12) Share-Based Compensation Plans

The shareholders and Board of Directors of BOK Financial have approved various share-based compensation plans. An independent compensation committee of the Board of Directors determines the number of awards granted to the Chief Executive Officer and other senior executives. Share-based compensation is granted to other officers and employees as determined by the Chief Executive Officer.

The Company awards restricted stock to certain officers and employees and RSUs to certain executives, (collectively "non-vested shares"). Vesting of all non-vested shares is subject to service requirements. Additionally, vesting of certain non-vested shares is subject to performance criteria based on changes in the Company's earnings per share relative to defined peers. The following represents a summary of the non-vested shares for the three years ended December 31, 2024:

	Restricted Stock			Restricted Stock Units		
	Shares	Weighted Average Fair Value	Grant Date	Units	Weighted Average Fair Value	
			Grant Date			
Non-vested at January 1, 2022	489,554			87,239		
Granted	183,809	\$ 108.23		25,416	\$ 103.79	
Vested	(139,859)	76.80		(61,645)	91.38	
Forfeited	(40,620)	79.60		—	—	
Non-vested at December 31, 2022	492,884			51,010		
Granted	180,178	\$ 97.56		7,275	\$ 102.35	
Vested	(103,515)	82.85		(6,894)	77.36	
Forfeited	(30,557)	95.17		—	—	
Non-vested at December 31, 2023	538,990			51,391		
Granted	236,834	\$ 83.44		1,833	\$ 81.79	
Vested	(116,962)	73.12		(5,271)	88.25	
Forfeited	(34,399)	92.34		—	—	
Non-vested at December 31, 2024	624,463			47,953		

Compensation expense recognized on non-vested restricted stock totaled \$ 22.5 million for 2024, \$ 14.8 million for 2023, and \$ 9.0 million for 2022. Unrecognized compensation cost of non-vested restricted stock totaled \$ 27.6 million at December 31, 2024. We expect to recognize compensation expense of \$ 17.5 million in 2025, \$ 9.2 million in 2026, and \$ 943 thousand in 2027 on the non-vested shares of restricted stock. Vesting of 261,245 shares of non-vested restricted stock may be increased or decreased based on performance criteria defined in the Plan documents. The fair value of restricted shares vested totaled \$ 10.0 million, \$ 10.3 million, and \$ 15.0 million during the years ended December 31, 2024, 2023, and 2022, respectively.

Compensation expense recognized on non-vested restricted stock units totaled \$ 148 thousand for 2024, \$ 572 thousand for 2023, and \$ 597 thousand for 2022. Compensation cost for restricted stock units is variable based on the current fair value of BOK Financial common shares. Unrecognized compensation cost of non-vested restricted stock units totaled \$ 2.2 million at December 31, 2024. We expect to recognize compensation expense of \$ 1.7 million in 2025, \$ 465 thousand in 2026, and \$ 14 thousand in 2027 on the non-vested restricted stock units. Vesting of 41,477 non-vested restricted stock units may be increased or decreased based on performance criteria defined in the Plan documents. The intrinsic value of share-based liabilities paid in 2024, 2023, and 2022 were \$ 449 thousand, \$ 709 thousand, and \$ 6.3 million, respectively.

(13) Related Parties

In compliance with applicable banking regulations, the Company may extend credit to certain executive officers, directors, principal shareholders, and their affiliates (collectively referred to as "related parties") in the ordinary course of business. The Company's loans to related parties do not involve more than the normal credit risk.

Activity in loans to related parties is summarized as follows (in thousands):

	Year Ended December 31,	
	2024	2023
Beginning balance	\$ 204,409	\$ 54,479
Advances	1,110,043	1,424,041
Payments	(1,131,474)	(1,281,323)
Adjustments ¹	(1,330)	7,212
Ending balance	\$ 181,648	\$ 204,409

¹Adjustments generally consist of changes in status as a related party.

As defined by banking regulations, loan commitments and equity investments from the subsidiary banks to a single affiliate may not exceed 10 % of unimpaired capital and surplus while loan commitments and equity investments to all affiliates may not exceed 20 % of unimpaired capital and surplus. Loans to affiliates must be fully secured by eligible collateral. At December 31, 2024, loan commitments and equity investments were limited to \$ 500 million to a single affiliate and \$ 1.0 billion to all affiliates. The largest loan commitment and equity investment to a single affiliate was \$ 155 million, and the aggregate loan commitments and equity investments to all affiliates were \$ 215 million. The largest outstanding amount to a single affiliate at December 31, 2024 was \$ 408 thousand, and the total outstanding amounts to all affiliates were \$ 408 thousand. At December 31, 2023, total loan commitments and equity investments to all affiliates were \$ 315 million, and the total outstanding amounts to all affiliates were \$ 1.1 million.

Certain related parties are customers of the Company for services other than loans, including consumer banking, corporate banking, risk management, wealth management, brokerage and trading, or fiduciary/trust services. The Company engages in transactions with related parties in the ordinary course of business in compliance with applicable regulations.

QuikTrip Corporation has entered into a fee sharing agreement with TransFund with respect to transactions completed at TransFund automated teller machines placed in QuikTrip locations. Pursuant to this agreement, BOKF paid QuikTrip approximately \$ 11.5 million in 2024, \$ 11.4 million in 2023, and \$ 10.7 million in 2022. A BOK Financial director is Chief Executive Officer, Chairman, and a significant shareholder of QuikTrip Corporation.

Cavanal Hill Investment Management, Inc., a wholly-owned subsidiary of BOKF, NA, is the administrator to and investment advisor for the Cavanal Hill Funds, a diversified, open-ended investment company established as a business trust under the Investment Company Act of 1940. BOKF, NA is custodian and Cavanal Hill Distributors, Inc. is distributor for the Cavanal Hill Funds. The Cavanal Hill Funds' products are offered to customers, employee benefit plans, trusts, and the general public in the ordinary course of business. Approximately 81 % of the Cavanal Hill Funds' assets of \$ 5.2 billion are held for the Company's clients. A Company executive officer serves on the Cavanal Hill Funds' board of trustees, and officers of BOKF, NA serve as president and secretary of the funds. A majority of the members of the Cavanal Hill Funds' board of trustees are, however, independent of the Company and the Cavanal Hill Funds are managed by its board of trustees.

(14) Commitments and Contingent Liabilities

Litigation Contingencies

As a member of Visa, BOK Financial is obligated for a proportionate share of certain covered litigation losses incurred by Visa under a retrospective responsibility plan. A contingent liability was recognized for the Company's share of Visa's covered litigation liabilities. Visa funded an escrow account to cover litigation claims, including covered litigation losses under the retrospective responsibility plan, with proceeds from its initial public offering in 2008 and from available cash.

BOK Financial currently owns 126,116 Visa Class B-2 shares (formerly Class B-1) which are convertible into 194,597 shares of Visa Class A shares after the final settlement of all covered litigation. Class B-2 shares may be diluted in the future if the escrow fund is not adequate to cover future covered litigation costs. No value has been currently assigned to the Class B-2 shares.

On January 23, 2024, Visa, Inc. stockholders approved an exchange offer which provided holders of Class B-1 shares an option to convert up to 50 % of its Class B-1 shares to Visa C shares and subsequently to freely transferable Visa A common shares subject to certain restrictions and holding period requirements (the "Exchange Offer"). The Exchange Offer opened on April 8, 2024, and expired on May 3, 2024. The Company tendered all of its 252,233 Visa Class B-1 shares under the Exchange Offer and received 126,116 Visa B-2 shares and 50,053 Visa C shares in return. The Company sold 41,148 Visa C shares and donated 8,905 Visa C shares to the BOKF Foundation.

As a condition of participating in the Exchange Offer, the Company entered into a Makewhole Agreement with Visa that provides for cash payments to Visa to the extent (if any) that future adjustments to the conversion ratio for the Visa Class B-2 common stock to Class A common stock cause such ratio to fall below zero. Currently, Visa Class B-2 common stock is convertible under certain circumstances into Visa's publicly traded Class A common stock at a rate of 1.543 shares of Class A common stock for each Visa B-2 share, subject to adjustment. Changes to the conversion ratio occur when Visa deposits funds to a litigation escrow established by Visa to pay settlements for certain covered litigation that pre-dated Visa's initial public offering, for which Visa has been effectively indemnified by Visa USA members through reductions to the conversion ratio for its Class B-1 common stock. The purpose of the Makewhole Agreement is to preserve the economic benefit of these adjustments to the Class B-1 conversion ratio for the benefit of Visa's Class A and Class C common stockholders following the exchange. As further described in Visa's related Issuer Tender Offer Statement on Schedule TO and Prospectus, each dated April 8, 2024, publicly filed with the U. S. Securities and Exchange Commission, both the Makewhole Agreement and the related escrow fund and transfer restrictions on Visa's Class B-1 common stock and the new Class B-2 common stock will terminate whenever the covered litigation is ultimately resolved, at which future date outstanding shares of Visa Class B-2 common stock will be convertible into shares of its Class A common stock at the then-applicable conversion ratio.

Conversion of the Class B-1 common stock did not reduce our proportionate share of the covered litigation losses which may dilute our remaining Visa B-2 shares if the escrow fund is not adequate to cover final litigation costs.

On June 24, 2015, BOKF, NA received a complaint that an employee had colluded with a bond issuer and an individual in misusing revenues pledged to municipal bonds for which BOKF, NA served as trustee under the bond indenture. The Company conducted an investigation and concluded that employees in one of its Corporate Trust offices had, with respect to a single group of affiliated bond issuances, violated Company policies and procedures. The relationship manager was terminated. The Company reported the circumstances to, and cooperated with an investigation by, the SEC. On September 7, 2016, BOKF, NA agreed to, and the SEC entered, a consent order finding that BOKF, NA had violated Section 17(a) of the Securities Act of 1933 and Section 10(b) of the Securities Exchange Act and required BOKF, NA to disgorge \$ 1,067,721 of fees and pay a civil penalty of \$ 600,000 . BOKF, NA disgorged the fees and paid the penalty. On August 26, 2016, BOKF, NA was sued in the United States District Court for New Jersey by two bondholders in a putative class action alleging BOKF, NA participated in the fraudulent sale of securities by the principals. The action remains stayed with no current deadlines pending but was reassigned to a new District Judge after the previously assigned Judge took senior status. On September 14, 2016, BOKF, NA was sued in the District Court of Tulsa County, Oklahoma by 19 bondholders also alleging BOKF, NA participated in the fraudulent sale of securities by the principals. The Tulsa County District Court recently granted in part and denied in part BOKF, NA's motion for partial summary judgment which limits Plaintiffs' damages to "out of pocket losses" restricting the amount of possible damages sought by Plaintiffs at trial. As a result, a settlement has been reached by the parties and the case has been dismissed.

On December 28, 2015, in an action brought by the SEC, the New Jersey District Court entered a Consent Judgment against the principals involved in issuing the bonds. On January 8, 2020, the Court entered Final Judgment against the principal individual and his wife for \$ 36,805,051 in principal amount and \$ 10,937,831 in pre-judgment interest. The SEC continues to aggressively pursue collection of the judgment. If the individual principal and his wife cannot pay the bonds, a bondholder loss could become probable. Management has been advised by counsel that BOKF, NA has valid defenses to claims of bondholders and that no loss to the Company is probable. No provision for losses has been made at this time. BOKF, NA estimates that, upon sale of all remaining collateral securing payment of the bonds, approximately \$ 31 million will remain outstanding. A reasonable estimate cannot be made of the amount of any bondholder loss, though the amount of bondholder loss could be material to the Company in the event a loss to the Company becomes probable.

