

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

FORM 10-Q

(Mark One)

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

For the quarterly period ended March 31, 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)

Oklahoma

(State or other jurisdiction
of incorporation or Organization)

73-1373454

(IRS Employer
Identification No.)

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

74192

(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

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 and post such files). Yes No

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

Large accelerated filer Accelerated filer
Non-accelerated filer Smaller reporting company
Emerging growth company

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

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

Indicate the number of shares outstanding of each of the issuer's classes of common stock, as of the latest practicable date: 64,515,035 shares of common stock (\$0.00006 par value) as of March 31, 2024.

BOK Financial Corporation
Form 10-Q
Quarter Ended March 31, 2024

Index

Glossary of Defined Terms

[1](#)

Part I. Financial Information

Management's Discussion and Analysis (Item 2)	2
Market Risk (Item 3)	39
Controls and Procedures (Item 4)	43
Consolidated Financial Statements – Unaudited (Item 1)	44
Quarterly Financial Summary – Unaudited (Item 2)	89
Quarterly Earnings Trend – Unaudited	92

Part II. Other Information

Item 1. Legal Proceedings	93
Item 1A. Risk Factors	93
Item 2. Unregistered Sales of Equity Securities and Use of Proceeds	93
Item 5. Other Information	93
Item 6. Exhibits	94
Signatures	95

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
AOCI	Accumulated Other Comprehensive Income
ASU	Accounting Standards Update
ATM	Automated Teller Machine
Board	Board of Directors of BOK Financial Corporation
BOK Financial	BOK Financial Corporation
BOKF	BOK Financial Corporation
BOKF Insurance	BOK Financial Insurance, Inc.
BOKFI	BOK Financial Insurance, Inc.
CECL	Current Expected Credit Losses
Company	BOK Financial Corporation
EFT	Electronic Funds Transfer
FASB	Financial Accounting Standards Board
FDIC	Federal Deposit Insurance Corporation
GAAP	Generally Accepted Accounting Principles in the United States of America
GDP	Gross Domestic Product
GNMA	Government National Mortgage Association
MSR	Mortgage Servicing Rights
Nasdaq	National Association of Securities Dealers Automated Quotations
NYMEX	New York Mercantile Exchange
PPNR	Pre-Provision Net Revenue
RMHFS	Residential Mortgages Held for Sale
SEC	Securities and Exchange Commission
SOFR	Secured Overnight Financing Rate
SVaR	Stressed Value at Risk
TransFund	BOKF's electronic funds transfer network
USDC	United States District Court
VA	U.S. Department of Veterans Affairs
VaR	Value at Risk
WTI	West Texas Intermediate

Management's Discussion and Analysis of Financial Condition and Results of Operations

Performance Summary

BOK Financial reported net income of \$83.7 million or \$1.29 per diluted share for the first quarter of 2024 compared to \$82.6 million or \$1.26 per diluted share for the fourth quarter of 2023. Excluding the loss from repositioning of the available for sale securities portfolio and the additional FDIC special assessment expense, net income would have been \$123.2 million or \$1.91 per share for the first quarter of 2024, both of which are non-GAAP measures. PPNR, also a non-GAAP measure, decreased \$2.6 million to \$114.9 million compared to the fourth quarter of 2023.

Highlights of the first quarter of 2024 compared to the fourth quarter of 2023 included:

- Net interest revenue totaled \$293.6 million, a decrease of \$3.1 million compared to the prior quarter. Net interest margin was 2.61% for the first quarter of 2024 compared to 2.64% for the prior quarter reflecting continued demand deposit migration and deposit repricing. For the first quarter of 2024, our core net interest margin excluding trading activities, a non-GAAP measure, was 2.97% compared to 3.03% in the prior quarter.
- Fees and commissions revenue totaled \$200.6 million, an increase of \$3.8 million. Higher mortgage banking and fiduciary and asset management revenue was partially offset by lower brokerage and trading and transaction card revenue.
- Other operating expense totaled \$340.4 million, a decrease of \$43.7 million. Personnel expense was relatively unchanged, while non-personnel expense decreased \$43.3 million resulting from the recognition of the FDIC special assessment in the fourth quarter of 2023.
- Other gains and losses, net decreased \$36.2 million to \$4.3 million. The prior quarter included a \$31.0 million pre-tax gain, before related professional fees, on the sale of insurance brokerage and consulting business, BOKFI.
- Losses on available for sale securities were \$45.2 million in the first quarter of 2024 as we repositioned the available for sale securities portfolio by selling approximately \$783 million of lower-yielding debt securities. We expect the gain on conversion of our Visa B shares under the recently announced exchange offer by Visa, Inc. (the "Exchange Offer") offset the realized losses on the repositioning. The Exchange Offer opened on April 8, 2024 and is scheduled to expire at end of day on May 3, 2024.
- Period end outstanding loan balances totaled \$24.2 billion at March 31, 2024, growing \$268 million over December 31, 2023, largely due to growth in commercial loans, partially offset by a reduction in commercial real estate loans. Average loan balances increased \$243 million to \$23.9 billion.
- The provision for credit losses of \$8.0 million in the first quarter of 2024 reflects continued loan growth and a stable economic forecast. Net charge-offs were \$5.5 million or 0.09% of average loans on an annualized basis in the first quarter. The resulting combined allowance for credit losses totaled \$329 million or 1.36% of outstanding loans at March 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 \$113 million, a \$25 million decrease compared to December 31, 2023. Potential problem loans increased by \$40 million while other loans especially mentioned decreased by \$28 million compared to December 31, 2023.
- Period end deposits were \$35.4 billion at March 31, 2024, a \$1.4 billion increase over December 31, 2023. Average deposits increased \$1.3 billion, including a \$2.1 billion increase in average interest-bearing deposits, partially offset by a \$747 million reduction in demand deposit balances. The loan to deposit ratio was 68% at March 31, 2024, compared to 70% at December 31, 2023.
- Assets under management or administration totaled \$105.5 billion at March 31, 2024, increasing \$794 million compared to December 31, 2023.

- The Company's tangible common equity ratio, a non-GAAP measure, was 8.21% at March 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 7.92% at March 31, 2024 and 8.02% at December 31, 2023.
- The common equity Tier 1 capital ratio at March 31, 2024 was 11.99%. Other regulatory capital ratios include the Tier 1 capital ratio at 12.00%, total capital ratio at 13.15%, and leverage ratio at 9.42%. At December 31, 2023, the common equity Tier 1 capital ratio was 12.06%, the Tier 1 capital ratio was 12.07%, total capital ratio was 13.16%, and leverage ratio was 9.45%.
- The Company repurchased 616,630 shares of common stock at an average price of \$83.89 per share in the first quarter of 2024 and 700,237 shares at an average price of \$70.99 in the fourth quarter of 2023. We view share buybacks opportunistically, but within the context of maintaining our strong capital position.
- The Company paid a regular cash dividend of \$35.6 million or \$0.55 per common share during the first quarter of 2024. On April 30, 2024, the board of directors approved a quarterly cash dividend of \$0.55 per common share payable on or about May 30, 2024 to shareholders of record as of May 15, 2024.

Highlights of the three months ended March 31, 2024 compared to the three months ended March 31, 2023 included:

- Tax-equivalent net interest revenue totaled \$295.7 million for the three months ended March 31, 2024 and \$354.6 million for the three months ended March 31, 2023. Net interest revenue decreased \$51.4 million from changes in interest rates and decreased \$7.5 million from changes in earning assets. Net interest margin was 2.61% compared to 3.45%. In response to rising inflation, the Federal Reserve increased the federal funds rate 525 basis points since the beginning of 2022. 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 into the first quarter of 2024, we have experienced margin compression reflecting deposit repricing activity and demand deposit migration into interest-bearing accounts. Loan yields increased 73 basis points while funding costs increased 165 basis points. Average earning assets increased \$4.1 billion to \$44.8 billion driven largely by higher average loan balances and trading securities balances. Total interest-bearing deposits increased \$5.3 billion, offset by a decrease of \$3.8 billion in demand deposit balances. Other borrowed funds increased \$1.8 billion.
- Fees and commissions revenue totaled \$200.6 million for the three months ended March 31, 2024, a \$14.6 million increase over the three months ended March 31, 2023. Brokerage and trading revenue increased \$6.8 million, primarily due to increased trading activity and favorable market opportunities. Fiduciary and asset management revenue increased \$4.6 million led by growth in Cavanah Hill fund fees and trust fees. Mortgage banking revenue increased \$4.6 million, primarily due to higher production volume. Other revenue decreased \$4.0 million, largely due to lower revenue on bank-owned life insurance and a reduction in fees earned on derivative counterparty margin.
- Total operating expense was \$340.4 million for the three months ended March 31, 2024, an increase of \$34.6 million compared to the three months ended March 31, 2023. Personnel expense increased \$20.5 million. Regular compensation increased \$8.8 million, largely related to annual merit increases, salary adjustments, and business expansion in 2023. Cash-based incentive compensation grew \$8.2 million due to higher sales activity. Share-based compensation expense decreased \$2.0 million reflecting changes in assumptions of certain performance-based equity awards. Deferred compensation expense, which is offset by changes in fair value of deferred compensation investments, grew \$2.7 million. Employee benefits expense increased \$2.7 million related to higher retirement plan costs and employee healthcare costs. Non-personnel expense increased \$14.1 million to \$137.7 million, largely due to increased FDIC insurance costs, including the recognition of \$6.5 million in additional special assessment expense in the first quarter of 2024. Other expense also increased \$4.9 million due to higher operational losses.
- The provision for expected credit losses was \$8.0 million for the three months ended March 31, 2024, reflecting growth in loan balances and a stable economic forecast. A \$16.0 million provision for expected credit losses was recorded for the three months ended March 31, 2023.

Results of Operations

Net Interest Revenue and Net Interest Margin

Net interest revenue 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 revenue 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 revenue totaled \$295.7 million for the first quarter of 2024, compared to \$298.8 million for the prior quarter. Compared to the fourth quarter of 2023, net interest revenue decreased \$3.4 million from changes in interest rates and increased \$308 thousand from changes in earning assets. Table 1 shows the effect on net interest revenue from changes in average balances and interest rates for various types of earning assets and interest-bearing liabilities.

Average earning assets increased \$520 million compared to the fourth quarter of 2023. Average loan balances increased \$243 million, largely due to growth in commercial loans, partially offset by a reduction in commercial real estate loans. 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 \$475 million while the average balance of trading securities decreased \$77 million.

Total average deposits increased \$1.3 billion over the fourth quarter of 2023, including a \$2.1 billion increase in interest-bearing deposits, partially offset by a \$747 million decrease in demand deposits. Funds purchased and repurchase agreements declined \$1.2 billion while other borrowings decreased \$276 million.

Net interest margin was 2.61% compared to 2.64% in the fourth quarter of 2023 driven by continued demand deposit migration and deposit repricing. For the first quarter of 2024, our core net interest margin excluding trading activities, a non-GAAP measure, was 2.97% compared to 3.03% in the prior quarter. The tax-equivalent yield on earning assets was 5.73%, an increase of 9 basis points. Loan yields grew 4 basis points to 7.40%. The available for sale securities portfolio yield increased 21 basis points to 3.48%. The yield on trading securities grew 7 basis points to 5.12% and the yield on interest-bearing cash and cash equivalents decreased 34 basis points to 4.96%.

Funding costs were 4.08%, a 10 basis point increase over the prior quarter. The cost of interest-bearing deposits increased 26 basis points to 3.69%. The cost of funds purchased and repurchase agreements decreased 74 basis points to 4.05% while the cost of other borrowings increased 1 basis point to 5.56%. This beneficial mix shift was enabled by the growth of interest-bearing deposits. The benefit to net interest margin from assets funded by non-interest liabilities was 96 basis points, a decrease of 2 basis points.

Our overall objective is to manage the Company's balance sheet for changes in interest rates as is further described in the Market Risk section of this report. Approximately 81% of our commercial and commercial real estate loan portfolios are either variable rate or fixed rate 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 is asset sensitive, which means that assets generally reprice more quickly than the 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 revenue due to changes in interest rates as shown in Table 1 and in the interest rate sensitivity projections as shown in the Market Risk section of this report.

Table 1 – Volume/Rate Analysis
(In thousands)

	Three Months Ended Mar. 31, 2024 / Dec. 31, 2023				Three Months Ended Mar. 31, 2024 / 2023			
	Change		Change Due To ¹		Change		Change Due To ¹	
	Change	Volume	Yield/Rate	Change	Volume	Yield/Rate	Change	Volume
Tax-equivalent interest revenue:								
Interest-bearing cash and cash equivalents	\$ (1,091)	\$ (541)	\$ (550)	\$ 499	\$ (532)	\$ 1,031		
Trading securities	(713)	(1,648)	935	34,227	27,916	6,311		
Investment securities	(204)	(197)	(7)	(1,163)	(1,059)	(104)		
Available for sale securities	8,037	1,047	6,990	24,481	5,308	19,173		
Fair value option securities	(4)	(5)	1	(3,698)	(3,053)	(645)		
Restricted equity securities	188	(154)	342	3,050	2,293	757		
Residential mortgage loans held for sale	(113)	(61)	(52)	(56)	(128)	72		
Loans	776	1,437	(661)	70,958	27,290	43,668		
Total tax-equivalent interest revenue	6,876	(122)	6,998	128,298	58,035	70,263		
Interest expense:								
Transaction deposits	26,306	14,813	11,493	115,845	25,513	90,332		
Savings deposits	72	(8)	80	956	(96)	1,052		
Time deposits	5,897	2,881	3,016	30,049	14,653	15,396		
Funds purchased and repurchase agreements	(17,251)	(13,605)	(3,646)	(1,786)	(4,542)	2,756		
Other borrowings	(5,002)	(4,496)	(506)	41,952	30,035	11,917		
Subordinated debentures	(31)	(15)	(16)	243	9	234		
Total interest expense	9,991	(430)	10,421	187,259	65,572	121,687		
Tax-equivalent net interest revenue	(3,115)	308	(3,423)	(58,961)	(7,537)	(51,424)		
Change in tax-equivalent adjustment	(12)			(185)				
Net interest revenue	\$ (3,103)			\$ (58,776)				

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

Other Operating Revenue

Other operating revenue was \$161.7 million for the first quarter of 2024, a decrease of \$43.2 million compared to the fourth quarter of 2023. The first quarter of 2024 included \$45.2 million of losses from repositioning the available for sale securities portfolio. The prior quarter included a \$31.0 million pre-tax gain on the sale of BOKFI and \$1.8 million of insurance brokerage revenue recognized prior to the sale. We also recognized a \$27.6 million loss on the sale of available for sale securities in the fourth quarter of 2023.

Table 2 – Other Operating Revenue
(Dollars in thousands)

	Three Months Ended			Three Months Ended			
	Mar. 31, 2024	Dec. 31, 2023	Increase (Decrease)	% Increase (Decrease)	Mar. 31, 2023	Increase (Decrease)	
Brokerage and trading revenue	\$ 59,179	\$ 60,896	\$ (1,717)	(3) %	\$ 52,396	\$ 6,783	13 %
Transaction card revenue	25,493	28,847	(3,354)	(12) %	25,621	(128)	— %
Fiduciary and asset management revenue	55,305	51,408	3,897	8 %	50,657	4,648	9 %
Deposit service charges and fees	28,685	27,770	915	3 %	25,968	2,717	10 %
Mortgage banking revenue	18,967	12,834	6,133	48 %	14,367	4,600	32 %
Other revenue	12,935	15,035	(2,100)	(14) %	16,970	(4,035)	(24) %
Total fees and commissions revenue	200,564	196,790	3,774	2 %	185,979	14,585	8 %
Other gains, net	4,269	40,452	(36,183)	N/A	2,251	2,018	N/A
Gain (loss) on derivatives, net	(8,633)	8,592	(17,225)	N/A	(1,344)	(7,289)	N/A
Gain (loss) on fair value option securities, net	(305)	1,031	(1,336)	N/A	(2,962)	2,657	N/A
Change in fair value of mortgage servicing rights	10,977	(14,356)	25,333	N/A	(6,059)	17,036	N/A
Loss on available for sale securities, net	(45,171)	(27,626)	(17,545)	N/A	—	(45,171)	N/A
Total other operating revenue	\$ 161,701	\$ 204,883	\$ (43,182)	(21) %	\$ 177,865	\$ (16,164)	(9) %

Certain percentage increases (decreases) in non-fees and commissions revenue are not meaningful for comparison purposes based on the nature of the item.

Fees and commissions revenue

Diversified sources of fees and commissions revenue are a significant part of our business strategy and represented 41% of combined net interest revenue before provision for credit losses and fees and commissions revenue for the first quarter of 2024. 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 the economic factors, such as decreasing interest rates, that we expect will result in a decline in net interest revenue 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

Brokerage and trading revenue, which includes revenues from trading, customer hedging, retail brokerage, insurance brokerage and investment banking, decreased \$1.7 million or 3% compared to the fourth quarter of 2023.

Trading revenue includes net realized and unrealized gains and losses primarily related to 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 \$37.5 million, a \$1.9 million increase over the prior quarter, primarily related to increased trading activity largely in U.S. government agency residential mortgage-backed securities.

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 Risk Management Programs in Note 3 of the Consolidated Financial Statements, we offer commodity, interest rate, foreign exchange and equity derivatives to our customers. Customer hedging revenue totaled \$6.3 million, a decrease of \$1.3 million, driven by less energy customer activity. 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 \$10.7 million for the first quarter of 2024 and was relatively consistent with the prior quarter.

Transaction Card Revenue

Transaction card revenue includes revenues from processing transactions on behalf of members of our TransFund electronic fund transfer network, merchant services fees paid by customers for account management and electronic processing of card transactions and interchange fees from our corporate card program. Transaction card revenue totaled \$25.5 million for the first quarter of 2024, a \$3.4 million decrease, primarily due to seasonally elevated fourth quarter activity and one less day in the quarter.

Fiduciary and Asset Management Revenue

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 asset values vary based on the nature of the relationship. Fiduciary relationships and managed asset relationships generally have higher fee rates than non-fiduciary and/or managed relationships. Fiduciary and asset management revenue was \$55.3 million for the first quarter of 2024, a \$3.9 million increase over the fourth quarter of 2023, largely related to movement in the equity markets.

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

Table 3 – Assets Under Management or Administration

(Dollars in thousands)

	Three Months Ended								
	March 31, 2024			December 31, 2023			March 31, 2023		
	Balance ¹	Revenue ²	Margin ³	Balance ¹	Revenue ²	Margin ³	Balance ¹	Revenue ²	Margin ³
Managed fiduciary assets:									
Personal	\$ 11,288,591	\$ 27,938	0.99 %	\$ 10,951,951	\$ 26,238	0.96 %	\$ 10,609,920	\$ 24,839	0.94 %
Institutional	19,680,708	11,770	0.24 %	19,310,826	8,138	0.17 %	18,683,598	9,223	0.20 %
Total managed fiduciary assets	30,969,299	39,708	0.51 %	30,262,777	34,376	0.45 %	29,293,518	34,062	0.47 %
Non-managed assets:									
Fiduciary	29,395,993	12,951	0.18 %	29,535,915	14,386	0.19 %	28,164,407	13,785	0.20 %
Non-fiduciary	19,384,953	2,646	0.05 %	19,670,248	2,646	0.05 %	19,830,593	2,810	0.06 %
Safekeeping and brokerage assets under administration	25,780,658	—	— %	25,268,059	—	— %	25,021,601	—	— %
Total non-managed assets	74,561,604	15,597	0.08 %	74,474,222	17,032	0.09 %	73,016,601	16,595	0.09 %
Total assets under management or administration	\$ 105,530,903	\$ 55,305	0.21 %	\$ 104,736,999	\$ 51,408	0.20 %	\$ 102,310,119	\$ 50,657	0.20 %

¹ Assets under management or administration balance excludes certain assets under custody held by a sub-custodian where minimal revenue is recognized. \$20 billion, \$19 billion, and \$18 billion of such assets are excluded from assets under management or administration at March 31, 2024, December 31, 2023, and March 31, 2023, respectively.

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

³ Annualized revenue divided by period end balance.

A summary of changes in assets under management or administration for the three months ended March 31, 2024 and 2023 follows:

Table 4 – Changes in Assets Under Management or Administration

(In thousands)

	Three Months Ended March 31,	
	2024	2023
Beginning balance	\$ 104,736,999	\$ 99,735,040
Net outflows	(1,963,707)	(516,918)
Net change in fair value	2,757,611	3,091,997
Ending balance	\$ 105,530,903	\$ 102,310,119

Assets under management as of March 31, 2024 consist of 42% fixed income, 34% equities, 15% cash, and 9% alternative investments.

Deposit Service Charges

Deposit service charges and fees increased \$915 thousand or 3% over the fourth quarter of 2023, primarily due to growth in commercial service charges of \$1.2 million, partially offset by a decrease in check card fees due to seasonality.

Mortgage Banking Revenue

Mortgage banking revenue increased \$6.1 million to \$19.0 million. Mortgage production volume increased \$48 million to \$172 million. Production revenue as a percentage of production volume, which includes unrealized gains and losses on our mortgage commitment pipeline and related hedges, increased 408 basis points to 2.05%. Margins have also increased as the repooling of COVID-19 forbearance loans we previously repurchased continues to migrate to a lower level than experienced in recent quarters.

Table 5 – Mortgage Banking Revenue
(Dollars in thousands)

	Three Months Ended				Three Months Ended			
	Mar. 31, 2024	Dec. 31, 2023	Increase (Decrease)	% Increase (Decrease)	Mar. 31, 2023	Increase (Decrease)	% Increase (Decrease)	
Mortgage production revenue	\$ 3,525	\$ (2,535)	\$ 6,060	239 %	\$ (633)	\$ 4,158	(657) %	
Mortgage loans funded for sale	\$ 139,176	\$ 139,255			\$ 138,624			
Add: Current period end outstanding commitments	67,951	34,783			71,693			
Less: Prior period end outstanding commitments	34,783	49,284			45,492			
Total mortgage production volume	\$ 172,344	\$ 124,754	\$ 47,590	38 %	\$ 164,825	\$ 7,519	5 %	
Mortgage loan refinances to mortgage loans funded for sale	10 %	10 %	— bps		9 %	100 bps		
Realized margin on funded mortgage loans	1.46 %	(0.98)%	244 bps		(1.25)%	271 bps		
Production revenue as a percentage of production volume	2.05 %	(2.03)%	408 bps		(0.38)%	243 bps		
Primary mortgage interest rates:								
Average	6.73 %	7.21 %	(48) bps		6.33 %	40 bps		
Period end	6.79 %	6.42 %	37 bps		6.24 %	55 bps		
Mortgage servicing revenue	\$ 15,442	\$ 15,369	\$ 73	— %	\$ 15,000	\$ 442	3 %	
Average outstanding principal balance of mortgage loans serviced for others	21,088,898	20,471,030	617,868	3 %	21,121,319	(32,421)	— %	
Average mortgage servicing revenue rates	0.29 %	0.30 %	(1) bp		0.29 %	— bp		

Primary rates disclosed in Table 5 above represent rates generally available to borrowers on 30 year conforming mortgage loans.

Other revenue decreased \$2.1 million or 14% compared to the fourth quarter of 2023, largely due to a reduction in fees earned on derivative counterparty margin.

Net gains on other assets, securities and derivatives

Other gains, net, were \$4.3 million for the first quarter of 2024 compared to \$40.5 million in the fourth quarter of 2023. The prior quarter included a \$31.0 million pre-tax gain, before related professional fees, on the sale of BOKFI.

Losses on available for sale securities were \$45.2 million in the first quarter of 2024 as we repositioned the available for sale securities portfolio by selling approximately \$783 million of lower-yielding debt securities. We expect the gain on conversion of our Visa B shares under the Exchange Offer will offset the realized losses on the repositioning. The Exchange Offer opened on April 8, 2024 and is scheduled to expire at end of day on May 3, 2024. Losses on available for sale securities were \$27.6 million in the fourth quarter of 2023 related to repositioning of the securities portfolio, offsetting the gain from the sale of BOKFI.

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 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 6 – Gain (Loss) on Mortgage Servicing Rights
(In thousands)

	Three Months Ended		
	Mar. 31, 2024	Dec. 31, 2023	Mar. 31, 2023
Gain (loss) on mortgage hedge derivative contracts, net	\$ (9,357)	\$ 8,275	\$ (1,711)
Gain (loss) on fair value option securities, net	(305)	1,031	(2,962)
Gain (loss) on economic hedge of mortgage servicing rights, net	(9,662)	9,306	(4,673)
Gain (loss) on change in fair value of mortgage servicing rights	10,977	(14,356)	(6,059)
Gain (loss) on changes in fair value of mortgage servicing rights, net of economic hedges included in other operating revenue	1,315	(5,050)	(10,732)
Net interest revenue (expense) on fair value option securities ¹	(155)	(101)	187
Total economic cost of changes in the fair value of mortgage servicing rights, net of economic hedges	\$ 1,160	\$ (5,151)	\$ (10,545)

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

Other Operating Expense

Other operating expense for the first quarter of 2024 totaled \$340.4 million, a decrease of \$43.7 million compared to the fourth quarter of 2023. Excluding the impact of the FDIC special assessment, other operating expense decreased \$6.4 million. In the fourth quarter of 2023 we recognized \$43.8 million of expense related to the FDIC special assessment. During the first quarter of 2024, we received notification from the FDIC that the previous assessed losses attributable to the protection of Silicon Valley Bank and Signature Bank uninsured depositors had increased, so an additional \$6.5 million of estimated expense related to the special assessment was recognized.

Our efficiency ratio¹ was 67.13% for the first quarter of 2024, compared to 71.62% in the prior quarter.

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

Table 7 – Other Operating Expense
(Dollars in thousands)

	Three Months Ended			% Increase (Decrease)		Three Months Ended			% Increase (Decrease)	
	Mar. 31, 2024	Dec. 31, 2023	Increase (Decrease)	—	%	Mar. 31, 2023	Increase (Decrease)	—	%	
Regular compensation	\$ 113,913	\$ 114,435	\$ (522)	—	%	\$ 105,118	\$ 8,795	—	%	8 %
Incentive compensation:										
Cash-based	49,956	55,163	(5,207)	(9)	%	41,735	8,221	20	%	
Share-based	3,305	2,046	1,259	62	%	5,257	(1,952)	37	%	
Deferred compensation	4,450	5,363	(913)	N/A		1,710	2,740	N/A		
Total incentive compensation	57,711	62,572	(4,861)	(8)	%	48,702	9,009	19	%	
Employee benefits	31,029	26,015	5,014	19	%	28,325	2,704	10	%	
Total personnel expense	202,653	203,022	(369)	—	%	182,145	20,508	11	%	
Business promotion	7,978	8,629	(651)	(8)	%	8,569	(591)	(7)	%	
Charitable contributions to BOKF Foundation	—	1,542	(1,542)	N/A		—	—	N/A		
Professional fees and services	12,010	16,288	(4,278)	(26)	%	13,048	(1,038)	(8)	%	
Net occupancy and equipment	30,293	30,355	(62)	—	%	28,459	1,834	6	%	
FDIC and other insurance	8,740	8,495	245	3	%	7,315	1,425	19	%	
FDIC special assessment	6,454	43,773	(37,319)	(85)	%	—	6,454	N/A		
Data processing and communications	45,564	45,584	(20)	—	%	44,802	762	2	%	
Printing, postage and supplies	3,997	3,844	153	4	%	3,893	104	3	%	
Amortization of intangible assets	3,003	3,543	(540)	(15)	%	3,391	(388)	(11)	%	
Mortgage banking costs	6,355	8,085	(1,730)	(21)	%	5,782	573	10	%	
Other expense	13,337	10,923	2,414	22	%	8,408	4,929	59	%	
Total other operating expense	\$ 340,384	\$ 384,083	\$ (43,699)	(11)	%	\$ 305,812	\$ 34,572	11	%	
Average number of employees (full-time equivalent)	4,936	4,938	(2)	—	%	4,796	140	3	%	

Certain percentage increases (decreases) are not meaningful for comparison purposes.

Personnel expense

Personnel expense was largely unchanged compared to the fourth quarter of 2023. Cash-based incentive compensation decreased \$5.2 million, driven by seasonally elevated incentive compensation in the fourth quarter. Share-based compensation was up \$1.3 million reflecting changes in assumptions of certain performance-based equity awards. Regular compensation and deferred compensation, which is offset by changes in the fair value of deferred compensation investments, both remained relatively unchanged compared to the prior quarter. Employee benefits expense increased \$5.0 million, primarily due to seasonally higher payroll taxes.

Non-personnel operating expense

Excluding the FDIC special assessment, non-personnel expense was \$131.3 million, a decrease of \$6.0 million. Professional fees and services expense decreased \$4.3 million. The previous quarter included \$2.2 million in expenses related to the sale of BOKFI. Mortgage banking costs decreased \$1.7 million, primarily due to accruals related to default servicing and loss mitigation costs on loans serviced for others. We also made a \$1.5 million contribution to the BOKF Foundation in the fourth quarter, which did not reoccur in the first quarter. Other expense increased \$2.4 million, primarily due to increased operational losses.

Income Taxes

The effective tax rate was 21.70% for the first quarter of 2024, 25.97% for the fourth quarter of 2023 and 22.03% for the first quarter of 2023. The fourth quarter of 2023 included an acceleration of \$3.1 million of tax expense as a result of exiting three low income housing tax credit investments. When compared to the first quarter of 2023, the effective tax rate also decreased due to lower forecasted and actual pre-tax income.

Lines of Business

We operate three principal lines of business: 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 banking activities. Wealth Management provides fiduciary services, private banking 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 lines of business, we have a Funds Management unit. The primary purpose of this unit is to manage our overall liquidity needs and interest rate risk. Each line of business 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 lines of business. The Funds Management unit also initially recognizes accruals for loss contingencies when losses become probable. Actual losses are recognized by the lines of business if the accruals are settled.

We allocate resources and evaluate the performance of our lines of business using the net direct contribution, which includes the allocation of funds and capital costs. Credit costs are attributed to the lines of business based on net loans charged off or recovered. The difference between credit costs attributed to the lines of business and the consolidated provision for credit losses is attributed to Funds Management. In addition, we measure the performance of our business lines after allocations of certain indirect expenses and taxes based on statutory rates.

Net interest income in our lines of business 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 lines of business 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 lines of business.

As shown in Table 8, net income attributable to our lines of business decreased \$46.2 million or 9% compared to the fourth quarter of 2023. Net interest revenue decreased \$36.5 million largely as a result of deposit repricing activity. Operating revenue decreased \$37.4 million as the prior quarter included a pre-tax gain of \$31.0 million, before related professional fees, on the sale of BOKFI. Operating expense decreased \$10.2 million compared to the fourth quarter of 2023 with a \$7.9 million decrease in personnel expense and a \$2.2 million decrease in non-personnel expense.

Table 8 – Net Income by Line of Business
(Dollars in thousands)

	Three Months Ended				Three Months Ended			
	Mar. 31, 2024	Dec. 31, 2023	Increase (Decrease)	% Increase (Decrease)	Mar. 31, 2023	Increase (Decrease)	% Increase (Decrease)	
Commercial Banking	\$ 153,250	\$ 171,084	\$ (17,834)	(10) %	\$ 190,231	\$ (36,981)	(19) %	
Consumer Banking	53,804	53,695	109	— %	50,683	3,121	6 %	
Wealth Management	34,165	62,690	(28,525)	(46) %	52,447	(18,282)	(35) %	
Subtotal	241,219	287,469	(46,250)	(16) %	293,361	(52,142)	(18) %	
Funds Management and other	(157,516)	(204,894)	47,378	N/A	(130,993)	(26,523)	N/A	
Total	\$ 83,703	\$ 82,575	\$ 1,128	1 %	\$ 162,368	\$ (78,665)	(48) %	

Certain percentage increases (decreases) in non-fees and commissions revenue are not meaningful for comparison purposes based on the nature of the item.

Commercial Banking

Commercial Banking contributed \$153.3 million to consolidated net income in the first quarter of 2024, a decrease of \$17.8 million or 10% compared to the fourth quarter of 2023.

Table 9 – Commercial Banking
(Dollars in thousands)

	Three Months Ended			Three Months Ended		
	Mar. 31, 2024	Dec. 31, 2023	Increase (Decrease)	Mar. 31, 2023	Increase (Decrease)	% Increase (Decrease)
Net interest revenue from external sources	\$ 282,447	\$ 292,499	\$ (10,052)	\$ (3,932)	\$ (5,541)	(2) %
Net interest expense from internal sources	(37,326)	(24,620)	(12,706)	(52) %	(33,394)	(849) %
Total net interest revenue	245,121	267,879	(22,758)	(8) %	284,056	(38,935)
Net loans charged off	4,160	2,987	1,173	39 %	76	4,084
Net interest revenue after net loans charged off	240,961	264,892	(23,931)	(9) %	283,980	(43,019)
Fees and commissions revenue	50,630	60,937	(10,307)	(17) %	55,835	(5,205)
Other gains (losses), net	(624)	462	(1,086)	(235) %	1,010	(1,634)
Other operating revenue	50,006	61,399	(11,393)	(19) %	56,845	(6,839)
Personnel expense	45,319	53,066	(7,747)	(15) %	42,747	2,572
Non-personnel expense	24,776	28,833	(4,057)	(14) %	30,387	(5,611)
Other operating expense	70,095	81,899	(11,804)	(14) %	73,134	(3,039)
Net direct contribution	220,872	244,392	(23,520)	(10) %	267,691	(46,819)
Gain (loss) on financial instruments, net	167	216	(49)	N/A	(58)	225
Gain (loss) on repossessed assets, net	—	(601)	601	N/A	859	(859)
Corporate expense allocations	18,397	18,040	357	2 %	17,718	679
Income before taxes	202,642	225,967	(23,325)	(10) %	250,774	(48,132)
Federal and state income tax	49,392	54,883	(5,491)	(10) %	60,543	(11,151)
Net income	\$ 153,250	\$ 171,084	\$ (17,834)	(10) %	\$ 190,231	\$ (36,981)
Average assets	\$ 29,806,817	\$ 29,346,459	\$ 460,358	2 %	\$ 28,162,934	\$ 1,643,883
Average loans	20,067,170	19,928,602	138,568	1 %	18,750,426	1,316,744
Average deposits	15,730,241	15,493,326	236,915	2 %	15,861,285	(131,044)
Average invested capital	2,176,950	2,187,780	(10,830)	— %	2,133,459	43,491

Certain percentage increases (decreases) in non-fees and commissions revenue are not meaningful for comparison purposes based on the nature of the item.

Net interest revenue decreased \$22.8 million or 8% compared to the fourth quarter of 2023, 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 were \$4.2 million in the first quarter of 2024 compared to \$3.0 million in the fourth quarter of 2023.

Fees and commissions revenue decreased \$10.3 million or 17%. Customer hedging revenue decreased \$2.8 million due to a reduction in customer energy hedging, and transaction card revenue decreased \$3.4 million following elevated fourth quarter transaction activity. Other revenue decreased \$3.7 million, largely due to a reduction in fees earned on derivative counterparty margin. Operating expense decreased \$11.8 million or 14% compared to the fourth quarter of 2023. Personnel expense decreased \$7.7 million or 15%, largely driven by lower incentive compensation costs. Non-personnel expense decreased \$4.1 million or 14% due to a decline in other expense and professional fees.

Average outstanding balance of loans attributed to Commercial Banking increased \$139 million or 1% over the fourth quarter of 2023 to \$20.1 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 increased \$237 million or 2% over the fourth quarter of 2023 to \$15.7 billion. See Management's Discussion and Analysis of Financial Condition and Results of Operations – Liquidity and Capital for further discussion of changes.

Consumer Banking

Consumer Banking provides retail banking services 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 of our Consumer Banking markets.

Consumer Banking contributed \$53.8 million to consolidated net income for the first quarter of 2024, consistent with the prior quarter.

Table 10 – Consumer Banking
(Dollars in thousands)

	Three Months Ended			% Increase (Decrease)	Mar. 31, 2023	Three Months Ended			% Increase (Decrease)
	Mar. 31, 2024	Dec. 31, 2023	Increase (Decrease)			Mar. 31, 2023	Increase (Decrease)		
Net interest revenue from external sources	\$ 7,350	\$ 9,625	\$ (2,275)	(24) %	\$ 21,146	\$ (13,796)	(65) %		
Net interest revenue from internal sources	94,799	104,771	(9,972)	(10) %	88,235	6,564	7 %		
Total net interest revenue	102,149	114,396	(12,247)	(11) %	109,381	(7,232)	(7) %		
Net loans charged off	1,808	1,443	365	25 %	1,184	624	53 %		
Net interest revenue after net loans charged off	100,341	112,953	(12,612)	(11) %	108,197	(7,856)	(7) %		
Fees and commissions revenue	36,207	30,075	6,132	20 %	30,581	5,626	18 %		
Other gains, net	—	—	—	N/A	29	(29)	(100) %		
Other operating revenue	36,207	30,075	6,132	20 %	30,610	5,597	18 %		
Personnel expense	25,236	23,051	2,185	9 %	21,362	3,874	18 %		
Non-personnel expense	28,211	32,028	(3,817)	(12) %	28,836	(625)	(2) %		
Total other operating expense	53,447	55,079	(1,632)	(3) %	50,198	3,249	6 %		
Net direct contribution	83,101	87,949	(4,848)	(6) %	88,609	(5,508)	(6) %		
Gain (loss) on financial instruments, net	(9,663)	9,307	(18,970)	N/A	(4,673)	(4,990)	N/A		
Change in fair value of mortgage servicing rights	10,977	(14,356)	25,333	N/A	(6,059)	17,036	N/A		
Gain on repossessed assets, net	107	11	96	873 %	14	93	664 %		
Corporate expense allocations	14,172	12,705	1,467	12 %	11,622	2,550	22 %		
Income before taxes	70,350	70,206	144	— %	66,269	4,081	6 %		
Federal and state income tax	16,546	16,511	35	— %	15,586	960	6 %		
Net income	\$ 53,804	\$ 53,695	\$ 109	— %	\$ 50,683	\$ 3,121	6 %		
Average assets	\$ 9,391,981	\$ 9,342,840	\$ 49,141	1 %	\$ 9,934,511	\$ (542,530)	(5) %		
Average loans	1,913,586	1,877,303	36,283	2 %	1,747,237	166,349	10 %		
Average deposits	7,901,167	7,890,032	11,135	— %	8,248,541	(347,374)	(4) %		
Average invested capital	295,202	291,705	3,497	1 %	261,485	33,717	13 %		

Certain percentage increases (decreases) in non-fees and commissions revenue are not meaningful for comparison purposes based on the nature of the item.

Net interest revenue from Consumer Banking activities decreased by \$12.2 million or 11%, largely due to increased customer demand for time deposits and a reduction in deposit spreads from a change in market conditions.

Operating revenue increased \$6.1 million or 20% driven by growth in mortgage banking revenue. Mortgage production volume increased \$48 million to \$172 million. Operating expense decreased \$1.6 million or 3%, which was largely offset by an increase in corporate expense allocations.

The net benefit of the changes in the fair value of mortgage servicing rights and related economic hedges was \$1.2 million compared to a net cost of \$5.2 million for the fourth quarter of 2023.

Average loans increased \$36 million or 2% to \$1.9 billion over the previous quarter. Average deposits attributed to the Consumer Banking segment were mostly unchanged from the previous quarter. See Management's Discussion and Analysis of Financial Condition and Results of Operations – Liquidity and Capital for further discussion of the changes.

Wealth Management

Wealth Management contributed \$34.2 million to consolidated net income in the first quarter of 2024, a decrease of \$28.5 million or 46% compared to the fourth quarter of 2023. The prior quarter included a pre-tax gain of \$31.0 million, before related professional fees, on the sale of BOKFI.

Table 11 – Wealth Management

(Dollars in thousands)

	Three Months Ended			Three Months Ended		
	Mar. 31, 2024	Dec. 31, 2023	Increase (Decrease)	Mar. 31, 2023	Increase (Decrease)	% Increase (Decrease)
Net interest revenue from external sources	\$ 6,999	\$ 6,221	\$ 778	\$ 20,940	\$ (13,941)	(67) %
Net interest revenue from internal sources	33,110	35,422	(2,312)	33,166	(56)	— %
Total net interest revenue	40,109	41,643	(1,534)	54,106	(13,997)	(26) %
Net loans charged off (recovered)	(15)	10	(25)	(24)	9	38 %
Net interest revenue after net loans charged off (recovered)	40,124	41,633	(1,509)	54,130	(14,006)	(26) %
Fees and commissions revenue	118,704	119,872	(1,168)	108,911	9,793	9 %
Other gains, net	—	31,007	(31,007)	—	—	N/A
Other operating revenue	118,704	150,879	(32,175)	108,911	9,793	9 %
Personnel expense	63,777	66,151	(2,374)	59,524	4,253	7 %
Non-personnel expense	35,758	30,124	5,634	22,515	13,243	59 %
Other operating expense	99,535	96,275	3,260	82,039	17,496	21 %
Net direct contribution	59,293	96,237	(36,944)	81,002	(21,709)	(27) %
Corporate expense allocations	14,558	14,198	360	12,360	2,198	18 %
Income before taxes	44,735	82,039	(37,304)	68,642	(23,907)	(35) %
Federal and state income tax	10,570	19,349	(8,779)	16,195	(5,625)	(35) %
Net income	\$ 34,165	\$ 62,690	\$ (28,525)	\$ 52,447	\$ (18,282)	(35) %
Average assets	\$ 15,759,328	\$ 14,879,450	\$ 879,878	\$ 11,663,096	\$ 4,096,232	35 %
Average loans	2,198,803	2,154,416	44,387	2,201,622	(2,819)	— %
Average deposits	9,237,965	8,085,643	1,152,322	7,432,413	1,805,552	24 %
Average invested capital	323,172	333,179	(10,007)	290,369	32,803	11 %

Certain percentage increases (decreases) in non-fees and commissions revenue are not meaningful for comparison purposes based on the nature of the item.