In the ordinary course of business, BOK Financial and its subsidiaries are subject to legal actions and complaints. Management believes, based upon the opinion of counsel, that the actions and liability or loss, if any, resulting from the final outcomes of the proceedings will not have a material effect on the Company's financial condition, results of operations or cash flows.

Alternative Investment Commitments

The Company invests in several tax credit entities and other funds as permitted by banking regulations. Consolidation of these investments is based on the variable interest model.

At December 31, 2024, the Company had \$ 412 million in interests in various alternative investments generally consisting of unconsolidated limited partnership interests in entities for which investment return is in the form of low income housing tax credits or other investments in merchant banking activities included in Other assets on the Consolidated Balance Sheets. The investment balance also includes \$ 100 million in unfunded commitments included in Other liabilities on the Consolidated Balance Sheets. At December 31, 2023, the Company had \$ 413 million in interests in various alternative investments and included \$ 100 million in unfunded commitments in Other liabilities.

Other Commitments and Contingencies

Cavalan Hill Funds' assets include U.S. Treasury and government securities money market funds. Assets of these funds consist of highly-rated, short-term obligations of the U.S. Treasury and Agencies. The net asset value of units in these funds was \$ 1.00 at December 31, 2024. An investment in these funds is not insured by the FDIC or guaranteed by BOK Financial or any of its subsidiaries. BOK Financial may, but is not obligated to, purchase assets from these funds to maintain the net asset value at \$ 1.00 . No assets were purchased from the Cavalan Hill Funds in 2024 or 2023 in order to maintain the net asset value at \$1.00.

The Federal Reserve Bank requires member banks to maintain certain minimum average cash balances. Member banks may satisfy reserve balance requirements through holdings of vault cash and balances maintained directly with a Federal Reserve Bank. The combined average balance of vault cash and balances held at the Federal Reserve Bank was \$ 631 million for the year ended December 31, 2024 and \$ 717 million for the year ended December 31, 2023.

(15) Shareholders' Equity

Preferred Stock

One billion shares of preferred stock with a par value of \$ 0.00005 per share are authorized. The Series A Preferred Stock has no voting rights except as otherwise provided by Oklahoma corporate law and may be converted into one share of Common Stock for each 36 shares of Series A Preferred Stock at the option of the holder . Dividends are cumulative at an annual rate of ten percent of the \$ 0.06 per share liquidation preference value when declared and are payable in cash. Aggregate liquidation preference is \$ 15 million. No Series A Preferred Stock was outstanding in 2024, 2023, or 2022.

Common Stock

Common stock consists of 2.5 billion authorized shares with a \$ 0.00006 par value. Holders of common shares are entitled to one vote per share at the election of the Board of Directors and on any question arising at any shareholders' meeting and to receive dividends when and as declared. Additionally, regulations restrict the ability of national banks and bank holding companies to pay dividends.

Subsidiary Bank

The amounts of dividends that BOK Financial's subsidiary bank can declare and the amounts of loans the subsidiary bank can extend to affiliates are limited by various federal banking regulations and state corporate law. Generally, dividends declared during a calendar year are limited to net profits, as defined, for the year plus retained profits for the preceding two years. Dividends are further restricted by minimum capital requirements.

Regulatory Capital

BOK Financial and the subsidiary bank are subject to various capital requirements administered by the federal banking agencies. Failure to meet minimum capital requirements can initiate certain mandatory and additional discretionary actions by regulators that could have a material effect on BOK Financial's operations. These capital requirements include quantitative measures of assets, liabilities and certain off-balance sheet items. The capital standards are also subject to qualitative judgments by the regulators.

A bank falling below the minimum capital requirements, including the capital conservation buffer, would be subject to regulatory restrictions on capital distributions (including but not limited to dividends and share repurchases) and executive bonus payments. For a banking institution to qualify as well capitalized, Common Equity Tier 1, Tier 1, Total, and Leverage capital ratios must be at least 6.5 %, 8 %, 10 %, and 5 %, respectively. Tier 1 capital consists primarily of common stockholders' equity, excluding unrealized gains or losses on available for sale securities, less goodwill, core deposit premiums, and certain other intangible assets. Total capital consists primarily of Tier 1 capital plus preferred stock, subordinated debt, and allowances for credit losses, subject to certain limitations. The subsidiary bank exceeded the regulatory definition of well capitalized as of December 31, 2024 and December 31, 2023.

A summary of regulatory capital minimum requirements and levels follows (dollars in thousands):

	Minimum Capital Requirement	Capital Conservation Buffer	Minimum Capital Requirement Including Capital Conservation Buffer	Well Capitalized Bank Requirement	December 31, 2024	December 31, 2023
Common Equity Tier 1 Capital (to Risk Weighted Assets):						
Consolidated	4.50 %	2.50 %	7.00 %	N/A	\$ 4,992,810	13.03 % \$ 4,683,510 12.06 %
BOKF, NA	4.50 %	N/A	4.50 %	6.50 %	4,615,811	12.23 % 4,370,891 11.37 %
Tier 1 Capital (to Risk Weighted Assets):						
Consolidated	6.00 %	2.50 %	8.50 %	N/A	\$ 4,995,414	13.04 % \$ 4,686,487 12.07 %
BOKF, NA	6.00 %	N/A	6.00 %	8.00 %	4,615,811	12.23 % 4,370,891 11.37 %
Total Capital (to Risk Weighted Assets):						
Consolidated	8.00 %	2.50 %	10.50 %	N/A	\$ 5,445,399	14.21 % \$ 5,110,471 13.16 %
BOKF, NA	8.00 %	N/A	8.00 %	10.00 %	4,999,728	13.25 % 4,728,876 12.30 %
Leverage (Tier 1 Capital to Average Assets):						
Consolidated	4.00 %	N/A	4.00 %	N/A	\$ 4,995,414	9.97 % \$ 4,686,487 9.45 %
BOKF, NA	4.00 %	N/A	4.00 %	5.00 %	4,615,811	9.26 % 4,370,891 8.86 %

Accumulated Other Comprehensive Income (Loss)

AOCI includes unrealized gains and losses on AFS securities. AOCI also includes unrealized losses on AFS securities that were transferred from AFS to investment securities in the second quarter of 2022. Such amounts are being amortized over the estimated remaining life of the security as an adjustment to yield, offsetting the related amortization of premium on the transferred securities. Gains and losses in AOCI are net of deferred income taxes.

A rollforward of the components of accumulated other comprehensive income (loss) is included as follows (in thousands):

	Unrealized Gain (Loss) on				
	Available for Sale Securities	Investment Securities Transferred from AFS		Employee Benefit Plans	Total
Balance, December 31, 2021	\$ 69,775	\$ —	\$ 2,596	\$ 72,371	
Net change in unrealized gain (loss)	(1,227,414)	—	—	(1,227,414)	
Transfer of net unrealized loss from AFS to investment securities	267,509	(267,509)	—	—	
Reclassification adjustments included in earnings:					
Interest revenue, Investment securities	—	42,514	—	42,514	
Operating expense, Personnel	—	—	(3,483)	(3,483)	
Loss on available for sale securities, net	971	—	—	971	
Other comprehensive income (loss), before income taxes	(958,934)	(224,995)	(3,483)	(1,187,412)	
Federal and state income tax	(224,541)	(52,658)	(887)	(278,086)	
Other comprehensive income (loss), net of income taxes	(734,393)	(172,337)	(2,596)	(909,326)	
Balance, December 31, 2022	(664,618)	(172,337)	—	(836,955)	
Net change in unrealized gain (loss)	218,293	—	—	218,293	
Reclassification adjustments included in earnings:					
Interest revenue, Investment securities	—	60,394	—	60,394	
Loss on available for sale securities, net	30,636	—	—	30,636	
Other comprehensive income (loss), before income taxes	248,929	60,394	—	309,323	
Federal and state income tax	57,523	13,945	—	71,468	
Other comprehensive income (loss), net of income taxes	191,406	46,449	—	237,855	
Balance, December 31, 2023	(473,212)	(125,888)	—	(599,100)	
Net change in unrealized gain (loss)	33,461	—	—	33,461	
Reclassification adjustments included in earnings:					
Interest revenue, Investment securities	—	46,020	—	46,020	
Loss on available for sale securities, net	45,828	—	—	45,828	
Other comprehensive income (loss), before income taxes	79,289	46,020	—	125,309	
Federal and state income tax	18,425	10,824	—	29,249	
Other comprehensive income (loss), net of income taxes	60,864	35,196	—	96,060	
Balance, December 31, 2024	\$ (412,348)	\$ (90,692)	\$ —	\$ (503,040)	

(16) Earnings Per Share

The following table presents the computation of basic and diluted earnings per share (dollars in thousands, except per share data):

	Year Ended		
	2024	2023	2022
Numerator:			
Net income attributable to BOK Financial Corp. shareholders	\$ 523,569	\$ 530,746	\$ 520,273
Less: Earnings allocated to participating securities	4,991	4,253	3,803
Numerator for basic earnings per share – income available to common shareholders	518,578	526,493	516,470
Effect of reallocating undistributed earnings of participating securities	—	—	—
Numerator for diluted earnings per share – income available to common shareholders	\$ 518,578	\$ 526,493	\$ 516,470
Denominator:			
Weighted average shares outstanding	64,348,373	66,184,832	67,706,014
Less: Participating securities included in weighted average shares outstanding	603,285	533,263	493,286
Denominator for basic earnings per common share	63,745,088	65,651,569	67,212,728
Dilutive effect of employee stock compensation plans	—	—	7
Denominator for diluted earnings per common share	63,745,088	65,651,569	67,212,735
Basic earnings per share	\$ 8.14	\$ 8.02	\$ 7.68
Diluted earnings per share	\$ 8.14	\$ 8.02	\$ 7.68

(17) Reportable Segments

BOK Financial operates three principal segments: Commercial Banking, Consumer Banking, and Wealth Management, with the remaining operations recorded in Funds Management and Other. Segments are determined based on BOK Financial's organizational structure and services provided.

Commercial Banking includes lending, treasury and cash management services, and customer risk management products to small businesses, middle market, and larger commercial customers. Commercial Banking also includes the TransFund EFT network. Consumer Banking includes retail lending and deposit services, lending and deposit services to small business customers served through the consumer branch network, and all mortgage banking activities. Wealth Management provides fiduciary services, private bank services, and investment advisory services in all markets. Insurance services were provided through November 30, 2023 when BOKF Insurance was sold. Wealth Management also underwrites state and municipal securities and engages in brokerage and trading activities.

In addition to its operating segments, BOK Financial has a Funds Management unit. The primary purpose of this unit is to manage overall liquidity needs and interest rate risk. Each segment borrows funds from and provides funds to the Funds Management unit as needed to support their operations. Operating results for Funds Management and Other include the effect of interest rate risk positions and risk management activities, securities gains and losses including impairment charges, the provision for credit losses in excess of net loans charged off, tax planning strategies including the elimination of tax effected activity, and certain executive compensation costs that are not attributed to the segments.

The CODM for BOK Financial is the chief executive officer. The CODM evaluates the performance of our segments using net income before taxes, which includes the allocation of funds and capital costs and certain indirect allocations. Segment results are tax effected to present revenue from non-taxable activities as if it had been taxable. Additionally, the CODM primarily relies on the spread between interest revenue and interest expense to assess performance and to make resource allocation decisions where the majority of the segment's revenues are from interest. Therefore, interest revenue is presented net of interest expense. The CODM also reviews budget to actual variances monthly when making decisions about the allocation of operating and capital resources to each segment. Credit costs are attributed to the segments based on net loans charged off or recovered. Modifications of management structure or allocation methodologies may result in changes to previously reported segment data; prior periods have been restated on a comparable basis.

The cost of funds borrowed from the Funds Management unit by the operating segments is transfer priced at rates that approximate market rates for funds with similar duration. Market rates are generally based on the applicable wholesale

borrowing rates or interest rate swap rates adjusted for prepayment risk. This method of transfer pricing funds that support assets of the operating segments tends to insulate them from interest rate risk.

The value of funds provided by the segments to the Funds Management unit is based on rates which approximate the wholesale market rates for funds with similar duration and repricing characteristics. Market rates are generally based on a proxy of wholesale borrowing rates or interest rate swap rates. The funds credit formula applied to deposit products with indeterminate maturities is established based on their repricing characteristics reflected in a combination of the short-term wholesale funding rate and a moving average of an intermediate term swap rate, with an appropriate spread applied to both. Shorter duration products are weighted towards the short-term wholesale funding rates and longer duration products are weighted towards intermediate swap rates. The expected duration ranges from 30 days for certain rate sensitive deposits to five years.

Substantially all revenue is from domestic customers. No single external customer accounts for more than 10% of total revenue for the years ended December 31, 2024, 2023, and 2022.

Net loans charged off and provision for credit losses represents net loans charged off or recovered as attributed to the segments. The provision for credit losses in excess of net charge-offs or recoveries is attributed to Funds Management and Other.

Reportable segments reconciliation to the Consolidated Financial Statements for the year ended December 31, 2024 is as follows (in thousands):

	Commercial	Consumer	Wealth Management	Segment Total	Funds Management and Other	BOK Financial Corporation
Net interest income from external sources	\$ 1,078,190	\$ 25,946	\$ 11,266	\$ 1,115,402	\$ 95,356	\$ 1,210,758
Net interest income (expense) from internal sources	(263,094)	234,101	117,962	88,969	(88,969)	—
Net interest income	815,096	260,047	129,228	1,204,371	6,387	1,210,758
Net loans charged off and provision for credit losses	8,850	5,827	(184)	14,493	3,507	18,000
Net interest income after provision for credit losses	806,246	254,220	129,412	1,189,878	2,880	1,192,758
Other operating revenue	222,584	140,005	462,679	825,268	14,373	839,641
Personnel expense	189,027	98,667	263,686	551,380	259,859	811,239
Non-personnel expense ¹	116,403	127,597	114,551	358,551	195,965	554,516
Total other operating expense	305,430	226,264	378,237	909,931	455,824	1,365,755
Corporate allocations ²	69,997	55,737	57,073	182,807	(182,807)	—
Net income before taxes	\$ 653,403	\$ 112,224	\$ 156,781	\$ 922,408	\$ (255,764)	\$ 666,644
Average assets	\$ 21,751,103	\$ 8,112,293	\$ 10,772,189	\$ 40,635,585	\$ 10,113,913	\$ 50,749,498

¹ Non-personnel expense includes other segment items comprised of Business promotion, Charitable contributions to BOKF Foundation, Professional fees and services, Net occupancy and equipment, FDIC and other insurance, Data processing and communications, Printing, postage, and supplies, Amortization of intangible assets, Mortgage banking costs, and other miscellaneous expenses.

² Corporate allocations include centrally managed operational and administrative expenses that are allocated to segments.

Reportable segments reconciliation to the Consolidated Financial Statements for the year ended December 31, 2023 is as follows (in thousands):

	Commercial	Consumer	Wealth Management	Segment Total	Funds Management and Other	BOK Financial Corporation
Net interest income from external sources	\$ 1,178,506	\$ 59,962	\$ 30,020	\$ 1,268,488	\$ 3,692	\$ 1,272,180
Net interest income (expense) from internal sources	(305,107)	207,058	88,998	(9,051)	9,051	—
Net interest income	873,399	267,020	119,018	1,259,437	12,743	1,272,180
Net loans charged off and provision for credit losses	13,967	5,157	(50)	19,074	26,926	46,000
Net interest income after provision for credit losses	859,432	261,863	119,068	1,240,363	(14,183)	1,226,180
Other operating revenue	247,001	105,793	506,447	859,241	(69,292)	789,949
Personnel expense	191,765	89,472	250,671	531,908	234,702	766,610
Non-personnel expense ¹	124,083	122,642	100,796	347,521	218,750	566,271
Total other operating expense	315,848	212,114	351,467	879,429	453,452	1,332,881
Corporate allocations ²	74,999	48,565	54,401	177,965	(177,965)	—
Net income before taxes	\$ 715,586	\$ 106,977	\$ 219,647	\$ 1,042,210	\$ (358,962)	\$ 683,248
Average assets	\$ 21,003,551	\$ 8,040,602	\$ 9,883,180	38,927,333	\$ 9,316,821	\$ 48,244,154

¹ Non-personnel expense includes other segment items comprised of Business promotion, Charitable contributions to BOKF Foundation, Professional fees and services, Net occupancy and equipment, FDIC and other insurance, Data processing and communications, Printing, postage, and supplies, Amortization of intangible assets, Mortgage banking costs, and other miscellaneous expenses.

² Corporate allocations include centrally managed operational and administrative expenses that are allocated to segments.

Reportable segments reconciliation to the Consolidated Financial Statements for the year ended December 31, 2022 is as follows (in thousands):

	Commercial	Consumer	Wealth Management	Segment Total	Funds Management and Other	BOK Financial Corporation
Net interest income from external sources	\$ 809,982	\$ 69,646	\$ 137,721	\$ 1,017,349	\$ 194,031	\$ 1,211,380
Net interest income (expense) from internal sources	(159,242)	30,911	(16,851)	(145,182)	145,182	—
Net interest income	650,740	100,557	120,870	872,167	339,213	1,211,380
Net loans charged off and provision for credit losses	17,726	5,260	(175)	22,811	7,189	30,000
Net interest income after provision for credit losses	633,014	95,297	121,045	849,356	332,024	1,181,380
Other operating revenue	239,692	108,873	339,505	688,070	(44,813)	643,257
Personnel expense	173,309	87,183	222,892	483,384	187,534	670,918
Non-personnel expense ¹	115,934	122,027	88,558	326,519	167,043	493,562
Total other operating expense	289,243	209,210	311,450	809,903	354,577	1,164,480
Corporate allocations ²	67,278	44,965	51,136	163,379	(163,379)	—
Net income before taxes	\$ 516,185	\$ (50,005)	\$ 97,964	\$ 564,144	\$ 96,013	\$ 660,157
Average assets	\$ 19,073,248	\$ 8,789,697	\$ 9,879,354	\$ 37,742,299	\$ 9,282,337	\$ 47,024,636

¹ Non-personnel expense includes other segment items comprised of Business promotion, Charitable contributions to BOKF Foundation, Professional fees and services, Net occupancy and equipment, FDIC and other insurance, Data processing and communications, Printing, postage, and supplies, Amortization of intangible assets, Mortgage banking costs, and other miscellaneous expenses.

² Corporate allocations include centrally managed operational and administrative expenses that are allocated to segments.

(18) Fees and Commissions Revenue

Fees and commissions revenue by reportable segment and primary service line is as follows for the year ended December 31, 2024 (in thousands):

	Commercial	Consumer	Wealth Management	Management and Other	Funds Corporation	BOK Financial	Out of Scope ¹	In Scope ²
Trading revenue	\$ —	\$ —	\$ 121,854	\$ —	\$ 121,854	\$ 121,854	\$ —	\$ —
Customer hedging revenue	14,795	—	11,169	1,774	27,738	27,738	—	—
Retail brokerage revenue	—	—	19,428	—	19,428	—	—	19,428
Insurance brokerage revenue	—	—	—	—	—	—	—	—
Investment banking revenue	17,314	—	31,758	—	49,072	15,681	33,391	—
Brokerage and trading revenue	32,109	—	184,209	1,774	218,092	165,273	52,819	—
TransFund EFT network revenue	88,089	3,104	(77)	6	91,122	—	91,122	—
Merchant services revenue	9,371	32	—	—	9,403	—	—	9,403
Corporate card revenue	7,366	—	615	359	8,340	—	—	8,340
Transaction card revenue	104,826	3,136	538	365	108,865	—	108,865	—
Personal trust revenue	—	—	102,689	—	102,689	—	—	102,689
Corporate trust revenue	—	—	37,524	—	37,524	—	—	37,524
Institutional trust & retirement plan services revenue	—	—	67,175	—	67,175	—	—	67,175
Investment management services and other	—	—	23,472	—	23,472	—	—	23,472
Fiduciary and asset management revenue	—	—	230,860	—	230,860	—	—	230,860
Commercial account service charge revenue	61,818	2,185	2,299	—	66,302	—	—	66,302
Overdraft fee revenue	121	22,081	143	5	22,350	—	—	22,350
Check card revenue	—	23,949	—	—	23,949	—	—	23,949
Automated service charge and other deposit fee revenue	1,058	4,783	306	(3)	6,144	—	—	6,144
Deposit service charges and fees	62,997	52,998	2,748	2	118,745	—	—	118,745
Mortgage production revenue	—	8,739	—	—	8,739	8,739	—	—
Mortgage servicing revenue	—	68,340	—	(2,972)	65,368	65,368	—	—
Mortgage banking revenue	—	77,079	—	(2,972)	74,107	74,107	—	—
Other revenue	16,858	11,905	44,324	(13,733)	59,354	35,686	—	23,668
Total fees and commissions revenue	\$ 216,790	\$ 145,118	\$ 462,679	\$ (14,564)	\$ 810,023	\$ 275,066	\$ 534,957	—

¹ Out of scope revenue generally relates to financial instruments or contractual rights and obligations within the scope of other applicable accounting guidance.

² In scope revenue represents revenue subject to FASB ASC Topic 606, *Revenue from Contracts with Customers*.