Combined net interest revenue and fee revenue decreased \$2.7 million or 2% compared to the fourth quarter of 2023, largely due to declining spreads on deposits. Total revenue from institutional trading activities increased \$1.4 million, primarily in U.S. government residential mortgage-backed securities trading activity. Other revenue decreased \$8.2 million due to a reduction in customer hedging margin fees. Operating expense increased \$3.3 million or 3% compared to the prior quarter. Personnel expense decreased \$2.4 million as the prior quarter included transaction related employee costs on the sale of BOKFI. Non-personnel expense increased \$5.6 million, primarily due to an increased level of operational losses, partially offset by a \$2.7 million decrease in professional fees. Corporate expense allocations were consistent with the previous quarter.

Average outstanding loans attributed to the Wealth Management segment increased \$44 million or 2% to \$2.2 billion. Average Wealth Management deposits increased \$1.2 billion or 14% to \$9.2 billion. See Management's Discussion and Analysis of Financial Condition and Results of Operations – Liquidity and Capital for further discussion of the changes.

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 March 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 increased \$248 million to \$5.4 billion during the first quarter of 2024. As discussed in the Market Risk section of this report, trading activities involve risk of loss from adverse price movement. We mitigate this risk within board-approved limits through the use of derivative contracts, short-sales and other techniques.

At March 31, 2024, the carrying value of investment (held-to-maturity) securities was \$2.2 billion, including a \$299 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 \$2.0 billion at March 31, 2024, a \$73 million decrease compared to the prior quarter. 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.

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 in shareholders' equity. The amortized cost of available for sale securities totaled \$13.3 billion at March 31, 2024, a \$393 million increase compared to December 31, 2023. At March 31, 2024, the available for sale securities portfolio consisted 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. Principal and interest payments on the underlying loans are fully guaranteed. Commercial mortgage-backed securities have prepayment penalties similar to commercial loans.

A primary risk of holding residential mortgage-backed securities comes from extension during periods of rising interest rates or contraction in the form of more rapid prepayments 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 duration of the combined residential mortgage-backed securities portfolio held in investment and available for sale securities was 3.4 years as of March 31, 2024, consistent with the measure as of December 31, 2023. Management estimates the duration extends to 4.0 years assuming an immediate 200 basis point upward shock. The estimated duration contracts to 2.4 years assuming a 200 basis point decline in the current rate environment. The duration of the total investment portfolio is 3.2 years, extends to 3.6 years in an upward shock of 200 basis points, and contracts to 2.6 years in a down 200 basis point shock scenario. Management also regularly monitors the impact of interest rate risk on the available for sale securities portfolio on our tangible equity ratio under various shock scenarios.

At March 31, 2024, we hold 252,233 non-transferable Class B-1 (formerly Class B) shares of Visa, Inc. in connection with a restructuring and public offering by Visa U.S.A. As a member of Visa U.S.A., we received the Class B shares based on our interest in Visa U.S.A. On January 23, 2024, Visa, Inc. stockholders approved the Exchange Offer which provides holders of Class B-1 shares an option to convert up to 50% of its Class B-1 shares to Visa Class C shares and subsequently to freely transferable Visa Class A common shares subject to certain restrictions and holding period requirements. The Exchange Offer opened on April 8, 2024 and is scheduled to expire at the end of the day on May 3, 2024. The Company tendered its Class B-1 Visa shares under the Exchange Offer and expects to monetize up to 50% of the Class B-1 shares. The per share closing price of a Visa Class A common share was \$279.08 at March 31, 2024. In light of uncertainties associated with certain ongoing litigation matters involving Visa and the timing and outcome of the aforementioned proposal, the ultimate impact of this gain contingency is unknown.

Bank-Owned Life Insurance

We have approximately \$410 million of bank-owned life insurance at March 31, 2024. This investment is expected to provide a long-term source of earnings to support existing employee benefit programs. Approximately \$316 million is held in separate accounts and \$95 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 March 31, 2024, the fair value of investments held in separate accounts covered by the stable value wrap was approximately \$287 million. Since the underlying fair value of the investments held in separate accounts at March 31, 2024 was below the net book value of the investments, \$27 million of cash surrender value was supported by the stable value wrap. The remaining \$2 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 \$24.2 billion at March 31, 2024, growing \$268 million over December 31, 2023, largely due to growth in commercial loans, partially offset by a reduction in commercial real estate loans.

Table 12 – Loans

(In thousands)

	Mar. 31, 2024	Dec. 31, 2023	Sep. 30, 2023	June 30, 2023	Mar. 31, 2023
Commercial:					
Healthcare	\$ 4,245,939	\$ 4,143,233	\$ 4,083,134	\$ 3,991,387	\$ 3,899,341
Services	3,529,421	3,576,223	3,566,361	3,585,169	3,563,702
Energy	3,443,719	3,437,101	3,490,602	3,508,752	3,398,057
General business	3,913,788	3,647,212	3,579,742	3,449,208	3,356,249
Total commercial	15,132,867	14,803,769	14,719,839	14,534,516	14,217,349
Commercial real estate:					
Multifamily	1,960,839	1,872,760	1,734,688	1,502,971	1,363,881
Industrial	1,343,970	1,475,165	1,432,629	1,349,709	1,309,435
Office	901,105	909,442	981,876	1,005,660	1,045,700
Retail	543,735	592,632	608,073	617,886	618,264
Residential construction and land development	83,906	95,052	100,465	106,370	102,828
Other commercial real estate	403,122	392,596	383,569	388,205	375,208
Total commercial real estate	5,236,677	5,337,647	5,241,300	4,970,801	4,815,316
Loans to individuals:					
Residential mortgage	2,192,584	2,160,640	2,090,992	1,993,690	1,926,027
Residential mortgage guaranteed by U.S. government agencies	139,456	149,807	161,092	186,170	224,753
Personal	1,470,976	1,453,105	1,510,795	1,552,482	1,566,608
Total loans to individuals	3,803,016	3,763,552	3,762,879	3,732,342	3,717,388
Total	\$ 24,172,560	\$ 23,904,968	\$ 23,724,018	\$ 23,237,659	\$ 22,750,053

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. These 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. In addition, revolving lines of credit are generally governed by a borrowing base. 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 \$15.1 billion or 63% of the loan portfolio at March 31, 2024, a \$329 million increase over December 31, 2023, primarily due to growth in general business and healthcare loans.

Approximately 70% of loans in this segment 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 a semi-annual engineering review by our internal staff of petroleum engineers. This review is 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 loan balances were largely unchanged compared to the prior quarter at \$3.4 billion or 14% of total loans at March 31, 2024. Approximately \$2.6 billion of energy loans were to oil and gas producers, a \$32 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 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 \$604 million at March 31, 2024, a \$54 million increase compared to December 31, 2023. Loans to borrowers that provide services to the energy industry totaled \$178 million at March 31, 2024, largely unchanged compared to the prior quarter. Loans to other energy borrowers, including those engaged in wholesale or retail energy sales, totaled \$35 million, a \$12 million decrease compared to December 31, 2023.

Unfunded energy loan commitments were \$4.3 billion at March 31, 2024, a \$147 million decrease compared to December 31, 2023.

The healthcare sector of the loan portfolio totaled \$4.2 billion or 18% of total loans. Healthcare loans increased \$103 million over December 31, 2023, primarily due to growth in loans to senior housing facilities. 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 totaled \$3.5 billion or 15% of total loans, a \$47 million decrease compared to the prior quarter. 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. Approximately \$1.5 billion of the services category is made up of loans with individual balances of less than \$10 million. Services 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 totaled \$3.9 billion or 16% of total loans, an increase of \$267 million compared to the prior quarter. General business loans consist of \$2.4 billion of wholesale/retail loans and \$1.5 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 \$100 million or more and with three or more non-affiliated banks as participants. At March 31, 2024, the outstanding principal balance of these loans totaled \$5.8 billion, including \$2.4 billion of energy loans. Substantially all of these loans are to borrowers with local market relationships. We serve as the agent lender in approximately 21% of our shared national credits, based on dollars committed. 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.

Outstanding commercial real estate loan balances totaled \$5.2 billion or 22% of total loans at March 31, 2024, a decrease of \$101 million compared to December 31, 2023. Loans secured by industrial facilities decreased by \$131 million to \$1.3 billion and loans secured by retail properties decreased by \$49 million to \$544 million at March 31, 2024. The decline in these portfolios was partially offset by an \$88 million increase in loans secured by multifamily properties.

Approximately 66% of loans in this segment 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 \$1.7 billion at March 31, 2024, a decrease of \$147 million compared to December 31, 2023. We take a disciplined approach to managing our concentration of commercial real estate loan commitments as a percentage of capital.

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 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.

Loans to individuals totaled \$3.8 billion or 16% of the loan portfolio, an increase of \$39 million compared to December 31, 2023. Approximately 91% 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.

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 13 – Loans Managed by Primary Geographical Market
(In thousands)

	Mar. 31, 2024	Dec. 31, 2023	Sep. 30, 2023	June 30, 2023	Mar. 31, 2023
Texas:					
Commercial	\$ 7,515,070	\$ 7,384,107	\$ 7,249,963	\$ 7,223,820	\$ 7,103,166
Commercial real estate	1,935,728	1,987,037	1,873,477	1,748,796	1,675,831
Loans to individuals	964,464	914,134	961,299	974,911	992,343
Total Texas	10,415,262	10,285,278	10,084,739	9,947,527	9,771,340
Oklahoma:					
Commercial	3,478,146	3,275,907	3,384,627	3,251,547	3,178,934
Commercial real estate	605,419	606,515	601,087	573,559	574,708
Loans to individuals	2,176,268	2,147,782	2,100,974	2,079,311	2,049,472
Total Oklahoma	6,259,833	6,030,204	6,086,688	5,904,417	5,803,114
Colorado:					
Commercial	2,244,416	2,273,179	2,219,460	2,179,473	2,148,066
Commercial real estate	766,100	769,329	710,552	683,973	646,537
Loans to individuals	221,291	228,257	227,569	223,200	231,368
Total Colorado	3,231,807	3,270,765	3,157,581	3,086,646	3,025,971
Arizona:					
Commercial	1,149,394	1,143,682	1,173,491	1,177,778	1,115,973
Commercial real estate	1,007,972	1,003,331	1,014,151	926,750	881,465
Loans to individuals	218,664	248,873	260,282	242,102	240,556
Total Arizona	2,376,030	2,395,886	2,447,924	2,346,630	2,237,994
Kansas/Missouri:					
Commercial	320,609	331,179	307,725	309,148	318,782
Commercial real estate	497,036	511,947	547,708	516,299	489,951
Loans to individuals	141,767	144,958	132,137	138,960	129,580
Total Kansas/Missouri	959,412	988,084	987,570	964,407	938,313
New Mexico:					
Commercial	317,651	291,736	297,714	287,443	280,945
Commercial real estate	352,559	389,106	405,989	425,472	449,715
Loans to individuals	67,814	67,485	69,418	64,803	65,770
Total New Mexico	738,024	748,327	773,121	777,718	796,430
Arkansas:					
Commercial	107,581	103,979	86,859	105,307	71,483
Commercial real estate	71,863	70,382	88,336	95,952	97,109
Loans to individuals	12,748	12,063	11,200	9,055	8,299
Total Arkansas	192,192	186,424	186,395	210,314	176,891
Total BOK Financial loans	\$ 24,172,560	\$ 23,904,968	\$ 23,724,018	\$ 23,237,659	\$ 22,750,053

Off-Balance Sheet Commitments

We enter into certain off-balance sheet arrangements in the normal course of business as shown in Table 14. 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 14 – Off-Balance Sheet Credit Commitments

(In thousands)

	Mar. 31, 2024	Dec. 31, 2023	Sep. 30, 2023	June 30, 2023	Mar. 31, 2023
Loan commitments	\$ 14,433,786	\$ 14,793,025	\$ 14,404,610	\$ 14,979,253	\$ 15,119,984
Standby letters of credit	733,903	710,543	759,563	721,908	790,316
Unpaid principal balance of residential mortgage loans sold with recourse	37,891	39,333	40,369	42,041	43,510
Unpaid principal balance of residential mortgage loans transferred into mortgage-backed securities guaranteed by U.S. Dept. of Veterans Affairs	950,115	959,256	970,469	988,212	996,139

Customer Hedging Programs

We offer programs that permit our customers to hedge various risks, including fluctuations in energy, cattle and other agricultural product prices, interest rates and foreign exchange rates. 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 to minimize market risk due to 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 hedging 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 scenarios 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 the 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 March 31, 2024, the net fair value of derivative contracts, before consideration of cash margin, reported as assets under these programs totaled \$463 million compared to \$593 million at December 31, 2023. At March 31, 2024, the net fair value of our derivative contracts included \$293 million for energy contracts, \$114 million for interest rate swaps and \$56 million for foreign exchange contracts. The aggregate net fair value of derivative contracts, before consideration of cash margin, held under these programs reported as liabilities totaled \$460 million at March 31, 2024 and \$587 million at December 31, 2023.

At March 31, 2024, total derivative assets were reduced by \$230 million of cash collateral received from counterparties and total derivative liabilities were reduced by \$29 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 an 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 3 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 March 31, 2024 follows in Table 15.

Table 15 – Fair Value of Derivative Contracts
(In thousands)

Customers	\$	143,971
Banks and other financial institutions		34,791
Exchanges and clearing organizations		54,953
Fair value of customer risk management program asset derivative contracts, net	\$	233,715

At March 31, 2024, our largest derivative exposure was to an exchange for \$61 million of net derivative positions, net of cash margin.

Our customer hedging 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 which may incur additional funding costs. Also, changes in commodity prices affect risk-weighted assets and total assets which in turn impacts regulatory capital ratios. These risks are modeled as part of the management of these programs. Based on current prices, a decrease in market prices to an equivalent of \$65.64 per barrel of oil would decrease the fair value of derivative assets by \$104 million, with lending customers comprising the bulk of the assets. An increase in prices to an equivalent of \$100.70 per barrel of oil would increase the fair value of derivative assets by \$635 million as asset values rise faster than margin paid. Liquidity requirements of this program may also be affected by our credit rating. At March 31, 2024, 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 March 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 16 – Summary of Credit Loss Experience
(Dollars in thousands)

	Three Months Ended					Mar. 31, 2023
	Mar. 31, 2024	Dec. 31, 2023	Sep. 30, 2023	June 30, 2023	Mar. 31, 2023	
Allowance for loan losses:						
Beginning balance	\$ 277,123	\$ 272,114	\$ 262,714	\$ 249,460	\$ 235,704	
Loans charged off	(7,060)	(5,007)	(10,593)	(8,049)	(3,667)	
Recoveries of loans previously charged off	1,600	911	4,062	1,346	2,898	
Net loans charged off	(5,460)	(4,096)	(6,531)	(6,703)	(769)	
Provision for credit losses	9,960	9,105	15,931	19,957	14,525	
Ending balance	\$ 281,623	\$ 277,123	\$ 272,114	\$ 262,714	\$ 249,460	
Accrual for off-balance sheet credit risk from unfunded loan commitments:						
Beginning balance	\$ 48,977	\$ 52,604	\$ 59,940	\$ 62,943	\$ 60,919	
Provision for credit losses	(1,658)	(3,627)	(7,336)	(3,003)	2,024	
Ending balance	\$ 47,319	\$ 48,977	\$ 52,604	\$ 59,940	\$ 62,943	
Accrual for off-balance sheet credit risk associated with mortgage banking activities:						
Beginning balance	\$ 3,492	\$ 2,962	\$ 4,443	\$ 4,381	\$ 4,904	
Loans charged off	(3)	—	(7)	(16)	(35)	
Provision for credit losses	(265)	530	(1,474)	78	(488)	
Ending balance	\$ 3,224	\$ 3,492	\$ 2,962	\$ 4,443	\$ 4,381	
Allowance for credit losses related to held-to-maturity (investment) securities:						
Beginning balance	\$ 336	\$ 344	\$ 465	\$ 497	\$ 558	
Provision for credit losses	(37)	(8)	(121)	(32)	(61)	
Ending balance	\$ 299	\$ 336	\$ 344	\$ 465	\$ 497	
Total provision for credit losses	\$ 8,000	\$ 6,000	\$ 7,000	\$ 17,000	\$ 16,000	
Average loans by portfolio segment :						
Commercial	\$ 14,992,639	\$ 14,680,001	\$ 14,527,676	\$ 14,316,474	\$ 14,046,237	
Commercial real estate	5,188,152	5,293,021	5,172,876	4,896,230	4,757,362	
Loans to individuals	3,767,776	3,732,086	3,713,756	3,676,350	3,672,648	
Net charge-offs (annualized) to average loans	0.09 %	0.07 %	0.11 %	0.12 %	0.01 %	
Net charge-offs (annualized) to average loans by portfolio segment:						
Commercial	0.09 %	0.08 %	0.18 %	0.06 %	(0.06) %	
Commercial real estate	0.10 %	— %	(0.07) %	0.32 %	0.17 %	
Loans to individuals	0.10 %	0.11 %	0.10 %	0.08 %	0.07 %	
Recoveries to gross charge-offs	22.66 %	18.19 %	38.35 %	16.72 %	79.03 %	
Provision for loan losses (annualized) to average loans	0.17 %	0.15 %	0.27 %	0.35 %	0.26 %	
Allowance for loan losses to loans outstanding at period end	1.17 %	1.16 %	1.15 %	1.13 %	1.10 %	
Accrual for unfunded loan commitments to loan commitments	0.33 %	0.33 %	0.37 %	0.40 %	0.42 %	
Combined allowance for loan losses and accrual for off-balance sheet credit risk from unfunded loan commitments to loans outstanding at period end	1.36 %	1.36 %	1.37 %	1.39 %	1.37 %	

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, commercial real estate vacancy rates 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.

Non-pass grade loans, including loans especially mentioned, accruing substandard and nonaccruing loans, decreased \$14 million compared to December 31, 2023. Non-pass grade general business loans decreased \$23 million, partially offset by a \$12 million increase in non-pass grade commercial real estate loans. A summary of outstanding loan balances by risk grade is included in Note 4 to the Consolidated Financial Statements.

The provision for credit losses of \$8.0 million in the first quarter of 2024 reflects continued loan growth and a stable economic forecast. The allowance for loan losses totaled \$282 million or 1.17% of outstanding loans at March 31, 2024. Excluding residential mortgage loans guaranteed by U.S. government agencies, the allowance for loan losses was 255% of nonaccruing loans. The combined allowance for loan losses and accrual for off-balance sheet credit risk from unfunded loan commitments was \$329 million or 1.36% of outstanding loans and 298% of nonaccruing loans at March 31, 2024.

The probability weighting of all scenarios in our reasonable and supportable forecast remained unchanged compared to the prior quarter. 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 \$210 million in quantitative reserve, while a 100% upside case would result in \$6.9 million less quantitative reserve at March 31, 2024. Such sensitivity calculations do not necessarily reflect the nature and extent of future changes in the related allowance.

The Company recorded a \$6.0 million provision for credit losses in the fourth quarter of 2023. The allowance for loan losses was \$277 million or 1.16% of outstanding loans at December 31, 2023. 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.