Fees and commissions revenue by reportable segment and primary service line is as follows for the year ended December 31, 2023 (in thousands):

	Commercial		Consumer		Wealth Management	Management and Other	BOK Financial Corporation	Out of Scope ¹	In Scope ²
Trading revenue	\$	—	\$	—	\$ 134,511	\$ —	\$ 134,511	\$ 134,511	\$ —
Customer hedging revenue		33,307		—	(102)	3,317	36,522	36,522	—
Retail brokerage revenue	—	—	—	—	15,908	—	15,908	—	15,908
Insurance brokerage revenue	—	—	—	—	10,679	—	10,679	—	10,679
Investment banking revenue	17,079	—	—	—	25,911	—	42,990	15,525	27,465
Brokerage and trading revenue	50,386	—	—	—	186,907	3,317	240,610	186,558	54,052
TransFund EFT network revenue	86,046	3,513	—	(69)	6	89,496	—	89,496	—
Merchant services revenue	9,172	34	—	—	—	—	9,206	—	9,206
Corporate card revenue	7,014	—	—	—	713	429	8,156	—	8,156
Transaction card revenue	102,232	3,547	—	—	644	435	106,858	—	106,858
Personal trust revenue	—	—	—	—	95,070	—	95,070	—	95,070
Corporate trust revenue	—	—	—	—	31,228	—	31,228	—	31,228
Institutional trust & retirement plan services revenue	—	—	—	—	58,692	—	58,692	—	58,692
Investment management services and other	—	—	—	—	22,349	(21)	22,328	—	22,328
Fiduciary and asset management revenue	—	—	—	—	207,339	(21)	207,318	—	207,318
Commercial account service charge revenue	53,670	2,070	—	—	1,969	—	57,709	—	57,709
Overdraft fee revenue	109	20,753	—	—	139	3	21,004	—	21,004
Check card revenue	—	23,463	—	—	—	—	23,463	—	23,463
Automated service charge and other deposit fee revenue	1,056	5,076	—	—	206	—	6,338	—	6,338
Deposit service charges and fees	54,835	51,362	—	—	2,314	3	108,514	—	108,514
Mortgage production revenue	—	(5,339)	—	—	—	—	(5,339)	(5,339)	—
Mortgage servicing revenue	—	63,431	—	—	(2,394)	—	61,037	61,037	—
Mortgage banking revenue	—	58,092	—	—	(2,394)	—	55,698	55,698	—
Other revenue	26,881	10,731	—	—	78,243	(53,735)	62,120	34,282	27,838
Total fees and commissions revenue	\$ 234,334	\$ 123,732	\$ 475,447	\$ (52,395)	\$ 781,118	\$ 276,538	\$ 504,580		

¹ Out of scope revenue generally relates to financial instruments or contractual rights and obligations within the scope of other applicable accounting guidance.

² In scope revenue represents revenue subject to FASB ASC Topic 606, *Revenue from Contracts with Customers*.

Fees and commissions revenue by reportable segment and primary service line is as follows for the year ended December 31, 2022 (in thousands):

	Commercial		Consumer		Wealth Management	Management and Other	BOK Financial Corporation	Out of Scope ¹	In Scope ²
Trading revenue	\$ —	\$ —	\$ 20,332	\$ —	\$ 20,332	\$ —	\$ 20,332	\$ 20,332	\$ —
Customer hedging revenue	34,676	—	1,053	9,987	45,716	45,716	—	—	—
Retail brokerage revenue	—	—	16,403	—	16,403	—	16,403	—	16,403
Insurance brokerage revenue	—	—	12,879	—	12,879	—	12,879	—	12,879
Investment banking revenue	25,048	—	20,600	—	45,648	23,730	23,730	21,918	21,918
Brokerage and trading revenue	59,724	—	71,267	9,987	140,978	89,778	89,778	51,200	51,200
TransFund EFT network revenue	81,097	3,560	(73)	6	84,590	—	—	84,590	84,590
Merchant services revenue	12,397	37	—	—	12,434	—	—	12,434	12,434
Corporate card revenue	6,440	—	410	392	7,242	—	—	7,242	7,242
Transaction card revenue	99,934	3,597	337	398	104,266	—	—	104,266	104,266
Personal trust revenue	—	—	97,373	—	97,373	—	—	97,373	97,373
Corporate trust revenue	—	—	23,775	—	23,775	—	—	23,775	23,775
Institutional trust & retirement plan services revenue	—	—	52,106	—	52,106	—	—	52,106	52,106
Investment management services and other	—	—	23,242	(170)	23,072	—	—	23,072	23,072
Fiduciary and asset management revenue	—	—	196,496	(170)	196,326	—	—	196,326	196,326
Commercial account service charge revenue	52,779	1,884	1,965	—	56,628	—	—	56,628	56,628
Overdraft fee revenue	115	25,229	77	5	25,426	—	—	25,426	25,426
Check card revenue	—	23,312	—	—	23,312	—	—	23,312	23,312
Automated service charge and other deposit fee revenue	556	4,612	102	—	5,270	—	—	5,270	5,270
Deposit service charges and fees	53,450	55,037	2,144	5	110,636	—	—	110,636	110,636
Mortgage production revenue	—	(1,838)	—	—	(1,838)	(1,838)	(1,838)	—	—
Mortgage servicing revenue	—	53,236	—	(2,033)	51,203	51,203	51,203	—	—
Mortgage banking revenue	—	51,398	—	(2,033)	49,365	49,365	49,365	—	—
Other revenue	20,765	11,894	69,294	(46,311)	55,642	25,844	25,844	29,798	29,798
Total fees and commissions revenue	\$ 233,873	\$ 121,926	\$ 339,538	\$ (38,124)	\$ 657,213	\$ 164,987	\$ 164,987	\$ 492,226	\$ 492,226

¹ Out of scope revenue generally relates to financial instruments or contractual rights and obligations within the scope of other applicable accounting guidance.

² In scope revenue represents revenue subject to FASB ASC Topic 606, *Revenue from Contracts with Customers*.

(19) Fair Value Measurements

Fair value is defined by applicable accounting guidance as the price to sell an asset or transfer a liability in an orderly transaction between market participants in the principal market for the given asset or liability at the measurement date based on market conditions at that date. An orderly transaction assumes exposure to the market for a customary period for marketing activities prior to the measurement date and not a forced liquidation or distressed sale. Certain assets and liabilities are recorded in the Company's financial statements at fair value. Some are recorded on a recurring basis and some on a non-recurring basis.

For some assets and liabilities, observable market transactions and market information might be available. For other assets and liabilities, observable market transactions and market information might not be available. A hierarchy for fair value has been established which categorizes into three levels the inputs to valuation techniques used to measure fair value. The three levels are as follows:

Quoted Prices in Active Markets for Identical Assets or Liabilities (Level 1) - fair value is based on unadjusted quoted prices in active markets for identical assets or liabilities.

Significant Other Observable Inputs (Level 2) - fair value is based on significant other observable inputs which are generally determined based on a single price for each financial instrument provided to us by an applicable third-party pricing service and is based on one or more of the following:

- quoted prices for similar, but not identical, assets or liabilities in active markets;
- quoted prices for identical or similar assets or liabilities in inactive markets;
- inputs other than quoted prices that are observable, such as interest rate and yield curves, volatilities, prepayment speeds, loss severities, credit risks, and default rates;
- other inputs derived from or corroborated by observable market inputs.

Significant Unobservable Inputs (Level 3) - fair value is based upon model-based valuation techniques for which at least one significant assumption is not observable in the market.

Transfers between levels are recognized as of the end of the reporting period. There were no transfers in or out of quoted prices in active markets for identical instruments to significant other observable inputs or significant unobservable inputs during the years ended December 31, 2024 and 2023, respectively. Transfers between significant other observable inputs and significant unobservable inputs during the years ended December 31, 2024 and 2023 were immaterial.

The underlying methods used by the third-party pricing services are considered in determining the primary inputs used to determine fair values. Management has evaluated the methodologies employed by the third-party pricing services by comparing the price provided by the pricing service with other sources, including brokers' quotes, sales or purchases of similar instruments, and discounted cash flows to establish a basis for reliance on the pricing service values. Significant differences between the pricing service provided value and other sources are discussed with the pricing service to understand the basis for their values. Based on all observable inputs, management may adjust prices obtained from third-party pricing services to more appropriately reflect the prices that would be received to sell assets or paid to transfer liabilities in orderly transactions in the current market. No significant adjustments were made to prices provided by third-party pricing services at December 31, 2024 and 2023.

Assets and Liabilities Measured at Fair Value on a Recurring Basis

The fair value of financial assets and liabilities that are measured on a recurring basis is as follows as of December 31, 2024 (in thousands):

	Total	Quoted Prices in Active Markets for Identical Instruments	Significant Other Observable Inputs	Significant Unobservable Inputs
Assets:				
Trading securities:				
U.S. government securities	\$ 21,275	\$ 1,494	\$ 19,781	\$ —
Residential agency mortgage-backed securities	4,792,695	—	4,792,695	—
Municipal securities	62,230	—	62,230	—
Other trading securities	22,890	—	22,890	—
Total trading securities	4,899,090	1,494	4,897,596	—
Available for sale securities:				
U.S. Treasury	945	945	—	—
Municipal securities	225,568	—	225,568	—
Residential agency mortgage-backed securities	8,639,389	—	8,639,389	—
Residential non-agency mortgage-backed securities	781,209	—	781,209	—
Commercial agency mortgage-backed securities	3,204,016	—	3,204,016	—
Other debt securities	473	—	—	473
Total available for sale securities	12,851,600	945	12,850,182	473
Fair value option securities — Residential agency mortgage-backed securities	17,876	—	17,876	—
Residential mortgage loans held for sale ¹	77,561	—	70,564	6,997
Mortgage servicing rights, net ²	338,145	—	—	338,145
Derivative contracts, net of cash margin ³	242,809	656	242,153	—
Liabilities:				
Derivative contracts, net of cash margin ³	237,582	3,391	234,191	—

¹ Residential mortgage loans held for sale measured at fair value on a recurring basis using significant unobservable inputs (Level 3) consist of residential mortgage loans intended for sale to U.S. government agencies that fail to meet conforming standards and are valued at 81.11 % of the unpaid principal balance.

² A reconciliation of the beginning and ending fair value of mortgage servicing rights and disclosures of significant assumptions used to determine fair value are presented in Note 7, "Mortgage Banking Activities".

³ See Note 3 for detail of fair value of derivative contracts by contract type. Derivative contracts in asset and liability positions that were valued based on quoted prices in active markets for identical instruments (Level 1) are primarily exchange-traded interest rate derivative contracts held for trading and internal risk management purposes.

The fair value of financial assets and liabilities that are measured on a recurring basis is as follows as of December 31, 2023 (in thousands):

	Quoted Prices			
	Total	in Active Markets for Identical Instruments	Significant Other Observable Inputs	Significant Unobservable Inputs
Assets:				
Trading securities:				
U.S. government securities	\$ 10,959	\$ 9,017	\$ 1,942	\$ —
Residential agency mortgage-backed securities	5,105,137	—	5,105,137	—
Municipal securities	37,413	—	37,413	—
Other trading securities	39,996	—	39,996	—
Total trading securities	5,193,505	9,017	5,184,488	—
Available for sale securities:				
U.S. Treasury	925	925	—	—
Municipal securities	502,833	—	502,833	—
Residential agency mortgage-backed securities	6,834,720	—	6,834,720	—
Residential non-agency mortgage-backed securities	799,877	—	799,877	—
Commercial agency mortgage-backed securities	4,147,853	—	4,147,853	—
Other debt securities	473	—	—	473
Total available for sale securities	12,286,681	925	12,285,283	473
Fair value option securities — Residential agency mortgage-backed securities	20,671	—	20,671	—
Residential mortgage loans held for sale ¹	56,935	—	49,749	7,186
Mortgage servicing rights, net ²	293,884	—	—	293,884
Derivative contracts, net of cash margin ³	410,304	—	410,304	—
Liabilities:				
Derivative contracts, net of cash margin ³	587,473	2,607	584,866	—

¹ Residential mortgage loans held for sale measured at fair value on a recurring basis using significant unobservable inputs (Level 3) consist of residential mortgage loans intended for sale to U.S. government agencies that fail to meet conforming standards and are valued at 77.74 % of the unpaid principal balance.

² A reconciliation of the beginning and ending fair value of mortgage servicing rights and disclosures of significant assumptions used to determine fair value are presented in Note 7, "Mortgage Banking Activities".

³ See Note 3 for detail of fair value of derivative contracts by contract type. Derivative contracts in asset and liability positions that were valued based on quoted prices in active markets for identical instruments (Level 1) are primarily exchange-traded interest rate derivative contracts held for trading purposes .

Following is a description of the Company's valuation methodologies used for assets and liabilities measured on a recurring basis:

Securities

The fair values of trading, available for sale, and fair value option securities are based on quoted prices for identical instruments in active markets, when available. If quoted prices for identical instruments are not available, fair values are based on significant other observable inputs such as quoted prices of comparable instruments or interest rates and credit spreads, yield curves, volatilities, prepayment speeds, and loss severities.

The fair value of certain available for sale and held-to-maturity municipal and other debt securities may be based on significant unobservable inputs. These significant unobservable inputs include limited observed trades, projected cash flows, current credit rating of the issuers and, when applicable, the insurers of the debt and observed trades of similar debt. Discount rates are primarily based on reference to interest rate spreads on comparable securities of similar duration and credit rating as determined by the nationally-recognized rating agencies adjusted for a lack of trading volume. Significant unobservable inputs are developed by investment securities professionals involved in the active trading of similar securities. A summary of significant inputs used to value these securities follows. A management committee composed of senior members from the Company's Corporate Treasury, Risk Management, and Finance departments assess the appropriateness of these inputs quarterly.

Derivatives

All derivative instruments are carried on the balance sheet at fair value. Fair values for exchange-traded contracts are based on quoted prices. Fair values for over-the-counter interest rate, commodity, and foreign exchange contracts are based on valuations provided either by third-party dealers in the contracts, quotes provided by independent pricing services, or a third-party provided pricing model that uses significant other observable market inputs.

Credit risk is considered in determining the fair value of derivative instruments. Management determines fair value adjustments based on various risk factors including but not limited to counterparty credit rating or equivalent loan grading, derivative contract notional size, price volatility of the underlying commodity, duration of the derivative contracts and expected loss severity. Expected loss severity is based on historical losses for similarly risk graded commercial loan customers. Decreases in counterparty credit rating or grading and increases in price volatility and expected loss severity all tend to increase the credit quality adjustment which reduces the fair value of asset contracts.

We also consider our own credit risk in determining the fair value of derivative contracts. Changes in our credit rating could affect the fair value of our derivative liabilities. In the event of a credit downgrade, the fair value of our derivative liabilities could increase.

Residential Mortgage Loans Held for Sale

Residential mortgage loans held for sale are carried on the balance sheet at fair value. The fair values of conforming residential mortgage loans held for sale are based upon quoted market prices of such loans sold in securitization transactions, including related unfunded loan commitments. The fair value of mortgage loans that are unable to be sold to U.S. government agencies is determined using quoted prices of loans that are sold in securitization transactions with a liquidity discount applied.

Fair Value of Assets and Liabilities Measured on a Non-Recurring Basis

Assets measured at fair value on a non-recurring basis include collateral for certain nonaccruing loans and real property and other assets acquired to satisfy loans, which are based primarily on comparisons to completed sales of similar assets.

The following represents the carrying value of assets measured at fair value on a non-recurring basis and related losses recorded during the year. The carrying value represents only those assets at the balance sheet date for which the fair value was adjusted during the year:

	Carrying Value at December 31, 2024					Fair Value Adjustments for the Year Ended December 31, 2024 Recognized	
				In:			
	Quoted Prices in Active Markets for Identical Instruments	Significant Other Observable Inputs	Significant Unobservable Inputs	Gross charge-offs against allowance for loan losses	Other gains (losses), net		
Nonaccruing loans	\$ —	\$ 683	\$ 5,100	\$ 6,788	\$ —		
Real estate and other reposessed assets	—	1,961	—	—	(183)		

	Carrying Value at December 31, 2023					Fair Value Adjustments for the Year Ended December 31, 2023 Recognized	
				In:			
	Quoted Prices in Active Markets for Identical Instruments	Significant Other Observable Inputs	Significant Unobservable Inputs	Gross charge-offs against allowance for loan losses	Other gains (losses), net		
Nonaccruing loans	\$ —	\$ —	\$ 23,225	\$ 3,159	\$ —		
Real estate and other reposessed assets	—	2,116	—	—	(1,108)		

The fair value of collateral-dependent nonaccruing loans and real estate and other reposessed assets and the related fair value adjustments are generally based on unadjusted third-party appraisals. Our appraisal review policies require appraised values to be supported by observed inputs derived principally from or corroborated by observable market data. Appraisals that are not based on observable inputs or that require significant adjustments or fair value measurements that are not based on third-party appraisals are considered to be based on significant unobservable inputs. Non-recurring fair value measurements of collateral-dependent nonaccruing loans and real estate and other reposessed assets based on significant unobservable inputs are generally due to estimates of current fair values between appraisal dates. Significant unobservable inputs include listing prices for comparable assets, uncorroborated expert opinions, or management's knowledge of the collateral or industry. Non-recurring fair value measurements of collateral-dependent loans secured by mineral rights are generally determined by our internal staff of engineers on projected cash flows under current market conditions and are based on significant unobservable inputs. Projected cash flows are discounted according to risk characteristics of the underlying oil and gas properties. Assets are evaluated to demonstrate with reasonable certainty that crude oil, natural gas, and natural gas liquids can be recovered from known oil and gas reservoirs under existing economic and operating conditions at current prices with existing conventional equipment, operating methods, and costs. Significant unobservable inputs are developed by asset management and workout professionals and approved by senior Credit Administration executives.

A summary of quantitative information about Non-recurring Fair Value Measurements based on Significant Unobservable Inputs (Level 3) as of December 31, 2024 follows (dollars in thousands):

Quantitative Information about Level 3 Non-recurring Fair Value Measurements				
	Fair Value	Valuation Technique(s)	Significant Unobservable Input	Range (Weighted Average)
Nonaccruing loans	\$ 5,100	Appraised value, as adjusted	Broker quotes and management's knowledge of industry and collateral.	36 % - 36 % (36 %) ¹

¹ Represents fair value as a percentage of the unpaid principal balance.

A summary of quantitative information about Non-recurring Fair Value Measurements based on Significant Unobservable Inputs (Level 3) as of December 31, 2023 follows (dollars in thousands):

Quantitative Information about Level 3 Non-recurring Fair Value Measurements				
	Fair Value	Valuation Technique(s)	Significant Unobservable Input	Range (Weighted Average)
Nonaccruing loans	\$ 23,225	Discounted cash flows	Management knowledge of industry and non-real estate collateral.	13 % - 90 % (88 %) ¹

¹ Represents fair value as a percentage of the unpaid principal balance.

Fair Value of Financial Instruments

The following table presents the carrying values and estimated fair values of all financial instruments, including those financial assets and liabilities that are not measured and reported at fair value on a recurring basis or are measured at fair value on a non-recurring basis (dollars in thousands):

	December 31, 2024				
	Quoted Prices in Active Markets for Identical Instruments (Level 1)				
	Carrying Value	Estimated Fair Value		Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
Cash and due from banks	\$ 1,043,969	\$ 1,043,969	\$ 1,043,969	\$ —	\$ —
Interest-bearing cash and cash equivalents	390,732	390,732	390,732	—	—
Trading securities:					
U.S. government securities	21,275	21,275	1,494	19,781	—
Residential agency mortgage-backed securities	4,792,695	4,792,695	—	4,792,695	—
Municipal securities	62,230	62,230	—	62,230	—
Other trading securities	22,890	22,890	—	22,890	—
Total trading securities	4,899,090	4,899,090	1,494	4,897,596	—
Investment securities:					
Municipal securities	104,467	106,489	—	11,674	94,815
Residential agency mortgage-backed securities	1,880,473	1,680,800	—	1,680,800	—
Commercial agency mortgage-backed securities	16,220	15,357	—	15,357	—
Other debt securities	16,288	15,283	—	15,283	—
Total investment securities	2,017,448	1,817,929	—	1,723,114	94,815
Allowance for credit losses	(223)	—	—	—	—
Investment securities, net of allowance	2,017,225	1,817,929	—	1,723,114	94,815
Available for sale securities:					
U.S. Treasury	945	945	945	—	—
Municipal securities	225,568	225,568	—	225,568	—
Residential agency mortgage-backed securities	8,639,389	8,639,389	—	8,639,389	—
Residential non-agency mortgage-backed securities	781,209	781,209	—	781,209	—
Commercial agency mortgage-backed securities	3,204,016	3,204,016	—	3,204,016	—
Other debt securities	473	473	—	—	473
Total available for sale securities	12,851,600	12,851,600	945	12,850,182	473
Fair value option securities - Residential agency mortgage-backed securities	17,876	17,876	—	17,876	—
Residential mortgage loans held for sale	77,561	77,561	—	70,564	6,997
Loans:					
Commercial	15,030,136	14,903,851	—	—	14,903,851
Commercial real estate	5,058,452	4,933,396	—	—	4,933,396
Loans to individuals	4,026,136	3,872,299	—	—	3,872,299
Total loans	24,114,724	23,709,546	—	—	23,709,546
Allowance for loan losses	(280,035)	—	—	—	—
Loans, net of allowance	23,834,689	23,709,546	—	—	23,709,546
Mortgage servicing rights	338,145	338,145	—	—	338,145
Derivative instruments with positive fair value, net of cash margin	242,809	242,809	656	242,153	—
Deposits with no stated maturity	34,655,820	34,655,820	—	—	34,655,820
Time deposits	3,535,410	3,522,242	—	—	3,522,242
Other borrowed funds	4,322,979	4,323,174	—	—	4,323,174
Subordinated debentures	131,200	121,057	—	121,057	—
Derivative instruments with negative fair value, net of cash margin	237,582	237,582	3,391	234,191	—