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

	Base	Downside	Upside
Scenario probability weighting	50%	35%	15%
Economic outlook	<p>Geopolitical conflicts remain isolated.</p> <p>Beginning in the third quarter of 2024, there is one rate cut per quarter, bringing the federal funds target range of 4.50% to 4.75% by the end of the first quarter of 2025.</p> <p>Core inflation continues to improve from the previous peaks and reaches 2.5% by the first quarter of 2025.</p> <p>Job openings revert to more normalized levels 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. 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 compared to the base case scenario and cut the federal funds rate significantly to encourage economic activity and job creation. In total, there are ten rate cuts over the next four quarters bringing the target range to 2.75% to 3.00% by the first 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 four federal funds rate cuts in 2024 and one rate cut in the first quarter of 2025, bringing the target range to 4.00% to 4.25%.</p> <p>Core inflation continues to improve from the previous peaks and reaches 2.2% by the first quarter of 2025.</p> <p>Labor force participants continue to re-enter the job market to help fill the elevated level of job openings. The increase in employment helps maintain household income above its pre-pandemic trend. This supports consumer spending and produces GDP growth consistent with pre-pandemic levels.</p>
Macro-economic factors	<ul style="list-style-type: none"> – GDP is forecasted to grow by 1.6% over the next 12 months. – Civilian unemployment rate of 3.9% in the second quarter of 2024 increases to 4.2% by the first quarter of 2025. – WTI oil prices are projected to generally follow the NYMEX forward curve that existed at the end of March 2024 and are expected to average \$75.40 per barrel over the next 12 months. 	<ul style="list-style-type: none"> – GDP is forecasted to contract 1.8% over the next twelve months. – Civilian unemployment rate of 4.6% in the second quarter of 2024 increases to 6.2% in the first quarter of 2025. – WTI oil prices are projected to average \$53.30 over the next 12 months, with a peak of \$61.94 in the second quarter of 2024 and falling 22% over the following three quarters. 	<ul style="list-style-type: none"> – GDP is forecasted to grow by 2.1% over the next 12 months. – Civilian unemployment rate of 3.8% in the second quarter of 2024 increases to 4.0% by the first quarter of 2025. – WTI oil prices are projected to average \$74.75 per barrel over the next 12 months.

Net Loans Charged Off

Net loans charged off totaled \$5.5 million or 0.09% of average loans in the first quarter. Net charge-offs were primarily composed of a \$3.2 million general business loan and a \$1.3 million office loan. Net charge-offs of loans to individuals include deposit account overdraft losses.

Accrual for Off-Balance Sheet Credit Risk Associated with Mortgage Banking Activities

The accrual for off-balance sheet credit risk associated with mortgage banking activities includes consideration of credit risk related to certain residential mortgage loans sold into mortgage-backed securities in excess of amounts guaranteed by the VA and mortgage loans originated under community development loan programs that were sold to a U.S. government agency with full recourse.

We use publicly available long-term national data to estimate total loss given default for our off-balance sheet credit risk related to losses in excess of amounts guaranteed by the VA. This result is combined with probability of default output from our mortgage servicing rights model to estimate total expected loss. Then, we estimate the VA's guarantee percentage to determine our portion of the credit risk. Qualitative adjustment may be used, if necessary.

Allowance for Credit Losses Related to Held-to-Maturity (Investment) Securities

The expected credit losses principles apply to all financial assets measured at cost, including our held-to-maturity (investment) debt securities portfolio. Our investment portfolio includes municipal and other tax-exempt securities and other debt securities. Expected credit losses for these assets are based on the probability of default and loss given default assumptions that align with similarly graded loans. Qualitative adjustment may be used, if necessary.

Nonperforming Assets

As more fully described in Note 4 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 reposessed 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 17:

Table 17 – Nonperforming Assets
(Dollars in thousands)

	Mar. 31, 2024	Dec. 31, 2023	Sep. 30, 2023	June 30, 2023	Mar. 31, 2023
Nonaccruing loans:					
Commercial:					
Healthcare	\$ 49,307	\$ 81,529	\$ 41,836	\$ 36,753	\$ 37,247
Energy	14,991	17,843	19,559	20,037	127
Services	3,319	3,616	2,820	4,541	8,097
General business	7,003	7,143	6,483	11,946	8,961
Total commercial	74,620	110,131	70,698	73,277	54,432
Commercial real estate	22,087	7,320	7,418	17,395	21,668
Loans to individuals:					
Residential mortgage	13,449	18,056	30,954	29,973	29,693
Residential mortgage guaranteed by U.S. government agencies	9,217	9,709	10,436	11,473	14,302
Personal	142	253	79	133	200
Total loans to individuals	22,808	28,018	41,469	41,579	44,195
Total nonaccruing loans	119,515	145,469	119,585	132,251	120,295
Real estate and other reposessed assets	2,860	2,875	3,753	4,227	12,651
Total nonperforming assets	\$ 122,375	\$ 148,344	\$ 123,338	\$ 136,478	\$ 132,946
Total nonperforming assets excluding those guaranteed by U.S. government agencies	\$ 113,158	\$ 138,635	\$ 112,902	\$ 125,005	\$ 118,644
Allowance for loan losses to nonaccruing loans ¹	255.33 %	204.13 %	249.31 %	217.52 %	235.36 %
Combined allowance for loan losses and accrual for off-balance sheet credit risk from unfunded loan commitments to nonaccruing loans ¹	298.23 %	240.20 %	297.50 %	267.15 %	294.74 %
Nonperforming assets to outstanding loans and reposessed assets	0.51 %	0.62 %	0.52 %	0.59 %	0.58 %
Nonperforming assets to outstanding loans and reposessed assets ¹	0.47 %	0.58 %	0.48 %	0.54 %	0.53 %
Nonaccruing loans to outstanding loans	0.49 %	0.61 %	0.50 %	0.57 %	0.53 %
Nonaccruing commercial loans to outstanding commercial loans	0.49 %	0.74 %	0.48 %	0.50 %	0.38 %
Nonaccruing commercial real estate loans to outstanding commercial real estate loans	0.42 %	0.14 %	0.14 %	0.35 %	0.45 %
Nonaccruing loans to individuals to outstanding loans to individuals ¹	0.37 %	0.51 %	0.86 %	0.85 %	0.86 %

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

Nonaccruing loans decreased \$26 million compared to December 31, 2023. New nonaccruing loans identified in the first quarter totaled \$24 million, offset by \$34 million of loans that returned to accruing status, \$8.6 million in payments received and \$7.1 million of charge-offs. Nonaccruing healthcare loans decreased \$32 million, partially offset by a \$15 million increase in nonaccruing commercial real estate loans driven primarily by a single office loan. 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 three months ended March 31, 2024 follows in Table 18.

Table 18 – Rollforward of Nonperforming Assets
(In thousands)

	Three Months Ended March 31, 2024					
	Nonaccruing Loans				Real Estate and Other Repossessed Assets	Total Nonperforming Assets
	Commercial	Commercial Real Estate	Loan to Individuals	Total		
Balance, December 31, 2023	\$ 110,131	\$ 7,320	\$ 28,018	\$ 145,469	\$ 2,875	\$ 148,344
Additions	4,942	16,042	3,251	24,235	—	24,235
Payments	(6,116)	(25)	(2,433)	(8,574)	—	(8,574)
Charge-offs	(4,240)	(1,250)	(1,570)	(7,060)	—	(7,060)
Net gains (losses) and write-downs	—	—	—	—	109	109
Foreclosure of nonperforming loans	—	—	(77)	(77)	77	—
Foreclosure of loans guaranteed by U.S. government agencies	—	—	(558)	(558)	—	(558)
Proceeds from sales	—	—	—	—	(201)	(201)
Net transfers to nonaccruing loans	—	—	(5)	(5)	—	(5)
Return to accrual status	(30,097)	—	(3,818)	(33,915)	—	(33,915)
Balance, March 31, 2024	\$ 74,620	\$ 22,087	\$ 22,808	\$ 119,515	\$ 2,860	\$ 122,375

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. At foreclosure, these amounts are transferred to claims receivable accounts. These properties will be conveyed to the agencies once applicable criteria have been met.

Real Estate and Other Repossessed Assets

Real estate and other repurchased assets totaled \$2.9 million at March 31, 2024, largely unchanged compared to December 31, 2023. Real estate and other repurchased assets were composed primarily of \$2.1 million of land for commercial real estate development.

Liquidity and Capital

Our funding sources, which primarily include deposits and borrowings from the Federal Home Loan Banks and other banks, provide adequate liquidity to meet our operating needs. Based on the average balances for the first quarter of 2024, approximately 70% of our funding was provided by deposit accounts, 16% from borrowed funds, 10% from equity and less than 1% from long-term subordinated debt.

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.

Average deposits for the first quarter of 2024 totaled \$35.0 billion, a \$1.3 billion increase compared to the fourth quarter of 2023. Demand deposits decreased \$747 million while interest-bearing transaction account balances increased \$1.8 billion. Time deposit balances increased \$285 million.

Table 19 – Average Deposits by Line of Business
(In thousands)

	Three Months Ended					Mar. 31, 2023
	Mar. 31, 2024	Dec. 31, 2023	Sep. 30, 2023	June 30, 2023	Mar. 31, 2023	
Commercial Banking	\$ 15,730,241	\$ 15,493,326	\$ 15,115,313	\$ 14,822,093	\$ 15,861,285	
Consumer Banking	7,901,167	7,890,032	7,936,186	7,986,674	8,249,541	
Wealth Management	9,237,965	8,085,643	7,886,962	7,544,143	7,432,413	
Subtotal	32,869,373	31,469,001	30,938,461	30,352,910	31,542,239	
Funds Management and other	2,156,518	2,207,212	2,349,436	2,016,802	1,940,232	
Total	\$ 35,025,891	\$ 33,676,213	\$ 33,287,897	\$ 32,369,712	\$ 33,482,471	

Average Commercial Banking deposit balances increased \$237 million compared to the fourth quarter of 2023. Interest-bearing transaction account balances increased \$784 million while demand deposit balances decreased \$549 million. Our Commercial deposit portfolio is highly diversified across industries and customers. The highest concentration by industry within our commercial deposit portfolio is our energy customers representing 8% of our total deposits.

Average Consumer Banking deposit balances increased \$11 million over the prior quarter. A \$256 million increase in time deposit balances was partially offset by a \$175 million decrease in interest-bearing transaction deposit balances and a \$65 million decrease in demand deposit balances.

Average Wealth Management deposits increased \$1.2 billion compared to the fourth quarter of 2023. Interest-bearing transaction account balances increased \$1.2 billion. Time deposit balances increased \$33 million while demand deposit balances decreased \$94 million.

Average brokered deposits were 4% of total deposits during the first quarter of 2024. Average interest-bearing transaction accounts for the first quarter included \$479 million of brokered deposits, a \$167 million increase over the fourth quarter of 2023. Average time deposits for the first quarter of 2024 included \$620 million of brokered deposits, a \$9.5 million decrease compared to the fourth quarter of 2023. Period end brokered interest-bearing transaction accounts increased \$489 million to \$819 million at March 31, 2024 and brokered time deposits decreased \$80 million to \$492 million at March 31, 2024. During the first quarter, reciprocal deposit balances exceeded the \$5 billion general cap as defined by the FDIC. Reciprocal deposit balances in excess of the \$5 billion general cap are included as brokered deposits for regulatory reporting purposes. The portion of brokered deposits excluding the reciprocal component was 2% of total deposits.

The distribution of our period end deposit account balances among principal markets follows in Table 20.

Table 20 – Period End Deposits by Principal Market Area
(In thousands)

	Mar. 31, 2024	Dec. 31, 2023	Sep. 30, 2023	June 30, 2023	Mar. 31, 2023
Oklahoma:					
Demand	\$ 3,365,529	\$ 3,586,091	\$ 4,019,019	\$ 4,273,136	\$ 4,369,944
Interest-bearing:					
Transaction	12,362,193	10,929,704	9,970,955	9,979,534	9,468,100
Savings	509,775	500,313	508,619	531,536	564,829
Time	2,136,583	1,984,336	2,019,749	1,945,916	942,787
Total interest-bearing	15,008,551	13,414,353	12,499,323	12,456,986	10,975,716
Total Oklahoma	18,374,080	17,000,444	16,518,342	16,730,122	15,345,660
Texas:					
Demand	2,201,561	2,306,334	2,599,998	2,876,568	3,154,789
Interest-bearing:					
Transaction	5,125,834	5,035,856	5,046,288	4,532,093	4,366,932
Savings	157,108	155,652	154,863	162,704	175,012
Time	605,526	492,753	436,218	377,424	321,774
Total interest-bearing	5,888,468	5,684,261	5,637,369	5,072,221	4,863,718
Total Texas	8,090,029	7,990,595	8,237,367	7,948,789	8,018,507
Colorado:					
Demand	1,316,971	1,633,672	1,598,622	1,726,130	1,869,194
Interest-bearing:					
Transaction	1,951,232	1,921,605	1,888,026	1,825,295	2,126,435
Savings	63,675	67,646	63,129	66,968	72,548
Time	237,656	201,393	185,030	148,840	128,583
Total interest-bearing	2,252,563	2,190,644	2,136,185	2,041,103	2,327,566
Total Colorado	3,569,534	3,824,316	3,734,807	3,767,233	4,196,760
New Mexico:					
Demand	683,643	794,467	853,571	912,218	997,364
Interest-bearing:					
Transaction	1,085,946	886,089	1,049,903	712,541	674,328
Savings	95,944	95,453	97,753	102,729	111,771
Time	298,556	258,195	217,535	179,548	137,875
Total interest-bearing	1,480,446	1,239,737	1,365,191	994,818	923,974
Total New Mexico	2,164,089	2,034,204	2,218,762	1,907,036	1,921,338
Arizona:					
Demand	502,143	524,167	522,142	592,144	780,051
Interest-bearing:					
Transaction	1,181,539	1,174,715	903,535	800,970	687,527
Savings	12,024	11,636	12,340	14,489	16,993
Time	46,962	41,884	36,689	31,248	27,755
Total interest-bearing	1,240,525	1,228,235	952,564	846,707	732,275
Total Arizona	1,742,668	1,752,402	1,474,706	1,438,851	1,512,326

	Mar. 31, 2024	Dec. 31, 2023	Sep. 30, 2023	June 30, 2023	Mar. 31, 2023
Kansas/Missouri:					
Demand	316,041	326,496	351,236	363,534	393,321
Interest-bearing:					
Transaction	985,706	966,166	981,091	1,014,247	1,040,009
Savings	13,095	13,821	14,331	16,316	18,292
Time	30,411	23,955	22,437	16,176	13,061
Total interest-bearing	1,029,212	1,003,942	1,017,859	1,046,739	1,071,362
Total Kansas/Missouri	1,345,253	1,330,438	1,369,095	1,410,273	1,464,683
Arkansas:					
Demand	28,168	25,266	29,635	38,818	42,312
Interest-bearing:					
Transaction	55,735	49,966	57,381	43,301	71,158
Savings	2,776	2,564	2,898	3,195	3,228
Time	11,215	9,506	9,559	7,225	4,775
Total interest-bearing	69,726	62,036	69,838	53,721	79,161
Total Arkansas	97,894	87,302	99,473	92,539	121,473
Total BOK Financial deposits	\$ 35,383,547	\$ 34,019,701	\$ 33,652,552	\$ 33,294,843	\$ 32,580,747

Estimated uninsured deposits totaled \$18.2 billion or 51% of our total deposits at March 31, 2024. In addition to insured deposits, we also hold \$4.5 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 \$13.2 billion or 37% of total deposits at March 31, 2024.

In addition to deposits, liquidity is provided primarily by federal funds purchased, securities repurchase agreements and Federal Home Loan Banks 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 single source of wholesale federal funds purchased totaled \$250 million at March 31, 2024. Securities repurchase agreements generally mature within 90 days and are secured by certain available for sale and trading securities. Federal Home Loan Banks borrowings are generally short-term and are secured by a blanket pledge of eligible collateral (generally unencumbered U.S. Treasury and agency 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 \$6.8 billion during the quarter, compared to \$7.1 billion in the fourth quarter of 2023.

At March 31, 2024, management estimates a total potential secured borrowing capacity of approximately \$23.7 billion. This includes current available secured capacity of \$20.0 billion from the use of programs available to U.S. banks from the Federal Home Loan Banks and Federal Reserve Banks and an estimated \$3.7 billion of other sources that could be converted into additional secured capacity.

A summary of other borrowings for BOK Financial on a consolidated basis follows in Table 21.

Table 21 – Borrowed Funds
(Dollars in thousands)

	Three Months Ended March 31, 2024						Three Months Ended Dec. 31, 2023						
	Average Balance During the Quarter			Maximum Outstanding At Any Month End During the Quarter			Average Balance During the Quarter			Maximum Outstanding At Any Month End During the Quarter			
	Mar. 31, 2024	Rate	Dec. 31, 2023	Rate	Dec. 31, 2023	Rate	Dec. 31, 2023	Rate	Dec. 31, 2023	Rate	Dec. 31, 2023	Rate	
Funds purchased	\$ 899,447	\$ 582,505	4.76 %	\$ 899,447	\$ 515,747	4.71 %	\$ 438,028	4.71 %	\$ 515,747	4.71 %	\$ 438,028	4.71 %	
Repurchase agreements	362,070	675,539	3.43 %	362,070	607,001	2,038,945	4.81 %	1,041,432	4.81 %	1,041,432	4.81 %	1,041,432	4.81 %
Other borrowings:													
Federal Home Loan Banks advances	6,700,000	6,819,232	5.56 %	6,700,000	7,675,000	7,094,294	5.54 %	7,825,000	5.54 %	7,825,000	5.54 %	7,825,000	5.54 %
GNMA repurchase liability	10,414	10,953	4.00 %	10,805	11,660	11,075	4.16 %	11,726	4.16 %	11,726	4.16 %	11,726	4.16 %
Other	14,238	14,448	5.26 %	14,800	14,892	15,594	6.31 %	15,896	6.31 %	15,896	6.31 %	15,896	6.31 %
Total other borrowings	6,724,652	6,844,633	5.56 %		7,701,552	7,120,963	5.55 %						
Subordinated debentures ¹	131,154	131,154	7.09 %	131,154	131,150	131,151	7.09 %	131,151	7.09 %	131,151	7.09 %	131,151	7.09 %
Total other borrowed funds and subordinated debentures	\$ 8,117,323	\$ 8,233,831	5.35 %		\$ 8,955,450	\$ 9,729,087	5.37 %						

¹ Parent Company only.

BOKF, NA also has a liability related to the repurchase of certain delinquent residential mortgage loans previously sold into GNMA mortgage pools. Interest is payable monthly at rates contractually due to investors if delinquent loans are not repurchased from the GNMA mortgage pools.

Parent Company

At March 31, 2024, cash and interest-bearing cash and cash equivalents held by the parent company totaled \$183 million. The primary sources of liquidity for BOK Financial are cash on hand and dividends from BOKF, NA. Dividends from the 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 March 31, 2024, based upon the most restrictive limitations as well as management's internal capital policy, BOKF, NA could declare up to \$354 million of dividends. 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 at the bank could affect its ability to pay dividends to the parent company.

Our equity capital at March 31, 2024 was \$5.1 billion, a \$14 million decrease compared to December 31, 2023. Net income less cash dividends paid increased equity \$48 million during the first quarter of 2024. Changes in interest rates resulted in an \$11 million decrease in accumulated other comprehensive income compared to December 31, 2023. We also repurchased \$52 million of common stock, excluding a 1% excise tax on corporate stock repurchases, during the first quarter of 2024. Capital is managed to maximize long-term value to the shareholders. Factors considered in managing capital include projections of future earnings including expected benefits from lower federal income tax rates, asset growth and acquisition strategies, and regulatory and debt covenant requirements. Capital management may include subordinated debt or perpetual preferred stock issuance, share repurchase and stock and cash dividends.

On November 1, 2022, the board of directors authorized the Company to purchase up to five million common shares, subject to market conditions, securities law and other regulatory compliance limitations. As of March 31, 2024, the Company had repurchased 3,044,844 shares under this authorization. The Company repurchased 616,630 shares of common stock at an average price of \$83.89 per share in the first quarter of 2024. We view share buybacks opportunistically, but within the context of maintaining our strong capital position.

BOK Financial and BOKF, NA are subject to various capital requirements administered by federal agencies. Failure to meet minimum capital requirements can result in certain mandatory and possibly additional discretionary actions by regulators that could have a material impact on operations. 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, including a capital conservation buffer follows in Table 22. A bank which falls below these levels, 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.

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 the CECL model 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. Deferral of the impact of CECL added 3 basis points to the Company's Common equity Tier 1 capital at March 31, 2024.

Capital and other performance ratios for BOK Financial on a consolidated basis are presented in Table 22.

Table 22 – Capital and Performance Ratios

	Minimum Capital Requirement Including Capital Conservation			Mar. 31, 2024	Dec. 31, 2023	Mar. 31, 2023
	Minimum Capital Requirement	Capital Conservation Buffer	Buffer			
Capital:						
Common equity Tier 1	4.50 %	2.50 %	7.00 %	11.99 %	12.06 %	12.19 %
Tier 1 capital	6.00 %	2.50 %	8.50 %	12.00 %	12.07 %	12.20 %
Total capital	8.00 %	2.50 %	10.50 %	13.15 %	13.16 %	13.21 %
Tier 1 Leverage	4.00 %	N/A	4.00 %	9.42 %	9.45 %	9.94 %
Average total equity to average assets				10.30 %	9.93 %	10.53 %
Tangible common equity ratio ¹				8.21 %	8.29 %	8.46 %
Adjusted common tangible equity ratio ¹				7.92 %	8.02 %	8.22 %
Performance Ratios:						
Return on average equity				6.53 %	6.64 %	13.61 %
Return on average tangible common equity ¹				8.31 %	8.56 %	17.71 %

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

Off-Balance Sheet Arrangements

See Note 4 to the Consolidated Financial Statements for a discussion of the Company's significant off-balance sheet commitments.