December 31, 2023

	Quoted Prices in Active Markets for Identical Instruments (Level 1)					Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)		
	Carrying Value	Estimated Fair Value							
Cash and due from banks	\$ 947,613	\$ 947,613	\$ 947,613		\$ —	\$ —	—		
Interest-bearing cash and cash equivalents	400,652	400,652	400,652		—	—	—		
Trading securities:									
U.S. government securities	10,959	10,959	9,017		1,942	—	—		
Residential agency mortgage-backed securities	5,105,137	5,105,137	—		5,105,137	—	—		
Municipal securities	37,413	37,413	—		37,413	—	—		
Other trading securities	39,996	39,996	—		39,996	—	—		
Total trading securities	5,193,505	5,193,505	9,017		5,184,488	—	—		
Investment securities:									
Municipal securities	120,705	125,525	—		12,305	113,220	—		
Residential agency mortgage-backed securities	2,092,083	1,917,810	—		1,917,810	—	—		
Commercial agency mortgage-backed securities	15,914	15,067	—		15,067	—	—		
Other debt securities	15,787	14,184	—		14,184	—	—		
Total investment securities	2,244,489	2,072,586	—		1,959,366	113,220	—		
Allowance for credit losses	(336)	—	—		—	—	—		
Investment securities, net of allowance	2,244,153	2,072,586	—		1,959,366	113,220	—		
Available for sale securities:									
U.S. Treasury securities	925	925	925		—	—	—		
Municipal securities	502,833	502,833	—		502,833	—	—		
Residential agency mortgage-backed securities	6,834,720	6,834,720	—		6,834,720	—	—		
Residential non-agency mortgage-backed securities	799,877	799,877	—		799,877	—	—		
Commercial agency mortgage-backed securities	4,147,853	4,147,853	—		4,147,853	—	—		
Other debt securities	473	473	—		—	473	—		
Total available for sale securities	12,286,681	12,286,681	925		12,285,283	473	—		
Fair value option securities - Residential agency mortgage-backed securities	20,671	20,671	—		20,671	—	—		
Residential mortgage loans held for sale	56,935	56,935	—		49,749	7,186	—		
Loans:									
Commercial	14,803,769	14,862,873	—		—	14,862,873	—		
Commercial real estate	5,337,647	5,270,657	—		—	5,270,657	—		
Loans to individuals	3,763,552	3,634,855	—		—	3,634,855	—		
Total loans	23,904,968	23,768,385	—		—	23,768,385	—		
Allowance for loan losses	(277,123)	—	—		—	—	—		
Loans, net of allowance	23,627,845	23,768,385	—		—	23,768,385	—		
Mortgage servicing rights	293,884	293,884	—		—	293,884	—		
Derivative instruments with positive fair value, net of cash margin	410,304	410,304	—		410,304	—	—		
Deposits with no stated maturity	31,007,679	31,007,679	—		—	31,007,679	—		
Time deposits	3,012,022	2,993,685	—		—	2,993,685	—		
Other borrowed funds	8,824,300	8,824,299	—		—	8,824,299	—		
Subordinated debentures	131,150	115,798	—		115,798	—	—		
Derivative instruments with negative fair value, net of cash margin	587,473	587,473	2,607		584,866	—	—		

Because no market exists for certain of these financial instruments and management does not intend to sell these financial instruments, the fair values shown in the tables above may not represent values at which the respective financial instruments could be sold individually or in the aggregate at the given reporting date.

Fair Value Election

As more fully disclosed in Note 2 and Note 7 to the Consolidated Financial Statements, the Company has elected to carry all securities held as economic hedges against changes in the fair value of mortgage servicing rights and all residential mortgage loans originated for sale at fair value. Changes in the fair value of these financial instruments are recognized in earnings.

(20) Parent Company Only Financial Statements

Summarized financial information for BOK Financial – Parent Company Only follows:

Balance Sheets

(In thousands)

	December 31,	
	2024	2023
Assets		
Cash and cash equivalents	\$ 276,046	\$ 203,808
Loan to bank subsidiary	65,131	65,151
Investment in bank subsidiary	5,130,141	4,785,453
Investment in non-bank subsidiaries	196,199	216,200
Other assets	19,486	17,984
Total assets	\$ 5,687,003	\$ 5,288,596
Liabilities and Shareholders' Equity		
Liabilities:		
Other liabilities	\$ 7,450	\$ 15,004
Subordinated debentures	131,200	131,150
Total liabilities	138,650	146,154
Shareholders' equity:		
Common stock	5	5
Capital surplus	1,429,628	1,406,745
Retained earnings	5,592,100	5,211,512
Treasury stock	(970,340)	(876,720)
Accumulated other comprehensive loss	(503,040)	(599,100)
Total shareholders' equity	5,548,353	5,142,442
Total liabilities and shareholders' equity	\$ 5,687,003	\$ 5,288,596

Statements of Earnings

(In thousands)

	Year Ended December 31,		
	2024	2023	2022
Dividends, interest and fees received from bank subsidiary	\$ 304,515	\$ 329,429	\$ 228,689
Dividends, interest and fees received from non-bank subsidiaries	22,151	8,000	43,281
Other revenue	1,286	1,162	1,172
Total revenue	327,952	338,591	273,142
Interest expense	9,216	8,952	6,490
Other operating expense	3,196	5,674	3,005
Total expense	12,412	14,626	9,495
Net income before taxes, other losses, net, and equity in undistributed income of subsidiaries	315,540	323,965	263,647
Other gains (losses), net	2,112	32,656	(4,279)
Net income before taxes and equity in undistributed income of subsidiaries	317,652	356,621	259,368
Federal and state income taxes	(2,390)	5,410	(1,776)
Net income before equity in undistributed income of subsidiaries	320,042	351,211	261,144
Equity in undistributed income of bank subsidiaries	226,271	181,487	300,330
Equity in undistributed income of non-bank subsidiaries	(22,744)	(1,952)	(41,201)
Net income attributable to BOK Financial shareholders	\$ 523,569	\$ 530,746	\$ 520,273

Statements of Cash Flows

(In thousands)

	Year Ended December 31,		
	2024	2023	2022
Cash Flows From Operating Activities:			
Net income	\$ 523,569	\$ 530,746	\$ 520,273
Adjustments to reconcile net income to net cash provided by operating activities:			
Equity in undistributed income of bank subsidiaries	(226,271)	(181,487)	(300,330)
Equity in undistributed income of non-bank subsidiaries	22,744	1,952	41,201
Other losses (gains), net	(2,112)	(32,656)	4,279
Change in other assets	963	1,986	1,317
Change in other liabilities	(7,504)	13,404	543
Net cash provided by operating activities	311,389	333,945	267,283
Cash Flows From Investing Activities:			
Investment in subsidiaries	(2,550)	(2,975)	(31,552)
Sale of subsidiary	—	32,601	—
Dissolution of subsidiaries	—	—	2,611
Net cash provided by (used in) investing activities	(2,550)	29,626	(28,941)
Cash Flows From Financing Activities:			
Issuance of common and treasury stock, net	(3,764)	(4,941)	(4,907)
Dividends paid	(142,981)	(143,398)	(143,800)
Repurchase of common stock	(89,856)	(176,819)	(154,887)
Net cash used in financing activities	(236,601)	(325,158)	(303,594)
Net increase (decrease) in cash and cash equivalents	72,238	38,413	(65,252)
Cash and cash equivalents at beginning of period	203,808	165,395	230,647
Cash and cash equivalents at end of period	\$ 276,046	\$ 203,808	\$ 165,395
Cash paid for interest	\$ 9,626	\$ 8,479	\$ 6,203

(21) Subsequent Events

The Company evaluated events from the date of the Consolidated Financial Statements on December 31, 2024 through the issuance of those consolidated financial statements included in this Annual Report on Form 10-K. No events were identified requiring recognition in and/or disclosure in the Consolidated Financial Statements.

ITEM 9. CHANGES IN AND DISAGREEMENTS WITH ACCOUNTANTS ON ACCOUNTING AND FINANCIAL DISCLOSURE

None.

ITEM 9A. CONTROLS AND PROCEDURES

As of the end of the period covered by this report and pursuant to Rule 13a-15 of the Securities Exchange Act of 1934 (the "Exchange Act"), the Company's management, including the Chief Executive Officer and Chief Financial Officer, conducted an evaluation of the effectiveness and design of the Company's disclosure controls and procedures (as that term is defined in Rules 13a-15(e) and 15d-15(e) of the Exchange Act). Based upon that evaluation, the Company's Chief Executive Officer and Chief Financial Officer concluded, as of the end of the period covered by this report, that the Company's disclosure controls and procedures were effective in recording, processing, summarizing, and reporting information required to be disclosed by the Company, within the time periods specified in the Securities and Exchange Commission's rules and forms.

In addition and as of the end of the period covered by this report, there have been no changes in internal control over financial reporting (as defined in Rule 13a-15(f) and 15d-15(f), as amended, of the Exchange Act) during the Company's fourth fiscal quarter that have materially affected, or are reasonably likely to materially affect, the internal control over financial reporting.

Management's Report on Internal Control over Financial Reporting appears within Item 8, "Financial Statements and Supplementary Data." The independent registered public accounting firm, Ernst & Young LLP, has audited the financial statements included in Item 8 and has issued an audit report on the Company's internal control over financial reporting, which appears therein.

ITEM 9B. OTHER INFORMATION

Trading Plans

No Company director or officer (as defined in Exchange Act Rule 16a-1(f)) has adopted, modified, or terminated any trading arrangements during the fourth quarter of 2024.

Certain of our officers or directors have made elections to participate in, and are participating in, our dividend reinvestment plan and 401(k) plan, and have made, and may from time to time make, elections to have shares withheld to cover withholding taxes on issuances of shares to such officers or directors, which may be designed to satisfy the affirmative defense conditions of Rule 10b5-1 under the Exchange Act or may constitute non-Rule 10b5-1 trading arrangements (as defined in Item 408(c) of Regulation S-K).

PART III

ITEM 10. DIRECTORS, EXECUTIVE OFFICERS AND CORPORATE GOVERNANCE

The information set forth under the headings "Election of Directors," "Executive Officers," "Insider Reporting," "Director Nominations," and "Report of the Audit Committee" in BOK Financial's 2025 Annual Proxy Statement is incorporated herein by reference.

The Company has a Code of Ethics which is applicable to all directors, officers, and employees of the Company, including the Chief Executive Officer and the Chief Financial Officer, the principal executive officer, and principal financial and accounting officer, respectively. A copy of the Code of Ethics will be provided without charge to any person who requests it by writing to the Company's headquarters at Bank of Oklahoma Tower, P.O. Box 2300, Tulsa, Oklahoma 74192 or telephoning the Chief Risk Officer at (918) 588-6000. The Company will also make available amendments to or waivers from its Code of Ethics applicable to directors or executive officers, including the Chief Executive Officer and the Chief Financial Officer, in accordance with all applicable laws and regulations.

There are no material changes to the procedures by which security holders may recommend nominees to the Company's Board of Directors since the Company's 2024 Annual Proxy Statement to Shareholders.

ITEM 11. EXECUTIVE COMPENSATION

The information set forth under the heading "Compensation Discussion and Analysis," "Compensation Committee Interlocks and Insider Participation," "Compensation Committee Report," "Executive Compensation Tables," and "Director Compensation" in BOK Financial's 2025 Annual Proxy Statement is incorporated herein by reference.

ITEM 12. SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT AND RELATED STOCKHOLDER MATTERS

The information set forth under the headings "Security Ownership of Certain Beneficial Owners and Management" and "Election of Directors" in BOK Financial's 2025 Annual Proxy Statement is incorporated herein by reference.

ITEM 13. CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS, AND DIRECTOR INDEPENDENCE

Information regarding related parties is set forth in Note 13 to the Company's Notes to Consolidated Financial Statements which appears elsewhere herein. Additionally, the information set forth under the headings "Certain Transactions," "Director Independence," and "Related Party Transaction Review and Approval Process" in BOK Financial's 2025 Annual Proxy Statement is incorporated herein by reference.

ITEM 14. PRINCIPAL ACCOUNTANT FEES AND SERVICES

The information set forth under the heading "Principal Accountant Fees and Services" in BOK Financial's 2025 Annual Proxy Statement is incorporated herein by reference.

PART IV**ITEM 15. EXHIBITS, FINANCIAL STATEMENT SCHEDULES****(a) (1) Financial Statements**

The following financial statements of BOK Financial Corporation are filed as part of this Form 10-K in Item 8:

Consolidated Statements of Earnings for the years ended December 31, 2024, 2023, and 2022
Consolidated Statements of Comprehensive Income for the years ended December 31, 2024, 2023, and 2022
Consolidated Balance Sheets as of December 31, 2024 and 2023
Consolidated Statements of Changes in Equity for the years ended December 31, 2024, 2023, and 2022
Consolidated Statements of Cash Flows for the years ended December 31, 2024, 2023, and 2022
Notes to Consolidated Financial Statements
Reports of Independent Registered Public Accounting Firm

(a) (2) Financial Statement Schedules

The schedules to the Consolidated Financial Statements required by Regulation S-X are not required under the related instructions or are inapplicable and are therefore omitted.

(a) (3) Exhibits

Exhibit Number	Description of Exhibit
3.0	The Articles of Incorporation of BOK Financial, incorporated by reference to (i) Amended and Restated Certificate of Incorporation of BOK Financial filed with the Oklahoma Secretary of State on May 28, 1991, filed as Exhibit 3.0 to S-1 Registration Statement No. 33-90450, and (ii) Amendment attached as Exhibit A to Information Statement and Prospectus Supplement filed November 20, 1991.
3.1	Bylaws of BOK Financial, as amended and restated as of October 30, 2007, incorporated by reference to Exhibit 3.1 of Form 8-K filed November 5, 2007.
4.0	The rights of the holders of the Common Stock of BOK Financial are set forth in its Certificate of Incorporation.
4.3	Form of Subordinated Notes Indenture, to be dated as of June 25, 2015 between CoBiz Financial Inc. and U.S. Bank National Association, as trustee, incorporated by reference to Exhibit 4.1 to CoBiz Financial Inc. Form 8-K filed June 25, 2015.
4.4	Form of 5.625% Subordinated Notes due June 25, 2030, incorporated by reference to Exhibit 4.2 to CoBiz Financial Inc. Form 8-K filed June 25, 2015.
10.4	Employment and Compensation Agreements.
10.4.10	Amended and Restated Employment Agreement (amended as of January 1, 2022) between BOK Financial and Stacy C. Kymes, incorporated by reference to Exhibit 10.4.10 of Form 10-K filed February 23, 2022.
10.4.11	Employment Agreement between BOK Financial and Scott B. Grauer dated December 18, 2013, incorporated by reference to Exhibit 10.4.11 of Form 10-K filed March 1, 2019.
10.4.12	Employment Agreement between BOK Financial and Martin E. Grunst dated March 1, 2023, incorporated by reference to Exhibit 10.4.12 of Form 10-K filed March 1, 2023.
10.4.13	Amended and Restated Employment Agreement between BOK Financial and Marc C. Maun dated November 3, 2021, incorporated by reference to Exhibit 10.4.13 of Form 10-K filed February 21, 2024.
10.4.14	Employment Agreement between BOK Financial and Brad A. Vincent dated August 23, 2021, incorporated by reference to Exhibit 10.4.14 of Form 10-K filed February 21, 2024.
10.7.7	BOK Financial Corporation 2001 Stock Option Plan, incorporated by reference to Exhibit 4.0 of S-8 Registration Statement No. 333-62578.
10.7.8	BOK Financial Corporation Directors' Stock Compensation Plan, incorporated by reference to Exhibit 4.0 of S-8 Registration Statement No. 33-79836.
10.7.9	Bank of Oklahoma Thrift Plan (Amended and Restated Effective as of January 1, 1995), incorporated by reference to Exhibit 10.7.6 of Form 10-K for the year ended December 31, 1994.
10.7.10	Trust Agreement for the Bank of Oklahoma Thrift Plan (December 30, 1994), incorporated by reference to Exhibit 10.7.7 of Form 10-K for the year ended December 31, 1994.
10.7.11	BOK Financial Corporation 2003 Stock Option Plan, incorporated by reference to Exhibit 4.0 of S-8 Registration Statement No. 333-106531.
10.7.12	BOK Financial Corporation 2003 Executive Incentive Plan, incorporated by reference to Exhibit 4.0 of S-8 Registration Statement No. 333-106530.
10.7.14	BOK Financial Corporation 2003 Executive Incentive Plan, as amended and restated, for the Chief Executive Officer and for Direct Reports to the Chief Executive Officer, incorporated by reference to the Schedule 14 A Definitive Proxy Statement filed March 15, 2011.
10.7.16	BOK Financial Corporation Omnibus Incentive Plan effective January 1, 2013, incorporated by reference to Exhibit 10.7.16 of Form 10-K filed February 21, 2024.
10.8	Lease Agreement between Williams Headquarters Building LLC and BOKF, NA dated July 1, 2019, incorporated by reference to Exhibit 10.8 of Form 10-K filed February 27, 2020.

Exhibit Number	Description of Exhibit
10.8.1	First Amendment to Lease Agreement between Williams Headquarters Building LLC and BOKF, NA dated November 8th, 2019, incorporated by reference to Exhibit 10.8.1 of Form 10-K filed February 27, 2020.
19	BOK Financial Stock Trading and Transactional Reporting Policy, filed herewith.
21	Subsidiaries of BOK Financial, filed herewith.
23	Consent of independent registered public accounting firm - Ernst & Young LLP, filed herewith.
31.1	Certification of Chief Executive Officer Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002, filed herewith.
31.2	Certification of Chief Financial Officer Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002, filed herewith.
32	Certification of Chief Executive Officer and Chief Financial Officer Pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, filed herewith.
97	BOK Financial Clawback Policy, effective June 30, 2023, incorporated by reference to Exhibit 97 of Form 10-K filed February 21, 2024.
99	Additional Exhibits.
101	Interactive data files pursuant to Rule 405 of Regulation S-T: (i) the Cover Page, (ii) the Consolidated Balance Sheets, (iii) the Consolidated Statements of Earnings, (iv) the Consolidated Statements of Changes in Equity, (v) the Consolidated Statement of Cash Flows and (vi) the Notes to the Consolidated Financial Statements, filed herewith. The XBRL instance document does not appear in the Interactive Data File because its XBRL tags are embedded within the Inline XBRL document.
104	Cover Page Interactive Data File (formatted as Inline XBRL and contained in Exhibit 101).

(b) Exhibits

See Item 15 (a) (3) above.

(c) Financial Statement Schedules

See Item 15 (a) (2) above.

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.

BOK FINANCIAL CORPORATION

DATE: February 19, 2025

BY: /s/ George B. Kaiser
George B. Kaiser
Chairman of the Board of Directors

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below on February 19, 2025, by the following persons on behalf of the registrant and in the capacities indicated.

OFFICERS

/s/ George B. Kaiser
George B. Kaiser
Chairman of the Board of Directors

/s/ Stacy C. Kymes
Stacy C. Kymes
Director, President and Chief Executive Officer

/s/ Martin E. Grunst
Martin E. Grunst
Director, Executive Vice President and
Chief Financial Officer

/s/ Michael J. Rogers
Michael J. Rogers
Senior Vice President and
Chief Accounting Officer

DIRECTORS

/s/ Alan S. Armstrong

Alan S. Armstrong

/s/ Steven Bangert

Steven Bangert

/s/ Chester E. Cadieux, III

Chester E. Cadieux, III

/s/ John W. Coffey

John W. Coffey

/s/ Joseph W. Craft, III

Joseph W. Craft, III

/s/ David F. Griffin

David F. Griffin

/s/ E. Carey Joullian, IV

E. Carey Joullian, IV

/s/ Stanley A. Lybarger

Stanley A. Lybarger

Steven J. Malcolm

/s/ Emmet C. Richards

Emmet C. Richards

/s/ Claudia San Pedro

Claudia San Pedro

/s/ Kayse M. Shrum

Kayse M. Shrum

/s/ Peggy I. Simmons

Peggy I. Simmons

/s/ Michael C. Turpen

Michael C. Turpen

/s/ Rose M. Washington-Jones

Rose M. Washington-Jones

Stock Trading and Transactional Reporting Policy

This policy is applicable to BOK Financial Corporation, BOKF, NA and its divisions, affiliates and subsidiaries.

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1. TITLE

Stock Trading and Transactional Reporting Policy

2. PURPOSE

Guidelines for covered persons to transact in BOKF common stock or derivatives thereof.

3. POLICY STATEMENT

3.1 TIMING OF TRANSACTIONS

Except as provided below, there shall be no transactions by Covered Persons involving BOKF stock during certain times ("Blocked Periods"), as described below in Policy Details.

Covered Persons who are aware of material nonpublic information are also prohibited from passing that information on to others outside BOKF, including friends and family.

Exception: Stock options may be exercised during Blocked Periods provided that the Covered Person does not i) exercise the options using a broker-assisted cashless exercise method or any other market sale for the purpose of generating the cash needed to pay the exercise price of the option and ii) sell any shares received upon exercise during a Blocked Period except to the Company to cover taxes and exercise price.

3.2 MANDATORY PRE-CLEARANCE PROCEDURES

Covered persons may not engage in any Covered Transaction without first obtaining pre-clearance of the transaction from the office of Frederic Dorwart, Lawyers PLLC (General Counsel for BOKF). A request for pre-clearance of the proposed transaction should be submitted to the General Counsel's office in accordance with the Notification and Information Procedure attached hereto. The procedure may be revised from time to time upon written notice to all Covered Persons. The General Counsel's office will then determine whether the transaction may proceed and, if so, assist in complying with the reporting requirements. Any such permission to proceed with a transaction shall not limit the responsibility or ramifications of the transaction as being solely that of the Covered Person.

3.3 SANCTIONS FOR COVERED TRANSACTIONS DURING BLOCKED PERIOD

Numerous Federal and State laws govern trading by insiders during Blocked Periods. Sanctions resulting from violating such laws can include, among others:

- Suit by the Company against the person to disgorge profits from the transaction, where the requirement to bring suit is not optional for the Company and the determination of profits will be the most disadvantageous combination of sales and purchases by the Covered Person during the period required by the respective law (in many cases 6 months).
- Criminal prosecution resulting in financial penalties, incarceration or prohibitions from working for or with publicly traded entities.

The responsibility for complying with any and all Federal and State or other laws and regulations is that of the Covered Person. The Company will assist the Covered Person in timing transactions such as to not violate any such laws; however, the responsibility and ramifications of any violations of law is that of the Covered Person whether such assistance is given or not.