Explanation and Reconciliation of Non-GAAP Measures

Table 23 provides a reconciliation of the non-GAAP measures with financial measures defined by GAAP.

Table 23 – Non-GAAP Measures

(Dollars in thousands)

	Mar. 31, 2024	Dec. 31, 2023	Sep. 30, 2023	June 30, 2023	Mar. 31, 2023
Reconciliation of tangible common equity ratio and adjusted tangible common equity ratio:					
Total shareholders' equity	\$ 5,128,751	\$ 5,142,442	\$ 4,814,019	\$ 4,863,854	\$ 4,874,786
Less: Goodwill and intangible assets, net	1,101,643	1,104,728	1,110,553	1,113,995	1,117,438
Tangible common equity	4,027,108	4,037,714	3,703,466	3,749,859	3,757,348
Add: Unrealized loss on investment securities, net	(185,978)	(171,903)	(246,395)	(189,152)	(140,947)
Add: Tax effect on unrealized loss on investment securities, net	43,740	40,430	57,949	44,486	33,149
Adjusted tangible common equity	\$ 3,884,870	\$ 3,906,241	\$ 3,515,020	\$ 3,605,193	\$ 3,649,550
Total assets	\$ 50,160,380	\$ 49,824,830	\$ 48,931,397	\$ 49,237,920	\$ 45,524,122
Less: Goodwill and intangible assets, net	1,101,643	1,104,728	1,110,553	1,113,995	1,117,438
Tangible assets	\$ 49,058,737	\$ 48,720,102	\$ 47,820,844	\$ 48,123,925	\$ 44,406,684
Tangible common equity ratio	8.21 %	8.29 %	7.74 %	7.79 %	8.46 %
Adjusted tangible common equity ratio	7.92 %	8.02 %	7.35 %	7.49 %	8.22 %
Reconciliation of return on average tangible common equity:					
Total average shareholders' equity	\$ 5,152,061	\$ 4,933,917	\$ 4,902,119	\$ 4,941,352	\$ 4,837,567
Less: Average goodwill and intangible assets, net	1,103,090	1,107,949	1,112,217	1,115,652	1,119,123
Average tangible common equity	\$ 4,048,971	\$ 3,825,968	\$ 3,789,902	\$ 3,825,700	\$ 3,718,444
Net Income	\$ 83,703	\$ 82,575	\$ 134,495	\$ 151,308	\$ 162,368
Return on average tangible common equity	8.31 %	8.56 %	14.08 %	15.86 %	17.71 %
Reconciliation of pre-provision net revenue:					
Net income before taxes	\$ 106,889	\$ 111,475	\$ 167,735	\$ 195,637	\$ 208,401
Add: Provision for expected credit losses	8,000	6,000	7,000	17,000	16,000
Less: Net income (loss) attributable to non-controlling interests	(9)	(53)	(16)	328	128
Pre-provision net revenue	\$ 114,898	\$ 117,528	\$ 174,751	\$ 212,309	\$ 224,273
Reconciliation of adjusted net income and earnings per share:					
Net income	\$ 83,703	\$ 82,575	\$ 134,495	\$ 151,308	\$ 162,368
Add: FDIC special assessment, net of tax	4,936	33,478	—	—	—
Less: Loss on repositioning of available for sale securities, net of tax	(34,547)	(21,129)	—	(2,302)	—
Less: Gain on sale of BOKF Insurance, net of tax	—	23,715	—	—	—
Adjusted net income	123,186	113,467	134,495	153,610	162,368
Earnings per share	\$ 1.29	\$ 1.26	\$ 2.04	\$ 2.27	\$ 2.43
Add: FDIC special assessment, net of tax	0.08	0.52	—	—	—
Less: Loss on repositioning of available for sale securities, net of tax	(0.54)	(0.33)	—	(0.03)	—
Less: Gain on sale of BOKF Insurance, net of tax	—	0.37	—	—	—
Adjusted earnings per share	\$ 1.91	\$ 1.74	\$ 2.04	\$ 2.30	\$ 2.43

	Mar. 31, 2024	Dec. 31, 2023	Sep. 30, 2023	June 30, 2023	Mar. 31, 2023
Calculation of efficiency ratio and efficiency ratio excluding adjustments:					
Total other operating expense	\$ 340,384	\$ 384,083	\$ 324,313	\$ 318,673	\$ 305,812
Less: Amortization of intangible assets	3,003	3,543	3,474	3,474	3,391
Numerator for efficiency ratio	\$ 337,381	\$ 380,540	\$ 320,839	\$ 315,199	\$ 302,421
Less: FDIC special assessment	6,454	43,773	—	—	—
Less: Expenses related to sale of BOKF Insurance	—	3,436	—	—	—
Adjusted numerator for efficiency ratio	\$ 330,927	\$ 333,331	\$ 320,839	\$ 315,199	\$ 302,421
Net interest revenue	\$ 293,572	\$ 296,675	\$ 300,896	\$ 322,261	\$ 352,348
Tax-equivalent adjustment	2,100	2,112	2,214	2,200	2,285
Tax-equivalent net interest revenue	295,672	298,787	303,110	324,461	354,633
Total other operating revenue	161,701	204,883	198,152	209,049	177,865
Less: Loss on available for sale securities, net	(45,171)	(27,626)	—	(3,010)	—
Denominator for efficiency ratio	\$ 502,544	\$ 531,296	\$ 501,262	\$ 536,520	\$ 532,498
Less: Gain on sale of BOKF Insurance	—	31,007	—	—	—
Adjusted denominator for efficiency ratio	\$ 502,544	\$ 500,289	\$ 501,262	\$ 536,520	\$ 532,498
Efficiency ratio	67.13 %	71.62 %	64.01 %	58.75 %	56.79 %
Efficiency ratio excluding adjustments	65.85 %	66.63 %	64.01 %	58.75 %	56.79 %
Information on net interest revenue and net interest margin excluding trading activities:					
Net interest revenue	\$ 293,572	\$ 296,675	\$ 300,896	\$ 322,261	\$ 352,348
Less: Trading activities net interest revenue	(498)	(3,305)	(7,343)	(3,461)	70
Net interest revenue excluding trading activities	\$ 294,070	\$ 299,980	\$ 308,239	\$ 325,722	\$ 352,278
Tax-equivalent adjustment	2,100	2,112	2,214	2,200	2,285
Tax-equivalent net interest revenue excluding trading activities	\$ 296,170	\$ 302,092	\$ 310,453	\$ 327,922	\$ 354,563
Average interest-earning assets	\$ 44,846,886	\$ 44,327,237	\$ 44,012,300	\$ 42,731,533	\$ 40,781,257
Less: Average trading activities interest-earning assets	5,371,209	5,448,403	5,444,587	4,274,803	3,031,969
Average interest-earning assets excluding trading activities	\$ 39,475,677	\$ 38,878,834	\$ 38,567,713	\$ 38,456,730	\$ 37,749,288
Net interest margin on average interest-earning assets	2.61 %	2.64 %	2.69 %	3.00 %	3.45 %
Net interest margin on average trading activities interest-earning assets	(0.07)%	(0.20)%	(0.49)%	(0.34)%	— %
Net interest margin on average interest-earning assets excluding trading activities	2.97 %	3.03 %	3.14 %	3.36 %	3.72 %

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.

We believe adjusting net income and earnings per share for notable non-core items enhances comparability of results with prior periods, demonstrates the impact of significant items and provides a useful measure for determining the Company's expenses that are core to our business operations and are expected to recur over time.

The efficiency ratio measures the Company's ability to use its assets and manage its liabilities effectively in the current period. Prior to the second quarter of 2023, the efficiency ratio did not exclude amortization of intangible assets and only included tax-equivalent net interest revenue and fees and commissions as part of total revenue. All prior periods were adjusted to conform with the current methodology.

Net interest revenue 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.

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 the 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 agricultural product 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 revenue, 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 Revenue 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 revenue. 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 revenue 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 24 indicates management's estimation of the impact of rate changes on net interest revenue. Should deposit costs be 10% more sensitive to changes in rates, the variation in net interest revenue over the next twelve months would be 0.42% 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 revenue over the next twelve months would be (0.80%, or (\$10.4 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 revenue would decrease approximately 4.78%, or \$62 million.

Table 24 – Interest Rate Sensitivity
(Dollars in thousands)

	Mar. 31, 2024				Dec. 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 revenue	\$ (29,900)	\$ (4,600)	\$ (2,500)	\$ 900	\$ (36,100)	\$ (8,900)	\$ (7,900)	\$ (2,900)
	(2.31)%	(0.35)%	(0.20)%	0.07 %	(3.03)%	(0.75)%	(0.66)%	(0.24)%
Anticipated impact over months twelve through twenty-four	\$ (3,400)	\$ 20,800	\$ (38,600)	\$ (62,500)	\$ (9,600)	\$ 15,300	\$ (53,700)	\$ (84,900)
	(0.24)%	1.46 %	(2.70)%	(4.37)%	(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 25 – MSR Asset and Hedge Sensitivity Analysis
(In thousands)

	Mar. 31, 2024		Dec. 31, 2023	
	Up 50 bp	Down 50 bp	Up 50 bp	Down 50 bp
MSR Asset	\$ 8,840	\$ (10,181)	\$ 7,974	\$ (9,877)
MSR Hedge	(9,131)	9,295	(8,444)	8,606
Net Exposure	(291)	(886)	(470)	(1,271)

Trading Activities

The Company bears market risk by originating RMHFS. 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 \$7 million market risk limit for the mortgage production pipeline, net of forward sale contracts.

Table 26 – Mortgage Pipeline Sensitivity Analysis
(In thousands)

	Three Months Ended					
	Mar. 31, 2024		Dec. 31, 2023		Mar. 31, 2023	
	Up 50 bp	Down 50 bp	Up 50 bp	Down 50 bp	Up 50 bp	Down 50 bp
Average ¹	\$ (36)	\$ (19)	\$ (17)	\$ (21)	\$ (79)	\$ (16)
Low ²	93	126	22	46	(1)	61
High ³	(240)	(151)	(91)	(58)	(186)	(84)
Period End	(154)	52	14	(41)	(74)	(19)

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.

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 27 below summarizes certain VaR and SVaR based measures for the three months ended March 31, 2024, December 31, 2023, and March 31, 2023.

Table 27 – VaR and SVaR Measures
(In thousands)

	Three Months Ended					
	Mar. 31, 2024		Dec. 31, 2023		Mar. 31, 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
Average ¹	\$ 5,053	\$ 6,388	\$ 4,757	\$ 8,154	\$ 4,059	\$ 7,461
Low	2,634	4,190	2,338	4,067	1,944	3,156
High	8,149	8,268	7,776	13,045	8,487	15,571
Period End	4,677	4,931	2,977	4,925	4,036	8,907

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 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 market risk limit for the trading portfolio, net of economic hedges.

Table 28 – Trading Sensitivity Analysis
(In thousands)

	Three Months Ended					
	Mar. 31, 2024		Dec. 31, 2023		Mar. 31, 2023	
	Up 50 bp	Down 50 bp	Up 50 bp	Down 50 bp	Up 50 bp	Down 50 bp
Average ¹	\$ (3,745)	\$ 5,197	\$ (1,068)	\$ 2,095	\$ 701	\$ (497)
Low ²	1,684	8,685	3,604	6,216	4,513	1,983
High ³	(6,898)	(59)	(5,897)	(2,457)	(1,837)	(4,538)
Period End	(5,454)	7,069	(527)	1,920	2,247	(2,053)

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."

Controls and Procedures

As required by Rule 13a-15(b), BOK Financial's management, including the Chief Executive Officer and Chief Financial Officer, conducted an evaluation as of the end of the period covered by their reports, of the effectiveness of the Company's disclosure controls and procedures as defined in Exchange Act Rule 13a-15(e). Based on that evaluation, the Chief Executive Officer and Chief Financial Officer concluded that the disclosure controls and procedures were effective as of the end of the period covered by this report. As required by Rule 13a-15(d), BOK Financial's management, including the Chief Executive Officer and Chief Financial Officer, also conducted an evaluation of the Company's internal controls over financial reporting to determine whether any changes occurred during the quarter covered by this report that have materially affected, or are reasonably likely to materially affect, the Company's internal controls over financial reporting. Based on that evaluation, there has been no such change during the quarter covered by this report.

Forward-Looking Statements

This report contains forward-looking statements that are based on management's beliefs, assumptions, current expectations, estimates and projections about BOK Financial Corporation, the financial services industry, and 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," "outlook," "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 government, consumer or business responses 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.

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. If applicable, we provide GAAP reconciliations for non-GAAP financial measures.

Consolidated Statements of Earnings (Unaudited)

(In thousands, except share and per share data)

	Three Months Ended March 31,	
	2024	2023
Interest revenue		
Loans	\$ 438,677	\$ 367,870
Residential mortgage loans held for sale	923	979
Trading securities	68,237	34,009
Investment securities	7,829	8,928
Available for sale securities	113,488	88,736
Fair value option securities	195	3,893
Restricted equity securities	8,858	5,808
Interest-bearing cash and cash equivalents	7,005	6,506
Total interest revenue	645,212	516,729
Interest expense		
Deposits	242,124	95,274
Borrowed funds	107,204	67,038
Subordinated debentures	2,312	2,069
Total interest expense	351,640	164,381
Net interest revenue	293,572	352,348
Provision for credit losses	8,000	16,000
Net interest revenue after provision for credit losses	285,572	336,348
Other operating revenue		
Brokerage and trading revenue	59,179	52,396
Transaction card revenue	25,493	25,621
Fiduciary and asset management revenue	55,305	50,657
Deposit service charges and fees	28,685	25,968
Mortgage banking revenue	18,967	14,367
Other revenue	12,935	16,970
Total fees and commissions	200,564	185,979
Other gains, net	4,269	2,251
Loss on derivatives, net	(8,633)	(1,344)
Loss on fair value option securities, net	(305)	(2,962)
Change in fair value of mortgage servicing rights	10,977	(6,059)
Loss on available for sale securities, net	(45,171)	—
Total other operating revenue	161,701	177,865
Other operating expense		
Personnel	202,653	182,145
Business promotion	7,978	8,569
Professional fees and services	12,010	13,048
Net occupancy and equipment	30,293	28,459
FDIC and other insurance	8,740	7,315
FDIC special assessment	6,454	—
Data processing and communications	45,564	44,802
Printing, postage and supplies	3,997	3,893
Amortization of intangible assets	3,003	3,391
Mortgage banking costs	6,355	5,782
Other expense	13,337	8,408
Total other operating expense	340,384	305,812
Net income before taxes	106,889	208,401
Federal and state income taxes	23,195	45,905
Net income	83,694	162,496
Net income (loss) attributable to non-controlling interests	(9)	128
Net income attributable to BOK Financial Corporation shareholders	\$ 83,703	\$ 162,368
Earnings per share:		
Basic	\$ 1.29	\$ 2.43
Diluted	\$ 1.29	\$ 2.43
Average shares used in computation:		
Basic	64,290,105	66,331,775
Diluted	64,290,105	66,331,775
Dividends declared per share	\$ 0.55	\$ 0.54

See accompanying notes to consolidated financial statements.

Consolidated Statements of Comprehensive Income (Unaudited)

(In thousands)

	Three Months Ended	
	March 31,	
	2024	2023
Net income	\$ 83,694	\$ 162,496
Other comprehensive income (loss) before income taxes:		
Net change in unrealized gain (loss)	(71,806)	124,045
Reclassification adjustments included in earnings:		
Interest revenue, Investment securities	12,183	16,051
Loss on available for sale securities, net	45,171	—
Other comprehensive income (loss) before income taxes	(14,452)	140,096
Federal and state income taxes	(3,424)	31,695
Other comprehensive income (loss), net of income taxes	(11,028)	108,401
Comprehensive income	72,666	270,897
Comprehensive income (loss) attributable to non-controlling interests	(9)	128
Comprehensive income attributable to BOK Financial Corporation shareholders	\$ 72,675	\$ 270,769

See accompanying notes to consolidated financial statements.

Consolidated Balance Sheets
(In thousands, except share data)

	Mar. 31, 2024 (Unaudited)	Dec. 31, 2023 (Footnote 1)
Assets		
Cash and due from banks	\$ 801,677	\$ 947,613
Interest-bearing cash and cash equivalents	354,070	400,652
Trading securities	5,441,038	5,193,505
Investment securities, net of allowance (fair value: March 31, 2024 – \$2,000,065; December 31, 2023 – \$2,072,586)	2,185,744	2,244,153
Available for sale securities	12,653,088	12,286,681
Fair value option securities	19,805	20,671
Restricted equity securities	382,549	423,099
Residential mortgage loans held for sale	75,449	56,935
Loans	24,172,560	23,904,968
Allowance for loan losses	(281,623)	(277,123)
Loans, net of allowance	23,890,937	23,627,845
Premises and equipment, net	628,050	622,223
Receivables	308,736	317,922
Goodwill	1,044,749	1,044,749
Intangible assets, net	56,894	59,979
Mortgage servicing rights	319,330	293,884
Real estate and other repossessed assets, net of allowance (March 31, 2024 – \$5,355; December 31, 2023 – \$5,355)	2,860	2,875
Derivative contracts, net	263,493	410,304
Cash surrender value of bank-owned life insurance	410,368	409,548
Receivable on unsettled securities sales	67,854	391,910
Other assets	1,253,689	1,070,282
Total assets	\$ 50,160,380	\$ 49,824,830
Liabilities and Equity		
Liabilities:		
Non-interest bearing demand deposits	\$ 8,414,056	\$ 9,196,493
Interest-bearing deposits:		
Transaction	22,748,185	20,964,101
Savings	854,397	847,085
Time	3,366,909	3,012,022
Total deposits	35,383,547	34,019,701
Funds purchased and repurchase agreements	1,261,517	1,122,748
Other borrowings	6,724,652	7,701,552
Subordinated debentures	131,154	131,150
Accrued interest, taxes and expense	318,622	338,996
Derivative contracts, net	438,605	587,473
Due on unsettled securities purchases	264,230	254,057
Other liabilities	506,418	523,734
Total liabilities	45,028,745	44,679,411
Shareholders' equity:		
Common stock (0.00006 par value; 2,500,000,000 shares authorized; shares issued and outstanding: March 31, 2024 – 76,793,000; December 31, 2023 – 76,593,292)	5	5
Capital surplus	1,411,293	1,406,745
Retained earnings	5,259,646	5,211,512
Treasury stock (shares at cost: March 31, 2024 – 12,277,965; December 31, 2023 – 11,626,115)	(932,065)	(876,720)
Accumulated other comprehensive income (loss)	(610,128)	(599,100)
Total shareholders' equity	5,128,751	5,142,442
Non-controlling interests	2,884	2,977
Total equity	5,131,635	5,145,419
Total liabilities and equity	\$ 50,160,380	\$ 49,824,830

See accompanying notes to consolidated financial statements.

Consolidated Statements of Changes in Equity (Unaudited)

(In thousands)

	Common Stock				Treasury Stock				Accumulated Other Comprehensive Income (Loss)				Total Shareholders' Equity	Non-Controlling Interests	Total Equity			
	Shares		Amount		Capital Surplus		Retained Earnings		Shares		Amount							
Balance, December 31, 2023	76,593	\$ 5	\$ 1,406,745	\$ 5,211,512	11,626	\$ (876,720)	\$ (599,100)	\$ 5,142,442	\$ 2,977	\$ 5,145,419								
Net income (loss)	—	—	—	83,703	—	—	—	83,703	(9)	83,694								
Other comprehensive loss	—	—	—	—	—	—	(11,028)	(11,028)	—	(11,028)								
Repurchase of common stock	—	—	—	—	617	(52,153)	—	(52,153)	—	(52,153)					(52,153)			
Share-based compensation plans:																		
Non-vested shares awarded, net	200	—	—	—	—	—	—	—	—	—					—			
Vesting of non-vested shares	—	—	—	—	35	(3,192)	—	(3,192)	—	(3,192)					(3,192)			
Share-based compensation	—	—	4,548	—	—	—	—	—	4,548	—	4,548				4,548			
Cash dividends on common stock	—	—	—	(35,569)	—	—	—	—	(35,569)	—	(35,569)				(35,569)			
Capital calls and distributions, net	—	—	—	—	—	—	—	—	—	—	(84)				(84)			
Balance, March 31, 2024	76,793	\$ 5	\$ 1,411,293	\$ 5,259,646	12,278	\$ (932,065)	\$ (610,128)	\$ 5,128,751	\$ 2,884	\$ 5,131,635								
Balance, December 31, 2022	76,423	\$ 5	\$ 1,390,395	\$ 4,824,164	9,465	\$ (694,960)	\$ (836,955)	\$ 4,682,649	\$ 4,709	\$ 4,687,358								
Net income (loss)	—	—	—	162,368	—	—	—	162,368	128	162,496								
Other comprehensive income	—	—	—	—	—	—	108,401	108,401	—	108,401								
Repurchase of common stock	—	—	—	—	447	(44,476)	—	(44,476)	—	(44,476)					(44,476)			
Share-based compensation plans:																		
Non-vested shares awarded, net	133	—	—	—	—	—	—	—	—	—					—			
Vesting of non-vested shares	—	—	—	—	43	(4,501)	—	(4,501)	—	(4,501)					(4,501)			
Share-based compensation	—	—	6,701	—	—	—	—	—	6,701	—	6,701				6,701			
Cash dividends on common stock	—	—	—	(36,356)	—	—	—	—	(36,356)	—	(36,356)				(36,356)			
Capital calls and distributions, net	—	—	—	—	—	—	—	—	—	—	(1,596)				(1,596)			
Balance, March 31, 2023	76,556	\$ 5	\$ 1,397,096	\$ 4,950,176	9,955	\$ (743,937)	\$ (728,554)	\$ 4,874,786	\$ 3,241	\$ 4,878,027								

See accompanying notes to consolidated financial statements.

Consolidated Statements of Cash Flows (Unaudited)

(In thousands)

	Three Months Ended	
	2024	2023
Cash Flows From Operating Activities:		
Net income	\$ 83,694	\$ 162,496
Adjustments to reconcile net income to net cash provided by (used in) operating activities:		
Provision for credit losses	8,000	16,000
Change in fair value of mortgage servicing rights due to market assumption changes	(10,977)	6,059
Change in the fair value of mortgage servicing rights due to principal payments	5,447	5,382
Net unrealized (gains) losses from derivative contracts	(67,516)	61,704
Share-based compensation	4,548	6,701
Depreciation and amortization	26,392	26,885
Net amortization of discounts and premiums	(8,923)	(4,163)
Net losses (gains) on financial instruments and other losses (gains), net	40,792	(2,009)
Net loss (gain) on mortgage loans held for sale	(1,644)	1,361
Mortgage loans originated for sale	(139,176)	(138,624)
Proceeds from sale of mortgage loans held for sale	124,187	139,088
Capitalized mortgage servicing rights	(2,516)	(2,496)
Change in trading and fair value option securities	(246,669)	2,140,101
Change in receivables	284,991	11,032
Change in other assets	23,196	6,721
Change in other liabilities	55,394	28,544
Net cash provided by (used in) operating activities	179,220	2,464,780
Cash Flows From Investing Activities:		
Proceeds from maturities or redemptions of investment securities	57,642	64,514
Proceeds from maturities or redemptions of available for sale securities	417,103	313,935
Purchases of available for sale securities	(1,582,902)	(631,168)
Proceeds from sales of available for sale securities	735,994	—
Change in amount receivable on unsettled available for sale securities transactions	48,195	9,864
Loans originated, net of principal collected	(271,674)	(187,088)
Net proceeds from (payments on) derivative asset contracts	(5,533)	156,522
Net change in restricted equity securities	40,550	11,470
Proceeds from disposition of assets	4,624	7,401
Purchases of assets	(40,911)	(58,710)
Net cash provided by (used in) investing activities	(596,912)	(313,260)
Cash Flows From Financing Activities:		
Net change in demand deposits, transaction deposits and savings accounts	1,008,959	(2,014,726)
Net change in time deposits	354,887	114,768
Net change in other borrowed funds	(839,632)	(677,232)
Net payments on derivative liability contracts	(1,613)	(158,021)
Net change in derivative margin accounts	(116,706)	579,198
Change in amount due on unsettled available for sale securities transactions	(89,807)	52,104
Issuance of common and treasury stock, net	(3,192)	(4,501)
Repurchase of common stock	(52,153)	(44,476)
Dividends paid	(35,569)	(36,356)
Net cash provided by (used in) financing activities	225,174	(2,189,252)
Net increase (decrease) in cash and cash equivalents	(192,518)	(37,732)
Cash and cash equivalents at beginning of period	1,348,265	1,401,716
Cash and cash equivalents at end of period	\$ 1,155,747	\$ 1,363,984
Supplemental Cash Flow Information:		
Cash paid for interest	\$ 348,394	\$ 163,960
Cash paid for taxes	\$ 1,270	\$ 733
Net loans and bank premises transferred to repossessed real estate and other assets	\$ 77	\$ 225
Residential mortgage loans guaranteed by U.S. government agencies that became eligible for repurchase during the period	\$ 1,501	\$ 5,556
Conveyance of other real estate owned guaranteed by U.S. government agencies	\$ 1,371	\$ 1,150
Right-of-use assets obtained in exchange for operating lease liabilities	\$ 10,562	\$ 63,521

See accompanying notes to consolidated financial statements.

Notes to Consolidated Financial Statements (Unaudited)

(1) Significant Accounting Policies

Basis of Presentation

The accompanying unaudited consolidated financial statements of BOK Financial have been prepared in accordance with accounting principles for interim financial information generally accepted in the United States and with the instructions to Form 10-Q and Article 10 of Regulation S-X. Accordingly, they do not include all of the information and footnotes required by generally accepted accounting principles for complete financial statements. In the opinion of management, all adjustments (consisting of normal recurring accruals) considered necessary for a fair presentation have been included.

The unaudited consolidated financial statements include accounts of BOK Financial and its subsidiaries, principally BOKF, NA, BOK Financial Securities, Inc., and BOK Financial Private Wealth, Inc. Operating divisions of the Bank include Bank of Albuquerque, Bank of Oklahoma, Bank of Texas, BOK Financial in Arizona, Arkansas, Colorado and Kansas/Missouri, BOK Financial Mortgage and the TransFund electronic funds network.

Certain reclassifications have been made to conform to the current period presentation.

The financial information should be read in conjunction with BOK Financial's 2023 Form 10-K filed with the Securities and Exchange Commission, which contains audited financial statements. Amounts presented as of December 31, 2023 have been derived from the audited financial statements included in BOK Financial's 2023 Form 10-K but do not include all of the information and footnotes required by generally accepted accounting principles for complete financial statements. Operating results for the three-month period ended March 31, 2024 are not necessarily indicative of the results that may be expected for the year ending December 31, 2024.

Newly Adopted and Pending Accounting Policies

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 improvement 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 life 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 is evaluating the requirements of the expanded segment disclosures but does not expect the additional disclosures to have a material impact on the reported segment information.

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. Adoption of ASU 2024-01 is not expected to have a material impact on the Company's financial statements.

(2) Securities

Trading Securities

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

	March 31, 2024		December 31, 2023	
	Fair Value	Net Unrealized Gain (Loss)	Fair Value	Net Unrealized Gain (Loss)
U.S. government securities	\$ 426,825	\$ (194)	\$ 10,959	\$ 28
Residential agency mortgage-backed securities	4,898,485	8,571	5,105,137	98,124
Municipal securities	67,120	(142)	37,413	323
Other trading securities	48,608	127	39,996	160
Total trading securities	\$ 5,441,038	\$ 8,362	\$ 5,193,505	\$ 98,635

Investment Securities

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

	March 31, 2024				
	Amortized Cost	Carrying Value ¹	Fair Value	Gross Gain	Unrealized Loss
Municipal securities	\$ 108,793	\$ 108,793	\$ 112,338	\$ 3,828	\$ (283)
Mortgage-backed securities:					
Residential agency	2,196,121	2,044,972	1,858,027	99	(187,044)
Commercial agency	17,258	15,990	14,987	—	(1,003)
Other debt securities	16,288	16,288	14,713	—	(1,575)
Total investment securities	2,338,460	2,186,043	2,000,065	3,927	(189,905)
Allowance for credit losses	(299)	(299)	—	—	—
Investment securities, net of allowance	\$ 2,338,161	\$ 2,185,744	\$ 2,000,065	\$ 3,927	\$ (189,905)

¹ Carrying value includes \$152 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 Cost	Carrying Value ¹	Fair Value	Gross Gain	Unrealized Loss
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 March 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	\$ 19,248	\$ 95,707	\$ 26,103	\$ 13	\$ 141,071	3.27
Fair value	19,468	98,033	24,524	13	142,038	
Residential mortgage-backed securities:						
Carrying value				\$	2,044,972	2
Fair value					1,858,027	
Total investment securities:						
Carrying value				\$	2,186,043	
Fair value					2,000,065	

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 4.9 years based upon current prepayment assumptions.

Temporarily Impaired Investment Securities

(dollars in thousands):

	March 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
Investment:							
Municipal securities	20	\$ 17,310	\$ 81	\$ 6,587	\$ 202	\$ 23,897	\$ 283
Mortgage-backed securities:							
Residential agency	116	—	—	1,857,000	187,044	1,857,000	187,044
Commercial agency	2	—	—	14,987	1,003	14,987	1,003
Other debt securities	3	—	—	8,700	1,575	8,700	1,575
Total investment securities	141	\$ 17,310	\$ 81	\$ 1,887,274	\$ 189,824	\$ 1,904,584	\$ 189,905

	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
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):

	March 31, 2024				
	Amortized Cost	Fair Value	Gross Unrealized		
	\$ 1,000	\$ 920	Gain	—	Loss
U.S. Treasury	\$ 1,000	\$ 920	\$ —	\$ —	(80)
Municipal securities	329,216	304,826	—	—	(24,390)
Mortgage-backed securities:					
Residential agency	8,095,352	7,816,688	20,132	—	(298,796)
Residential non-agency	885,059	846,805	11,106	—	(49,360)
Commercial agency	3,985,220	3,683,376	1,197	—	(303,041)
Other debt securities	500	473	—	—	(27)
Total available for sale securities	\$ 13,296,347	\$ 12,653,088	\$ 32,435	\$ —	(675,694)

	December 31, 2023				
	Amortized Cost	Fair Value	Gross Unrealized		
	\$ 1,000	\$ 925	Gain	—	Loss
U.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 March 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:						
Amortized cost	\$ 473,589	\$ 2,480,160	\$ 915,033	\$ 447,154	\$ 4,315,936	5.19
Fair value	468,688	2,254,408	841,253	425,246	3,989,595	
Residential mortgage-backed securities:						
Amortized cost					\$ 8,980,411	²
Fair value					8,663,493	
Total available for sale securities:					\$ 13,296,347	
Amortized cost					12,653,088	
Fair value						

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 4.2 years based upon current prepayment assumptions.

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

	Three Months Ended March 31,		2023
	2024	2023	
Proceeds	\$ 735,994	\$ —	—
Gross realized gains	233	—	—
Gross realized losses	(45,404)	—	—
Related federal and state income tax benefit	(10,624)	—	—

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 \$ 18.9 billion at March 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)

	March 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	\$ —	\$ —	\$ 920	\$ 80	\$ 920	\$ 80
Municipal securities	135	3,139	30	298,162	24,360	301,301	24,390
Mortgage-backed securities:							
Residential agency	711	2,179,355	10,501	3,502,950	288,296	5,682,306	298,797
Residential non-agency	38	138,197	530	532,619	48,829	670,815	49,359
Commercial agency	245	241,331	2,625	3,148,535	300,416	3,389,866	303,041
Other debt securities	1	—	—	473	27	473	27
Total available for sale securities	1,131	\$ 2,562,022	\$ 13,686	\$ 7,483,659	\$ 662,008	\$ 10,045,681	\$ 675,694

	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

Based on evaluations of impaired securities as of March 31, 2024, the Company does not intend to sell any impaired available for sale debt 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. Changes in the fair value are recognized in earnings as they occur. Certain securities 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):

	March 31, 2024		December 31, 2023	
	Fair Value	Net Unrealized Gain (Loss)	Fair Value	Net Unrealized Gain (Loss)
Residential agency mortgage-backed securities	\$ 19,805	\$ (1,711)	\$ 20,671	\$ (1,406)

(3) Derivatives

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 reported in earnings as they occur. Credit risk is also considered in determining fair value. Deterioration in the credit rating of customer or other counterparties reduce 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 arrangements 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 type by counterparty basis.

Derivative contracts may 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.

None of these derivative contracts have been designated as hedging instruments for accounting purposes.

Customer Risk Management Programs

BOK Financial offers programs to permit its customers to manage various risks, including fluctuations in energy, cattle and other agricultural products, interest rates and foreign exchange rates with derivative contracts. Customers may also manage interest rate risk through interest rate swaps used by borrowers 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 the risk of 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.

Trading

BOK Financial may offer derivative instruments such as to-be-announced 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.

Internal Risk Management Programs

BOK Financial may use derivative contracts in managing its interest rate sensitivity, as part of its economic hedge of the change 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 the 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.

As discussed in Note 5, 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 5 for additional discussion of notional, fair value and impact on earnings of these contracts.

The following table summarizes the fair values of derivative contracts recorded as "derivative contracts" assets and liabilities in the balance sheet at March 31, 2024 (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	\$ 3,075,103	\$ 118,237	\$ (3,844)	\$ 114,393	\$ (111,283)	\$ 3,110	
Energy contracts	7,266,492	754,565	(461,295)	293,270	(117,521)		175,749
Foreign exchange contracts	56,590	55,687	—	55,687	(842)		54,845
Equity option contracts	1,859	61	—	61	(50)		11
Total customer risk management programs	10,400,044	928,550	(465,139)	463,411	(229,696)		233,715
Trading	19,616,813	67,692	(40,165)	27,527	(44)		27,483
Internal risk management programs	455,912	3,608	(1,313)	2,295			2,295
Total derivative contracts	\$ 30,472,769	\$ 999,850	\$ (506,617)	\$ 493,233	\$ (229,740)		\$ 263,493

	Liabilities						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	\$ 3,065,103	\$ 116,796	\$ (3,844)	\$ 112,952	\$ —	\$ 112,952	
Energy contracts	7,720,466	753,145	(461,295)	291,850	(29,444)		262,406
Foreign exchange contracts	56,254	55,161	—	55,161	—		55,161
Equity option contracts	1,859	61	—	61	—		61
Total customer risk management programs	10,843,682	925,163	(465,139)	460,024	(29,444)		430,580
Trading	23,751,156	93,502	(40,165)	53,337	(46,563)		6,774
Internal risk management programs	38,617	2,564	(1,313)	1,251			1,251
Total derivative contracts	\$ 34,633,455	\$ 1,021,229	\$ (506,617)	\$ 514,612	\$ (76,007)		\$ 438,605

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 Cash Collateral	Cash Collateral	Fair Value Net of 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 income statement (in thousands):

	Three Months Ended			
	March 31, 2024		March 31, 2023	
	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	\$ 2,460	\$ —	\$ 1,770	\$ —
Energy contracts	3,815	—	6,553	—
Foreign exchange contracts	50	—	31	—
Equity option contracts	—	—	—	—
Total customer risk management programs	6,325	—	8,354	—
Trading ¹	83,706	—	(63,093)	—
Internal risk management programs	—	(8,633)	—	(1,344)
Total derivative contracts	\$ 90,031	\$ (8,633)	\$ (54,739)	\$ (1,344)

¹ Represents changes in fair value of to-be-announced securities and other derivative instruments 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.

(4) Loans and Allowances for Credit Losses

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 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 principal amount outstanding. 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 more than 90 days 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. Accrued but not paid interest receivable is included in Receivables in the Consolidated Balance Sheets. Payments 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 accrued 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 current collateral value, debt service ratio and other underwriting standards. Nonaccruing loans may 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 Other gains (losses), net in the Consolidated Statements of Earnings.

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 a quarterly evaluation of available cash resources and collateral values. 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.

Qualifying residential mortgage loans guaranteed by U.S. government agencies have been sold into GNMA pools. Under certain performance conditions specified in government programs, the Company may have the right, but not the obligation to repurchase loans from GNMA pools. These loans no longer qualify for sale accounting and are recognized in the Consolidated Balance Sheets. We do not expect to receive all principal and interest based on the loan's contractual terms. 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 the expected cash flows discounted at the original note rate plus a liquidity spread. Guaranteed loans may be modified in accordance with U.S. government agency guidelines. Interest continues to accrue based on the modified rate. Guaranteed loans may either be resold into GNMA pools after a performance period specified by the programs 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 a further disaggregation of portfolio segments based on the risk characteristics of the loans and the Company's method for monitoring and assessing credit risk.

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

	March 31, 2024				December 31, 2023			
	Fixed Rate	Variable Rate	Non-accrual	Total	Fixed Rate	Variable Rate	Non-accrual	Total
Commercial	\$ 3,597,543	\$ 11,460,704	\$ 74,620	\$ 15,132,867	\$ 3,558,563	\$ 11,135,075	\$ 110,131	\$ 14,803,769
Commercial real estate	784,301	4,430,289	22,087	5,236,677	791,757	4,538,570	7,320	5,337,647
Loans to individuals	2,315,236	1,464,972	22,808	3,803,016	2,282,914	1,452,620	28,018	3,763,552
Total	\$ 6,697,080	\$ 17,355,965	\$ 119,515	\$ 24,172,560	\$ 6,633,234	\$ 17,126,265	\$ 145,469	\$ 23,904,968

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 March 31, 2024, outstanding commitments totaled \$14.4 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 March 31, 2024, outstanding standby letters of credit totaled \$734 million.

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 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. The appropriateness of the allowance for credit losses, including industry and product adjustments, is assessed quarterly by a senior management Allowance Committee. This review is based on an ongoing evaluation of the estimated expected credit losses in the portfolio and on unused commitments to provide financing. A well-documented methodology has been developed and is applied by an independent Credit Administration department to assure consistency across the Company.

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, for real property held as collateral for loans, 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. For real property held as collateral for other loans, third-party appraisals that conform to Uniform Standards of Professional Appraisal Practice generally serve as the basis for the fair value. 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. 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 a 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 cancelable 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 can not 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.

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 summarized as follows (in thousands):

	Three Months Ended March 31, 2024					Total
	Commercial	Commercial Real Estate	Loans to Individuals			
Allowance for loan losses:						
Beginning balance	\$ 141,232	\$ 94,718	\$ 41,173			277,123
Provision for loan losses	8,311	3,995	(2,346)			9,960
Loans charged off	(4,240)	(1,250)	(1,570)			(7,060)
Recoveries of loans previously charged off	964	16	620			1,600
Ending balance	\$ 146,267	\$ 97,479	\$ 37,877			281,623
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	(1,972)	426	(112)			(1,658)
Ending balance	\$ 17,790	\$ 27,865	\$ 1,664			47,319

	Three Months Ended March 31, 2023					Total
	Commercial	Commercial Real Estate	Loans to Individuals			
Allowance for loan losses:						
Beginning balance	\$ 131,586	\$ 57,648	\$ 46,470			235,704
Provision for loan losses	6,330	10,426	(2,231)			14,525
Loans charged off	(12)	(2,208)	(1,447)			(3,667)
Recoveries of loans previously charged off	1,994	137	767			2,898
Ending balance	\$ 139,898	\$ 66,003	\$ 43,559			249,460
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	2,362	(279)	(59)			2,024
Ending balance	\$ 20,608	\$ 40,211	\$ 2,124			62,943

An \$8.0 million provision for credit losses was necessary for the first quarter of 2024, reflecting continued loan growth and a stable economic outlook.