3.4 REPORTING OF TRANSACTIONS

Pursuant to SEC requirements, Covered Persons are required to file an initial report of indirect or direct beneficial ownership of BOKF stock on Form 3 of the SEC within ten days of becoming a Covered Person. Any changes in the beneficial ownership must be reported on Form 4 of the SEC before the end of the second business day following the day on which the subject transaction was executed. Form 5 must be filed within 45 days after the end of the fiscal year by Covered Persons who engaged in transactions that have not previously been reported during the fiscal year of the issuer (or during the previous two fiscal years for the Covered Person's first Form 5 filing). Form 5 reports previously exempted transactions and year end holdings.

Covered Persons must monitor their personal transactions and file the appropriate forms with the SEC. Changes in beneficial ownership include purchases, sales, grants, and/or acquisitions of stock, options, or other derivative securities, etc. Since a Covered Person is presumed to have a pecuniary interest, he/she is required to report on securities held by a member of the insider's immediate family sharing the same household. Any questions about this provision should be directed to the

designated Filing Coordinator. Covered Persons must provide required information to the Filing Coordinator. Frederic Dorwart, Lawyers PLLC serves as the Filing Coordinator.

The Filing Coordinator shall provide information regarding filing requirements to all Covered Persons and then compile the information and prepare forms for filing based upon information provided by the Covered Persons.

Annually, the Corporate Secretary will prepare a list of those Covered Persons.

The Filing Coordinator's duties include assisting in the preparation of required forms and maintaining copies thereof; contacting individuals who become Covered Persons; sending monthly and annual information requests to all designated insiders; and identifying instances of noncompliance with SEC requirements for appropriate disclosure.

3.5 SANCTIONS FOR LATE FILINGS

Any late or delinquent Form 4s or 5s (the vehicles by which Covered Transactions are reported to the SEC and stock exchanges) are required to be reported in our proxy statement in a separate captioned section, naming names. The SEC has been granted broad authority to seek "any equitable relief that may be appropriate or necessary for the benefit of investors" for violations of any provisions of the securities laws. The SEC has an enforcement division dedicated solely to late filings.

The responsibility for ensuring the timely and accurate filing of Form 4s or 5s is that of the Covered Person. The Filing Coordinator will assist in the preparation and filing of such Forms, but the responsibility and ramifications of an untimely filing are borne by the Covered Person.

3.6 DIRECTOR OWNERSHIP REQUIREMENTS

In order to satisfy regulatory requirements, each director shall own \$1,000 in market value of BOK Financial Corporation common stock.

4. DEFINITIONS

4.1 COVERED PERSONS

This policy is applicable to:

- All Directors of BOK Financial Corporation ("BOKF"),
- Those Executive Officers of BOKF and its affiliates that perform policy making functions for BOKF,
- 10% Shareholders,
- Family members and others living in the household of Directors, Executive Officers, and 10% Shareholders, and
- Entities over which Directors, Executive Officers, and 10% Shareholders have direct or indirect voting or investment power (collectively "Covered Persons").

4.2 COVERED TRANSACTIONS

This policy is applicable to direct and indirect transactions involving BOKF common stock or any derivatives thereof such as stock options or phantom stock plans. Examples of Covered Transactions include, but are not limited to:

- Purchases of stock
- Sales of stock
- Gifts of stock
- Grants of stock options
- Exercise of stock options
- Grants of Director Shares
- Transfer into a deferred compensation plan
- Granting of or payments under a phantom stock plan
- Transfers of shares to or from people (whether family or others), trusts or accounts held under management whether by choice or court order
- Any other transaction directly or indirectly involving a share of BOK Financial stock

5. POLICY DETAILS

5.1 BLOCKED PERIODS

Blocked Periods for Covered Persons are as follows:

- From the 15th calendar day prior to the end of the last month of a fiscal period (quarter or year-end) until 2 days after the issuance of the related press release or other notification to the public (generally, but not always within 35 days of the respective quarter-end or year-end).
- During any period of blackout under the 401(k) Plan as long as there exists a fund in the 401(k) Plan which derives material value from BOKF stock.
- From the point at which there exists material information about BOK Financial Corporation or its operations that is unknown to the public, through two days after the issuance of the related press release to the public or the previously material information ceases to be material to the company. Examples of potential material information include, but are not limited to:
 - Pending or proposed merger, acquisitions, dispositions or joint ventures
 - Pending or proposed acquisition or disposition of a significant asset
 - Change in dividend policy or the declaration of a stock split
 - Major personnel changes
 - Major marketing decisions
 - Plans to issue or repurchase securities
 - Plans for a new product of significance
 - Significant litigation
 - Any other event that may affect, in any way, the market value of the BOKF securities

6. ROLES AND RESPONSIBILITIES

Party / Parties	Roles and Responsibilities
Office of General Counsel	Responsible for overall management of the policy.
Chief Accounting Officer	Responsible for management of the process

7. CONTROLS - MONITORING, EVALUATION AND REVIEW

7.1 GRANTING POLICY EXCEPTIONS

Any exceptions to the Policy must be submitted to the Chief Accounting Officer.

8. POLICY AUTHORITY

Office of General Counsel

9. ASSOCIATED (INTERNAL) DOCUMENTS

Standards of Conduct for Officers and Employees

Notification and Information Procedures

10. REFERENCE (EXTERNAL) DOCUMENTS – LAWS, RULES, STATUTES, ETC.

BOK FINANCIAL CORPORATION
SUBSIDIARIES OF THE REGISTRANT

Banking Subsidiaries

BOKF, National Association (1)

Other subsidiaries of BOK Financial Corporation

BOKF Capital Corporation

BOKFCC (Cyber), LLC

BOKFCC (FDS), LLC

BOKFCC (Fixed Income II), LLC

BOKF-CC (HD Repair), LLC

BOKF-CC (IPS), LLC

BOKF-CC (O2 Concepts), LLC

BOKF-CC (QRC), LLC

BOKF-CC (SSP), LLC

BOKF-CC (Switchgrass), LLC

BOKF-CC (VFP), LLC

BOKFCC Merchant Banking Fund I, LLC

BOKFCC MB II, LLC

BOKFCC MB III, LLC

BOK Financial Private Wealth, Inc. (5)

BOK Financial Securities, Inc.

Cavanal Hill Distributors, Inc.

Industrial Pipe & Supply, LLC

Lumifi Holdco, LLC

Switchgrass I, LLC

Switchgrass II, LLC

Switchgrass III, LLC

Switchgrass IV, LLC

Switchgrass V, LLC

Switchgrass VI, LLC
Switchgrass Holdings, LLC
Switchgrass Management, LLC
Switchgrass Properties, LLC
Switchgrass Properties-II, LLC

Subsidiaries of BOKF, National Association (1)

Affiliated BancServices, Inc.
Affiliated Financial Holding Co.
Affiliated Financial Insurance Agency, Inc.
BancOklahoma Agri-Service Corporation
Beacon Real Estate Group, LLC
Beacon Real Estate Group Holdings, LLC
BOK Delaware, Inc. (3)
BOK Financial Equipment Finance, Inc.
BOK Financial Public Finance, Inc. (5)
BOK Funding Trust (3)
BOKF Community Development Fund, LLC
BOKF Community Development Fund II
BOKF Community Development Corporation
BOKF Investment Fund II, LLC
BOKF Petro Holding, LLC
BOKF Petro Holdings III, LLC
BOSC Agency, Inc. (Oklahoma)
BOSC Agency, Inc. (New Mexico) (4)
BOSC Agency, Inc. (Texas) (2)
Cavanal Hill Investment Management, Inc.
Cottonwood Valley Ventures, Inc.
CVV Management, Inc.
CVV Partnership, an Oklahoma General Partnership

All Subsidiaries listed above were incorporated in Oklahoma, except as noted.

- (1) Chartered by the United States Government
- (2) Incorporated in Texas
- (3) Incorporated in Delaware
- (4) Incorporated in New Mexico
- (5) Incorporated in Colorado

Consent of Independent Registered Public Accounting Firm

We consent to the incorporation by reference in the following Registration Statements:

- Registration Statement (Form S-8, No. 33-44121) pertaining to the Reoffer Prospectus of the Bank of Oklahoma Master Thrift Plan and Trust Agreement as amended October 6, 2008.
- Registration Statement (Form S-8, No. 333-40280) pertaining to the Reoffer Prospectus of the BOK Financial Corporation Master Thrift Plan for Hourly Employees as amended October 6, 2008.
- Registration Statement (Form S-8, No. 33-79836) pertaining to the Reoffer Prospectus of the BOK Financial Corporation Directors' Stock Compensation Plan.
- Registration Statement (Form S-8, No. 333-62578) pertaining to the Reoffer Prospectus of the BOK Financial Corporation 2001 Stock Option Plan.
- Registration Statement (Form S-8, No. 333-106530) pertaining to the Reoffer Prospectus of the BOK Financial Corporation 2003 Executive Incentive Plan.
- Registration Statement (Form S-8, No. 333-106531) pertaining to the Reoffer Prospectus of the BOK Financial Corporation 2003 Stock Option Plan.
- Registration Statement (Form S-8, No. 333-135224) pertaining to the Reoffer Prospectus of the BOK Financial Corporation 2003 Stock Option Plan.
- Registration Statement (Form S-8, No. 333-158846) pertaining to the Reoffer Prospectus of the BOK Financial Corporation 2009 Omnibus Incentive Plan.
- Registration Statement (Form S-4, No. 333-226211) pertaining to the Registration Statement for the registration of BOK Financial Corporation's common stock.
- Registration Statement (Form S-8, No. 333-266398) pertaining to the Registration Statement for the registration of the BOK Financial Corporation 401(k) plan.

of our reports dated February 19, 2025, with respect to the consolidated financial statements of BOK Financial Corporation and the effectiveness of internal control over financial reporting of BOK Financial Corporation included in this Annual Report (Form 10-K) of BOK Financial Corporation for the year ended December 31, 2024.

/s/ Ernst & Young LLP

Tulsa, Oklahoma

February 19, 2025

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

I, Stacy C. Kymes, President and Chief Executive Officer of BOK Financial Corporation ("BOK Financial"), certify that:

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

Date: February 19, 2025

/s/ Stacy C. Kymes
Stacy C. Kymes
President
Chief Executive Officer
BOK Financial Corporation

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

I, Martin E. Grunst, Chief Financial Officer of BOK Financial Corporation ("BOK Financial"), certify that:

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

Date: February 19, 2025

/s/ Martin E. Grunst

Martin E. Grunst

Executive Vice President
Chief Financial Officer
BOK Financial Corporation

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

In connection with the Annual Report of BOK Financial Corporation ("BOK Financial") on Form 10-K for the fiscal period ending December 31, 2024 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), we, Stacy C. Kymes and Martin E. Grunst, Chief Executive Officer and Chief Financial Officer, respectively, of BOK Financial, certify, pursuant to 18 U.S.C. § 1350, as adopted pursuant to § 906 of the Sarbanes-Oxley Act of 2002, that to our knowledge:

1. The Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and
2. The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of BOK Financial as of, and for, the periods presented.

February 19, 2025

/s/ Stacy C. Kymes

Stacy C. Kymes
President
Chief Executive Officer
BOK Financial Corporation

/s/ Martin E. Grunst

Martin E. Grunst
Executive Vice President
Chief Financial Officer
BOK Financial Corporation