The allowance for loan losses and recorded investment of the related loans by portfolio segment for each measurement method at March 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
	\$ 15,058,247	\$ 143,307	\$ 74,620	\$ 2,960	\$ 15,132,867	\$ 146,267
Commercial	5,214,590	97,479	22,087	—	5,236,677	97,479
Commercial real estate	3,780,208	37,877	22,808	—	3,803,016	37,877
Loans to individuals						
Total	\$ 24,053,045	\$ 278,663	\$ 119,515	\$ 2,960	\$ 24,172,560	\$ 281,623

The allowance for loan losses and recorded investment of the related loans by portfolio segment for each 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 March 31, 2024 by the risk grade categories and vintage (in thousands):

	Origination Year							Revolving Loans Converted to Term		
	2024	2023	2022	2021	2020	Prior	Revolving Loans	Loans	Total	
Commercial:										
Healthcare										
Pass	\$ 165,523	\$ 638,346	\$ 924,230	\$ 573,778	\$ 382,923	\$ 1,095,684	\$ 288,056	\$ 14	\$ 4,068,554	
Special Mention	—	15,000	—	1,254	—	20,027	855	—	37,136	
Accruing Substandard	—	1,492	429	18,397	58,753	10,896	975	—	90,942	
Nonaccrual	—	—	—	—	—	49,307	—	—	49,307	
Total healthcare	165,523	654,838	924,659	593,429	441,676	1,175,914	289,886	14	4,245,939	
Loans charged off, year-to-date	—	—	—	—	—	502	—	—	502	
Services										
Pass	183,565	786,684	514,841	380,227	219,684	725,856	677,588	534	3,488,979	
Special Mention	—	—	1,042	1,305	1,321	9,243	31	—	12,942	
Accruing Substandard	—	—	13,380	155	341	7,204	2,351	750	24,181	
Nonaccrual	—	—	—	1,487	349	—	1,483	—	3,319	
Total services	183,565	786,684	529,263	383,174	221,695	742,303	681,453	1,284	3,529,421	
Loans charged off, year-to-date	—	—	—	—	—	—	—	—	—	
Energy										
Pass	58,061	141,197	90,222	13,033	7,447	20,635	3,067,570	—	3,398,165	
Special Mention	—	—	—	—	—	—	13,950	—	13,950	
Accruing Substandard	—	—	—	—	—	—	16,613	—	16,613	
Nonaccrual	—	—	—	—	—	89	14,902	—	14,991	
Total energy	58,061	141,197	90,222	13,033	7,447	20,724	3,113,035	—	3,443,719	
Loans charged off, year-to-date	—	—	—	—	—	—	—	—	—	
General business										
Pass	285,096	845,326	383,429	215,106	134,121	378,163	1,569,156	1,945	3,812,342	
Special Mention	—	6,110	8,244	8,594	—	1,602	10,611	6	35,167	
Accruing Substandard	—	3,375	37,682	1,280	1,235	6,701	9,003	—	59,276	
Nonaccrual	—	994	101	—	—	42	5,862	4	7,003	
Total general business	285,096	855,805	429,456	224,980	135,356	386,508	1,594,632	1,955	3,913,788	
Loans charged off, year-to-date	—	27	1,399	—	—	158	2,154	—	3,738	
Total commercial	692,245	2,438,524	1,973,600	1,214,816	806,174	2,325,449	5,679,006	3,253	15,132,867	
Commercial real estate:										
Pass	18,763	418,504	2,059,848	1,061,396	386,041	1,127,922	119,823	—	5,192,297	
Special Mention	—	440	—	—	—	16,527	—	—	16,967	
Accruing Substandard	—	—	—	—	—	5,326	—	—	5,326	
Nonaccrual	—	2,992	—	—	—	19,095	—	—	22,087	
Total commercial real estate	18,763	421,936	2,059,848	1,061,396	386,041	1,168,870	119,823	—	5,236,677	
Loans charged off, year-to-date	—	—	—	—	—	1,250	—	—	1,250	

	Origination Year							Revolving Loans Converted to Term		
	2024	2023	2022	2021	2020	Prior	Revolving Loans	Loans	Total	
Loans to individuals:										
Residential mortgage										
Pass	96,002	405,724	319,050	336,878	343,246	284,962	367,761	21,386	2,175,009	
Special Mention	—	225	167	3	—	161	3,290	—	3,846	
Accruing Substandard	—	—	—	—	—	—	279	1	280	
Nonaccrual	—	120	414	351	522	8,994	2,441	607	13,449	
Total residential mortgage	96,002	406,069	319,631	337,232	343,768	294,117	373,771	21,994	2,192,584	
Loans charged off, year-to-date	—	—	—	—	—	2	5	—	7	
Residential mortgage guaranteed by U.S. government agencies										
Pass	—	361	3,012	2,204	3,806	120,856	—	—	130,239	
Nonaccrual	—	—	—	—	280	8,937	—	—	9,217	
Total residential mortgage guaranteed by U.S. government agencies	—	361	3,012	2,204	4,086	129,793	—	—	139,456	
Personal:										
Pass	91,355	215,282	210,876	145,542	124,996	186,791	493,653	100	1,468,595	
Special Mention	—	28	13	51	13	3	—	—	108	
Accruing Substandard	—	—	24	—	1	144	1,962	—	2,131	
Nonaccrual	—	31	29	12	9	12	32	17	142	
Total personal	91,355	215,341	210,942	145,605	125,019	186,950	495,647	117	1,470,976	
Loans charged off, year-to-date ¹	1,461	40	45	12	—	—	—	5	1,563	
Total loans to individuals	187,357	621,771	533,585	485,041	472,873	610,860	869,418	22,111	3,803,016	
Total loans	\$ 898,365	\$ 3,482,231	\$ 4,567,033	\$ 2,761,053	\$ 1,665,088	\$ 4,105,179	\$ 6,668,247	\$ 25,364	\$ 24,172,560	

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 Term		
	2023	2022	2021	2020	2019	Prior	Revolving Loans	Loans	Total	
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	
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	
Energy										
Pass	\$ 190,122	\$ 100,006	\$ 43,769	\$ 7,876	\$ 9,562	\$ 11,583	\$ 3,025,590	—	\$ 3,388,508	
Special Mention	—	—	—	—	—	—	—	—	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	
Loans charged off, year-to-date	—	—	—	—	—	—	—	—	—	
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 Converted to Term		
	2023	2022	2021	2020	2019	Prior	Revolving Loans	Loans	Total
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	146	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 at March 31, 2024 follows (in thousands):

	As of March 31, 2024				
	Total	With No Allowance	With Allowance	Related Allowance	
Commercial:					
Healthcare	\$ 49,307	\$ 9,668	\$ 39,639	\$ 2,100	
Services	3,319	1,542	1,777	460	
Energy	14,991	14,991	—	—	
General business	7,003	6,362	641	400	
Total commercial	74,620	32,563	42,057	2,960	
Commercial real estate	22,087	22,087	—	—	
Loans to individuals:					
Residential mortgage	13,449	13,449	—	—	
Residential mortgage guaranteed by U.S. government agencies	9,217	9,217	—	—	
Personal	142	142	—	—	
Total loans to individuals	22,808	22,808	—	—	
Total	\$ 119,515	\$ 77,458	\$ 42,057	\$ 2,960	

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

	As of December 31, 2023				
	Total	With No Allowance	With Allowance	Related Allowance	
Commercial:					
Healthcare	\$ 81,529	\$ 40,372	\$ 41,157	\$ 1,478	
Services	3,616	1,684	1,932	1,214	
Energy	17,843	17,843	—	—	
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

At March 31, 2024 the Company had \$ 52 million of loan modifications to borrowers experiencing financial difficulty, including \$ 47 million of healthcare loans. Modifications generally consist of interest rate reductions, an other than insignificant payment delay, term extension or a combination. Approximately \$51 million of the modifications are term extensions of healthcare, services and general business loans, and \$ 1.8 million are combination modifications to loans to individuals. During the three months ended March 31, 2024, \$4.2 million of residential mortgage loans guaranteed by U.S. government agencies that were modified in the previous twelve months defaulted. A payment default is defined as being 30 or more days past due after modification.

At March 31, 2023, the Company had \$ 35 million of loan modifications to borrowers experiencing financial difficulty, including \$ 26 million of healthcare loans and \$ 8.4 million of residential mortgage loans guaranteed by U.S. government agencies, with the entirety of these modifications being combination modifications. During the three months ended March 31, 2023, \$511 thousand 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 March 31, 2024 is as follows (in thousands):

	Past Due					Past Due 90 Days or More and Accruing
	Current	30 to 59 Days	60 to 89 Days	90 Days or More	Total	
Commercial:						
Healthcare	\$ 4,206,313	\$ —	\$ —	\$ 39,626	\$ 4,245,939	\$ —
Services	3,528,567	485	20	349	3,529,421	—
Energy	3,443,719	—	—	—	3,443,719	—
General business	3,905,270	2,054	209	6,255	3,913,788	—
Total commercial	15,083,869	2,539	229	46,230	15,132,867	—
Commercial real estate	5,214,737	11,800	—	10,140	5,236,677	—
Loans to individuals:						
Residential mortgage	2,183,027	7,139	737	1,681	2,192,584	—
Residential mortgage guaranteed by U.S. government agencies	55,886	22,873	15,080	45,617	139,456	41,364
Personal	1,469,874	1,055	24	23	1,470,976	—
Total loans to individuals	3,708,787	31,067	15,841	47,321	3,803,016	41,364
Total	\$ 24,007,393	\$ 45,406	\$ 16,070	\$ 103,691	\$ 24,172,560	\$ 41,364

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

	Current	Past Due			Total	Past Due 90 Days or More and Accruing
		30 to 59 Days	60 to 89 Days	90 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:						
Residential mortgage	2,149,927	6,340	1,494	2,879	2,160,640	36
Residential mortgage 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) 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 retained for investment. Residential mortgage loans originated for sale by the Company are carried at fair value based on sales commitments and market quotes. Changes in the fair value of mortgage loans held for sale are included in Other operating revenue – Mortgage banking revenue. Residential mortgage loans held for sale also includes the fair value of residential mortgage loan commitments and forward sales commitments, which are considered derivative contracts that have not been designated as hedging instruments for accounting purposes. 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 and their related fair values included in Mortgage loans held for sale on the Consolidated Balance Sheets were (in thousands):

	March 31, 2024		December 31, 2023	
	Unpaid Principal Balance/ Notional	Fair Value	Unpaid Principal Balance/ Notional	Fair Value
Residential mortgage loans held for sale	\$ 73,937	\$ 73,090	\$ 56,922	\$ 56,457
Residential mortgage loan commitments	67,951	2,473	34,783	1,379
Forward sales contracts	108,070	(114)	75,448	(901)
		\$ 75,449		\$ 56,935

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

Mortgage banking revenue was as follows (in thousands):

	Three Months Ended March 31,	
	2024	2023
Production revenue:		
Net realized gains (losses) on sale of mortgage loans	\$ 2,026	\$ (1,731)
Net change in unrealized gain (loss) on mortgage loans held for sale	(382)	370
Net change in the fair value of mortgage loan commitments	1,094	1,640
Net change in the fair value of forward sales contracts	787	(912)
Total production revenue (loss)	3,525	(633)
Servicing revenue	15,442	15,000
Total mortgage banking revenue	\$ 18,967	\$ 14,367

Production revenue includes gain (loss) on residential mortgage loans held for sale and changes in the fair value of derivative contracts not designated as hedging instruments for accounting purposes 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

Mortgage servicing rights may be originated or purchased. Both originated and purchased mortgage servicing rights are initially recognized at fair value. The Company has elected to carry all mortgage servicing rights at fair value. Changes in the fair value are recognized in earnings as they occur. 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):

	March 31, 2024	December 31, 2023
Number of residential mortgage loans serviced for others	122,276	115,967
Outstanding principal balance of residential mortgage loans serviced for others	\$ 21,432,048	\$ 20,382,192
Weighted average interest rate	3.66 %	3.64 %
Remaining term (in months)	278	280

The following represents activity in capitalized mortgage servicing rights (in thousands):

	Three Months Ended March 31,	
	2024	2023
Beginning Balance	\$ 293,884	\$ 277,608
Additions	2,516	2,500
Acquisitions	17,400	31,138
Change in fair value due to principal payments	(5,447)	(5,384)
Change in fair value due to market assumption changes	10,977	(6,059)
Ending Balance	\$ 319,330	\$ 299,803

Changes in the fair value of mortgage servicing rights due to market assumption changes are included in Other operating revenue in the Consolidated Statements of Earnings. Changes in fair value due to principal payments 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 market assumptions used to determine fair value based on significant unobservable inputs were as follows:

	March 31, 2024	December 31, 2023
Discount rate – risk-free rate plus a market premium	9.82%	9.72%
Prepayment rate - based upon loan interest rate, original term and loan type	6.83%	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 - \$8,000	\$875 - \$8,000
Escrow earnings rate – indexed to rates paid on deposit accounts with comparable average life	4.27%	3.90%
Primary/secondary mortgage rate spread	115 bps	105 bps
Delinquency rate	2.06%	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.

(6) 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 252,233 Visa Class B-1 shares (formerly Class B). On January 23, 2024, Visa, Inc. stockholders approved an option to convert up to 50% of our Class B-1 shares to Visa Class C shares and subsequently to freely transferable Visa Class A common shares (the "Exchange Offer") subject to holding periods and certain other conditions contained in the Exchange Offer. The Exchange Offer opened on April 8, 2024, and is scheduled to expire at the end of the day on May 3, 2024. The Company tendered its Class B-1 Visa shares under the Exchange Offer and expects to monetize up to 50% of the Class B-1 shares. Conversion of Class B-1 shares would not reduce our proportionate share of the covered litigation losses which may dilute our remaining Class B shares if the escrow fund is not adequate to cover final litigation costs.

BOKF, NA is subject to litigation related to its role as Indenture Trustee for multiple municipal bonds to which Christopher Brogdon acted as borrower. The principal amount of the bonds remaining unpaid at this time is \$ 33 million. Mr. Brogdon is obligated to pay the bonds in full by virtue of a Judgment in the USDC of New Jersey which allows the Securities and Exchange Commission to pursue collection to satisfy the Judgment, which the SEC continues to pursue. The remaining cases are (i) Robert Elliot & Marvin Loeb on behalf of a class of persons purchasing bonds in multiple municipal bond issuances v. BOKF, NA, USDC District of New Jersey, Case No. 2:16-cv-05218-KM-JBC (commenced 11/20/2015); and (ii) Burn Rose, LLC et al v. BOKF, NA d/b/a BOK, Tulsa County District Court Case, No. CJ-2016-03325 (commenced 9/22/2016). In the New Jersey Class Action and the Tulsa County Burn Rose action, the claimants allege that BOKF, NA was complicit in the fraud committed by Mr. Brogdon. BOKF, NA has multiple defenses to the claims, including the defense that it is exculpated by the terms of the various bond indentures. No action has been taken in the class action by the plaintiffs to establish the class and the amount of the damages, if any, cannot be reasonably estimated. Approximately \$3 million is claimed as damages in the Burn Rose action. Management is advised that a loss on the claims in both the Class Action and the Burn Rose action is not 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 March 31, 2024, the Company has \$405 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. These investments are recognized in Other assets on the Consolidated Balance Sheets. This investment balance also includes \$99 million of unfunded commitments included in Other liabilities on the Consolidated Balance Sheets.

(7) Shareholders' Equity

On April 30, 2024, the Company declared a quarterly cash dividend of \$ 0.55 per common share payable on or about May 30, 2024 to shareholders of record as of May 15, 2024.

Dividends declared were \$0.55 per share during the three months ended March 31, 2024 and \$ 0.54 per share during the three months ended March 31, 2023.

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	Total
Balance, Dec. 31, 2022	\$ (664,618)	\$ (172,337)	(836,955)
Net change in unrealized gain (loss)	124,045	—	124,045
Reclassification adjustments included in earnings:			
Interest revenue, Investment securities	—	16,051	16,051
Other comprehensive income, before income taxes	124,045	16,051	140,096
Federal and state income taxes	28,179	3,516	31,695
Other comprehensive income, net of income taxes	95,866	12,535	108,401
Balance, March 31, 2023	\$ (568,752)	\$ (159,802)	\$ (728,554)
Balance, Dec. 31, 2023	\$ (473,212)	\$ (125,888)	\$ (599,100)
Net change in unrealized gain (loss)	(71,806)	—	(71,806)
Reclassification adjustments included in earnings:			
Interest revenue, Investment securities	—	12,183	12,183
Loss on available for sale securities, net	45,171	—	45,171
Other comprehensive income (loss), before income taxes	(26,635)	12,183	(14,452)
Federal and state income taxes	(6,289)	2,865	(3,424)
Other comprehensive income (loss), net of income taxes	(20,346)	9,318	(11,028)
Balance, March 31, 2024	\$ (493,558)	\$ (116,570)	\$ (610,128)

(8) Earnings Per Share

(In thousands, except share and per share amounts)

	Three Months Ended March 31,	
	2024	2023
Numerator:		
Net income attributable to BOK Financial Corp. shareholders	\$ 83,703	\$ 162,368
Less: Earnings allocated to participating securities	676	1,255
Numerator for basic earnings per share – income available to common shareholders	83,027	161,113
Effect of reallocating undistributed earnings of participating securities	—	—
Numerator for diluted earnings per share – income available to common shareholders	\$ 83,027	\$ 161,113
Denominator:		
Weighted average shares outstanding	64,812,555	66,849,288
Less: Participating securities included in weighted average shares outstanding	522,450	517,513
Denominator for basic earnings per common share	64,290,105	66,331,775
Dilutive effect of employee stock compensation plans	—	—
Denominator for diluted earnings per common share	64,290,105	66,331,775
Basic earnings per share	\$ 1.29	\$ 2.43
Diluted earnings per share	\$ 1.29	\$ 2.43

(9) Reportable Segments

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

	Commercial	Consumer	Wealth Management	Funds Management and Other	BOK Financial Consolidated
Net interest revenue from external sources	\$ 282,447	\$ 7,350	\$ 6,999	\$ (3,224)	\$ 293,572
Net interest revenue (expense) from internal sources	(37,326)	94,799	33,110	(90,583)	—
Net interest revenue	245,121	102,149	40,109	(93,807)	293,572
Net loans charged off and provision for credit losses	4,160	1,808	(15)	2,047	8,000
Net interest revenue after provision for credit losses	240,961	100,341	40,124	(95,854)	285,572
Other operating revenue	50,006	36,207	118,704	(43,216)	161,701
Other operating expense	70,095	53,447	99,535	117,307	340,384
Net direct contribution	220,872	83,101	59,293	(256,377)	106,889
Gain (loss) on financial instruments, net	167	(9,663)	—	9,496	—
Change in fair value of mortgage servicing rights	—	10,977	—	(10,977)	—
Gain (loss) on repossessed assets, net	—	107	—	(107)	—
Corporate expense allocations	18,397	14,172	14,558	(47,127)	—
Net income before taxes	202,642	70,350	44,735	(210,838)	106,889
Federal and state income taxes	49,392	16,546	10,570	(53,313)	23,195
Net income	153,250	53,804	34,165	(157,525)	83,694
Net income attributable to non-controlling interests	—	—	—	(9)	(9)
Net income attributable to BOK Financial Corp. shareholders	\$ 153,250	\$ 53,804	\$ 34,165	\$ (157,516)	\$ 83,703
Average assets	\$ 29,806,817	\$ 9,391,981	\$ 15,759,328	\$ (4,930,554)	\$ 50,027,572

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

	Commercial	Consumer	Wealth Management	Funds Management and Other	BOK Financial Consolidated
Net interest revenue from external sources	\$ 287,988	\$ 21,146	\$ 20,940	\$ 22,274	\$ 352,348
Net interest revenue (expense) from internal sources	(3,932)	88,235	33,166	(117,469)	—
Net interest revenue	284,056	109,381	54,106	(95,195)	352,348
Net loans charged off and provision for credit losses	76	1,184	(24)	14,764	16,000
Net interest revenue after provision for credit losses	283,980	108,197	54,130	(109,959)	336,348
Other operating revenue	56,845	30,610	108,911	(18,501)	177,865
Other operating expense	73,134	50,198	82,039	100,441	305,812
Net direct contribution	267,691	88,609	81,002	(228,901)	208,401
Gain (loss) on financial instruments, net	(58)	(4,673)	—	4,731	—
Change in fair value of mortgage servicing rights	—	(6,059)	—	6,059	—
Gain (loss) on repossessed assets, net	859	14	—	(873)	—
Corporate expense allocations	17,718	11,622	12,360	(41,700)	—
Net income before taxes	250,774	66,269	68,642	(177,284)	208,401
Federal and state income taxes	60,543	15,586	16,195	(46,419)	45,905
Net income	190,231	50,683	52,447	(130,865)	162,496
Net loss attributable to non-controlling interests	—	—	—	128	128
Net income attributable to BOK Financial Corp. shareholders	\$ 190,231	\$ 50,683	\$ 52,447	\$ (130,993)	\$ 162,368
Average assets	\$ 28,162,934	\$ 9,934,511	\$ 11,663,096	\$ (3,778,073)	\$ 45,982,468

(10) Fees and Commissions 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 and investment banking. 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 represents 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 the TransFund electronic funds transfer network for the benefit of its members, which includes BOKF, NA. Electronic funds transfer fees are recognized as electronic transactions 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 charge 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.

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

	Commercial	Consumer	Wealth Management	Funds Management & Other	Consolidated	Out of Scope ¹	In Scope ²
Trading revenue	\$ —	\$ —	\$ 37,457	\$ —	\$ 37,457	\$ 37,457	\$ —
Customer hedging revenue	3,743	—	2,020	562	6,325	6,325	—
Retail brokerage revenue	—	—	4,693	—	4,693	—	4,693
Investment banking revenue	3,819	—	6,885	—	10,704	3,094	7,610
Brokerage and trading revenue	7,562	—	51,055	562	59,179	46,876	12,303
TransFund EFT network revenue	20,466	826	(18)	—	21,274	—	21,274
Merchant services revenue	2,180	9	—	—	2,189	—	2,189
Corporate card revenue	1,738	—	179	113	2,030	—	2,030
Transaction card revenue	24,384	835	161	113	25,493	—	25,493
Personal trust revenue	—	—	24,345	—	24,345	—	24,345
Corporate trust revenue	—	—	9,260	—	9,260	—	9,260
Institutional trust & retirement plan services revenue	—	—	16,148	—	16,148	—	16,148
Investment management services and other revenue	—	—	5,552	—	5,552	—	5,552
Fiduciary and asset management revenue	—	—	55,305	—	55,305	—	55,305
Commercial account service charge revenue	14,900	531	546	—	15,977	—	15,977
Overdraft fee revenue	36	5,394	30	—	5,460	—	5,460
Check card revenue	—	5,670	—	—	5,670	—	5,670
Automated service charge and other deposit fee revenue	269	1,236	73	—	1,578	—	1,578
Deposit service charges and fees	15,205	12,831	649	—	28,685	—	28,685
Mortgage production revenue	—	3,525	—	—	3,525	3,525	—
Mortgage servicing revenue	—	16,115	—	(673)	15,442	15,442	—
Mortgage banking revenue	—	19,640	—	(673)	18,967	18,967	—
Other revenue	3,479	2,901	11,534	(4,979)	12,935	7,912	5,023
Total fees and commissions revenue	\$ 50,630	\$ 36,207	\$ 118,704	\$ (4,977)	\$ 200,564	\$ 73,755	\$ 126,809

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 three months ended March 31, 2023 (in thousands):

	Commercial	Consumer	Wealth Management	Funds Management & Other	Consolidated	Out of Scope ¹	In Scope ²
Trading revenue	\$ —	\$ —	\$ 27,598	\$ —	\$ 27,598	\$ 27,598	\$ —
Customer hedging revenue	6,487	—	100	1,767	8,354	8,354	—
Retail brokerage revenue	—	—	3,844	—	3,844	—	3,844
Insurance brokerage revenue	—	—	3,306	—	3,306	—	3,306
Investment banking revenue	3,698	—	5,596	—	9,294	3,598	5,696
Brokerage and trading revenue	10,185	—	40,444	1,767	52,396	39,550	12,846
TransFund EFT network revenue	20,499	908	(17)	2	21,392	—	21,392
Merchant services revenue	2,150	8	—	—	2,158	—	2,158
Corporate card revenue	1,785	—	177	109	2,071	—	2,071
Transaction card revenue	24,434	916	160	111	25,621	—	25,621
Personal trust revenue	—	—	23,527	—	23,527	—	23,527
Corporate trust revenue	—	—	7,660	—	7,660	—	7,660
Institutional trust & retirement plan services revenue	—	—	13,253	—	13,253	—	13,253
Investment management services and other revenue	—	—	6,238	(21)	6,217	—	6,217
Fiduciary and asset management revenue	—	—	50,678	(21)	50,657	—	50,657
Commercial account service charge revenue	12,871	499	477	—	13,847	—	13,847
Overdraft fee revenue	25	4,828	20	—	4,873	—	4,873
Check card revenue	—	5,638	—	1	5,639	—	5,639
Automated service charge and other deposit fee revenue	237	1,313	59	—	1,609	—	1,609
Deposit service charges and fees	13,133	12,278	556	1	25,968	—	25,968
Mortgage production revenue	—	(633)	—	—	(633)	(633)	—
Mortgage servicing revenue	—	15,558	—	(558)	15,000	15,000	—
Mortgage banking revenue	—	14,925	—	(558)	14,367	14,367	—
Other revenue	8,083	2,462	17,073	(10,648)	16,970	8,560	8,410
Total fees and commissions revenue	\$ 55,835	\$ 30,581	\$ 108,911	\$ (9,348)	\$ 185,979	\$ 62,477	\$ 123,502

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*.

(11) 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 three months ended March 31, 2024 and 2023, respectively. Transfers between significant other observable inputs and significant unobservable inputs during the three months ended March 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 March 31, 2024 or December 31, 2023.

Assets and Liabilities Measured at Fair Value on a Recurring Basis

The fair value of financial assets and liabilities measured on a recurring basis was as follows as of March 31, 2024 (in thousands):

	Total	Quoted Prices in Active Markets for Identical Instruments (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
Assets:				
Trading securities:				
U.S. government securities	\$ 426,825	\$ 370,062	\$ 56,763	\$ —
Residential agency mortgage-backed securities	4,898,485	—	4,898,485	—
Municipal securities	67,120	—	67,120	—
Other trading securities	48,608	—	48,608	—
Total trading securities	5,441,038	370,062	5,070,976	—
Available for sale securities:				
U.S. Treasury	920	920	—	—
Municipal securities	304,826	—	304,826	—
Residential agency mortgage-backed securities	7,816,688	—	7,816,688	—
Residential non-agency mortgage-backed securities	846,805	—	846,805	—
Commercial agency mortgage-backed securities	3,683,376	—	3,683,376	—
Other debt securities	473	—	—	473
Total available for sale securities	12,653,088	920	12,651,695	473
Fair value option securities — Residential agency mortgage-backed securities	19,805	—	19,805	—
Residential mortgage loans held for sale ¹	75,449	—	68,285	7,164
Mortgage servicing rights ²	319,330	—	—	319,330
Derivative contracts, net of cash collateral ³	263,493	10	263,483	—
Liabilities:				
Derivative contracts, net of cash collateral ³	438,605	649	437,956	—

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 77.97% 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 5, 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.

The fair value of financial assets and liabilities measured on a recurring basis was as follows as of December 31, 2023 (in thousands):

	Total	Quoted Prices in Active Markets for Identical Instruments (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
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 ²	293,884	—	—	293,884
Derivative contracts, net of cash collateral ³	410,304	—	410,304	—
Liabilities:				
Derivative contracts, net of cash collateral 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 5, 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 Company has elected to carry all residential mortgage-backed securities guaranteed by U.S. government agencies held as economic hedges against changes in the fair value of mortgage servicing rights at fair value with changes in the fair value recognized in earnings.

The fair value of certain available for sale 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 references 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 assesses 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, current fair value, probability of default and loss given default.

We also consider our own credit risk in determining the fair value of derivative contracts. Changes in our credit rating would affect the fair value of our derivative liabilities. In the event of a credit downgrade, the fair value of our derivative liabilities would increase.

Residential Mortgage Loans Held for Sale

Residential mortgage loans held for sale are carried on the balance sheet at fair value. The Company has elected to carry all residential mortgage loans originated for sale at fair value. Changes in the fair value of these financial instruments are recognized in earnings. The fair values of residential mortgage loans held for sale are based upon quoted market prices of such loans sold in securitization transactions, including related unfunded loan commitments and forward sales contracts. The fair value of mortgage loans that were unable to be sold to U.S. government agencies were 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) during the period. The carrying value represents only those assets with a balance at March 31, 2024 for which the fair value was adjusted during the three months ended March 31, 2024 (in thousands):

	Carrying Value at March 31, 2024				Fair Value Adjustments for the	
					Three Months Ended	
					Mar. 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	\$ —	\$ 67	\$ 23,741	\$ 4,935	\$ —	—
Nonaccruing loans	\$ —	\$ 67	\$ 23,741	\$ 4,935	\$ —	—

The following represents the carrying value of assets measured at fair value on a non-recurring basis (and related losses) during the period. The carrying value represents only those assets with a balance at March 31, 2023 for which the fair value was adjusted during the three months ended March 31, 2023 (in thousands):

	Carrying Value at March 31, 2023				Fair Value Adjustments for the	
					Three Months Ended	
					Mar. 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	\$ —	\$ —	\$ 14,040	\$ 1,991	\$ —	—
Real estate and other repossessed assets	\$ —	\$ 547	\$ —	\$ —	\$ —	(101)
Nonaccruing loans	\$ —	\$ —	\$ 14,040	\$ 1,991	\$ —	—
Real estate and other repossessed assets	\$ —	\$ 547	\$ —	\$ —	\$ —	(101)

The fair value of collateral-dependent nonaccruing loans secured by real estate and real estate and other repossessed 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 repossessed 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 the same or 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 March 31, 2024 follows (dollars in thousands):

	Fair Value	Valuation Technique(s)	Unobservable Input	Range (Weighted Average)
Nonaccruing loans	\$ 23,741	Discounted cash flows	Management knowledge of industry and non-real estate collateral	17% - 96% (83%) 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 March 31, 2023 follows (dollars in thousands):

	Fair Value	Valuation Technique(s)	Unobservable Input	Range (Weighted Average)
Nonaccruing loans	\$ 14,040	Discounted cash flows	Management knowledge of industry and non-real estate collateral including, but not limited to, recoverable oil and gas reserves, forward-looking commodity prices, estimated operating costs	88% - 88% (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 as of March 31, 2024 (in thousands):

	Carrying Value	Estimated Fair Value	Quoted Prices in Active Markets for Identical Instruments (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
Cash and due from banks	\$ 801,677	\$ 801,677	\$ 801,677	\$ —	\$ —
Interest-bearing cash and cash equivalents	354,070	354,070	354,070	—	—
Trading securities:					
U.S. government securities	426,825	426,825	370,062	56,763	—
Residential agency mortgage-backed securities	4,898,485	4,898,485	—	4,898,485	—
Municipal securities	67,120	67,120	—	67,120	—
Other trading securities	48,608	48,608	—	48,608	—
Total trading securities	5,441,038	5,441,038	370,062	5,070,976	—
Investment securities:					
Municipal securities	108,793	112,338	—	12,103	100,235
Residential agency mortgage-backed securities	2,044,972	1,858,027	—	1,858,027	—
Commercial agency mortgage-backed securities	15,990	14,987	—	14,987	—
Other debt securities	16,288	14,713	—	14,713	—
Total investment securities	2,186,043	2,000,065	—	1,899,830	100,235
Allowance for credit losses	(299)	—	—	—	—
Investment securities, net of allowance	2,185,744	2,000,065	—	1,899,830	100,235
Available for sale securities:					
U.S. Treasury	920	920	920	—	—
Municipal securities	304,826	304,826	—	304,826	—
Residential agency mortgage-backed securities	7,816,688	7,816,688	—	7,816,688	—
Residential non-agency mortgage-backed securities	846,805	846,805	—	846,805	—
Commercial agency mortgage-backed securities	3,683,376	3,683,376	—	3,683,376	—
Other debt securities	473	473	—	—	473
Total available for sale securities	12,653,088	12,653,088	920	12,651,695	473
Fair value option securities — Residential agency mortgage-backed securities	19,805	19,805	—	19,805	—
Residential mortgage loans held for sale	75,449	75,449	—	68,285	7,164
Loans:					
Commercial	15,132,867	15,055,904	—	—	15,055,904
Commercial real estate	5,236,677	5,143,304	—	—	5,143,304
Loans to individuals	3,803,016	3,675,612	—	—	3,675,612
Total loans	24,172,560	23,874,820	—	—	23,874,820
Allowance for loan losses	(281,623)	—	—	—	—
Loans, net of allowance	23,890,937	23,874,820	—	—	23,874,820
Mortgage servicing rights	319,330	319,330	—	—	319,330
Derivative instruments with positive fair value, net of cash collateral	263,493	263,493	10	263,483	—
Deposits with no stated maturity	32,016,638	32,016,638	—	—	32,016,638
Time deposits	3,366,909	3,346,163	—	—	3,346,163
Other borrowed funds	7,986,169	7,986,169	—	—	7,986,169
Subordinated debentures	131,154	118,875	—	118,875	—
Derivative instruments with negative fair value, net of cash collateral	438,605	438,605	649	437,956	—

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 as of December 31, 2023 (in thousands):

	Carrying Value	Estimated Fair Value	Quoted Prices in Active Markets for Identical Instruments (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
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	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 collateral	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 collateral	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.

(12) Subsequent Events

See Footnote 6, Commitments and Contingent Liabilities, regarding the Exchange Offer.

The Company evaluated events from the date of the consolidated financial statements on March 31, 2024 through the issuance of those consolidated financial statements included in this Quarterly Report on Form 10-Q. Except as noted above, no other events were identified requiring recognition in and/or disclosure in the consolidated financial statements.

Quarterly Financial Summary – Unaudited

Consolidated Daily Average Balances, Average Yields and Rates

(In thousands, except per share data)

	Three Months Ended					
	March 31, 2024			December 31, 2023		
	Average Balance	Revenue/Expense	Yield/Rate	Average Balance	Revenue/Expense	Yield/Rate
Assets						
Interest-bearing cash and cash equivalents	\$ 567,680	\$ 7,005	4.96 %	\$ 605,839	\$ 8,096	5.30 %
Trading securities	5,371,209	68,300	5.12 %	5,448,403	69,013	5.05 %
Investment securities, net of allowance	2,210,040	7,854	1.42 %	2,264,194	8,058	1.42 %
Available for sale securities	12,537,981	113,593	3.48 %	12,063,398	105,556	3.27 %
Fair value option securities	20,080	195	3.59 %	20,086	199	3.57 %
Restricted equity securities	412,376	8,858	8.59 %	432,780	8,670	8.01 %
Residential mortgage loans held for sale	57,402	923	6.25 %	61,146	1,036	6.59 %
Loans	23,948,567	440,584	7.40 %	23,705,108	439,808	7.36 %
Allowance for loan losses	(278,449)			(273,717)		
Loans, net of allowance	23,670,118	440,584	7.48 %	23,431,391	439,808	7.45 %
Total earning assets	44,846,886	647,312	5.73 %	44,327,237	640,436	5.64 %
Receivable on unsettled securities sales	307,389			276,856		
Cash and other assets	4,873,297			5,109,577		
Total assets	\$ 50,027,572			\$ 49,713,670		
Liabilities and equity						
Interest-bearing deposits:						
Transaction	\$ 22,264,259	\$ 203,781	3.68 %	\$ 20,449,370	\$ 177,475	3.44 %
Savings	843,037	1,204	0.57 %	845,705	1,132	0.53 %
Time	3,287,179	37,139	4.54 %	3,002,252	31,242	4.13 %
Total interest-bearing deposits	26,394,475	242,124	3.69 %	24,297,327	209,849	3.43 %
Funds purchased and repurchase agreements	1,258,044	12,664	4.05 %	2,476,973	29,915	4.79 %
Other borrowings	6,844,633	94,540	5.56 %	7,120,963	99,542	5.55 %
Subordinated debentures	131,154	2,312	7.09 %	131,151	2,343	7.09 %
Total interest-bearing liabilities	34,628,306	351,640	4.08 %	34,026,414	341,649	3.98 %
Non-interest bearing demand deposits	8,631,416			9,378,886		
Due on unsettled securities purchases	499,936			363,358		
Other liabilities	1,112,947			1,008,035		
Total equity	5,154,967			4,936,977		
Total liabilities and equity	\$ 50,027,572			\$ 49,713,670		
Tax-equivalent Net Interest Revenue	\$ 295,672		1.65 %	\$ 298,787		1.66 %
Tax-equivalent Net Interest Revenue to Earning Assets						
Less tax-equivalent adjustment	2,100		2.61 %			2,112
Net Interest Revenue	293,572			296,675		
Provision for credit losses	8,000			6,000		
Other operating revenue	161,701			204,883		
Other operating expense	340,384			384,083		
Income before taxes	106,889			111,475		
Federal and state income taxes	23,195			28,953		
Net income	83,694			82,522		
Net income (loss) attributable to non-controlling interests	(9)			(53)		
Net income attributable to BOK Financial Corp. shareholders	\$ 83,703			\$ 82,575		
Earnings Per Average Common Share Equivalent:						
Basic	\$ 1.29			\$ 1.26		
Diluted	\$ 1.29			\$ 1.26		

Yield calculations are shown on a tax equivalent 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.

(In thousands, except per share data)

	Three Months Ended					
	September 30, 2023			June 30, 2023		
	Average Balance	Revenue /Expense	Yield / Rate	Average Balance	Revenue / Expense	Yield / Rate
Assets						
Interest-bearing cash and cash equivalents	\$ 598,734	\$ 8,199	5.43 %	\$ 708,475	\$ 9,552	5.41 %
Trading securities	5,444,587	65,301	4.76 %	4,274,803	47,882	4.50 %
Investment securities, net of allowance	2,331,595	8,309	1.43 %	2,408,122	8,659	1.44 %
Available for sale securities	11,925,800	99,238	3.11 %	12,033,597	94,849	3.00 %
Fair value option securities	41,741	552	4.61 %	245,469	3,116	5.07 %
Restricted equity securities	445,532	8,776	7.88 %	351,944	6,429	7.31 %
Residential mortgage loans held for sale	77,208	1,234	6.27 %	72,959	1,092	5.85 %
Loans	23,414,308	427,649	7.25 %	22,889,054	400,988	7.03 %
Allowance for loan losses	(267,205)			(252,890)		
Loans, net of allowance	23,147,103	427,649	7.33 %	22,636,164	400,988	7.10 %
Total earning assets	44,012,300	619,258	5.49 %	42,731,533	572,567	5.29 %
Receivable on unsettled securities sales	268,344			163,903		
Cash and other assets	5,038,908			5,012,671		
Total assets	\$ 49,319,552			\$ 47,908,107		
Liabilities and equity						
Interest-bearing deposits:						
Transaction	\$ 19,415,599	\$ 155,385	3.18 %	\$ 18,368,592	\$ 119,272	2.60 %
Savings	874,530	1,043	0.47 %	926,882	490	0.21 %
Time	2,839,947	28,380	3.96 %	2,076,037	16,904	3.27 %
Total interest-bearing deposits	23,130,076	184,808	3.17 %	21,371,511	136,666	2.56 %
Funds purchased and repurchase agreements	2,699,027	32,748	4.81 %	3,670,994	41,905	4.58 %
Other borrowings	6,968,309	96,271	5.48 %	5,275,291	67,316	5.12 %
Subordinated debentures	131,151	2,321	7.02 %	131,153	2,219	6.79 %
Total interest-bearing liabilities	32,928,563	316,148	3.81 %	30,448,949	248,106	3.27 %
Non-interest bearing demand deposits	10,157,821			10,998,201		
Due on unsettled securities purchases	435,927			436,353		
Other liabilities	891,675			1,079,692		
Total equity	4,905,566			4,944,912		
Total liabilities and equity	\$ 49,319,552			\$ 47,908,107		
Tax-equivalent Net Interest Revenue	\$ 303,110		1.68 %		\$ 324,461	2.02 %
Tax-equivalent Net Interest Revenue to Earning Assets			2.69 %			3.00 %
Less tax-equivalent adjustment	2,214				2,200	
Net Interest Revenue	300,896				322,261	
Provision for credit losses	7,000					17,000
Other operating revenue	198,152					209,049
Other operating expense	324,313					318,673
Income before taxes	167,735				195,637	
Federal and state income taxes	33,256					44,001
Net income	134,479				151,636	
Net income (loss) attributable to non-controlling interests	(16)					328
Net income attributable to BOK Financial Corp. shareholders	\$ 134,495				\$ 151,308	
Earnings Per Average Common Share Equivalent:						
Basic	\$ 2.04				\$ 2.27	
Diluted	\$ 2.04				\$ 2.27	

Yield calculations are shown on a tax equivalent 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.

(In thousands, except per share data)

	Three Months Ended			
	March 31, 2023			
	Average Balance	Revenue / Expense	Yield / Rate	
Assets				
Interest-bearing cash and cash equivalents	\$ 616,596	\$ 6,506	4.28 %	
Trading securities	3,031,969	34,073	4.52 %	
Investment securities, net of allowance	2,473,796	9,017	1.46 %	
Available for sale securities	11,738,693	89,112	2.87 %	
Fair value option securities	300,372	3,893	5.17 %	
Restricted equity securities	316,724	5,808	7.34 %	
Residential mortgage loans held for sale	65,769	979	5.79 %	
Loans	22,476,247	369,626	6.67 %	
Allowance for loan losses	(238,909)			
Loans, net of allowance	22,237,338	369,626	6.74 %	
Total earning assets	40,781,257	519,014	5.06 %	
Receivable on unsettled securities sales	177,312			
Cash and other assets	5,023,899			
Total assets	\$ 45,982,468			
Liabilities and equity				
Interest-bearing deposits:				
Transaction	\$ 18,639,900	\$ 87,936	1.91 %	
Savings	958,443	248	0.10 %	
Time	1,477,720	7,090	1.95 %	
Total interest-bearing deposits	21,076,063	95,274	1.83 %	
Funds purchased and repurchase agreements	1,759,237	14,450	3.33 %	
Other borrowings	4,512,280	52,588	4.73 %	
Subordinated debentures	131,166	2,069	6.40 %	
Total interest-bearing liabilities	27,478,746	164,381	2.43 %	
Non-interest bearing demand deposits	12,406,408			
Due on unsettled securities purchases	316,738			
Other liabilities	939,553			
Total equity	4,841,023			
Total liabilities and equity	\$ 45,982,468			
Tax-equivalent Net Interest Revenue		\$ 354,633	2.63 %	
Tax-equivalent Net Interest Revenue to Earning Assets			3.45 %	
Less tax-equivalent adjustment		2,285		
Net Interest Revenue		352,348		
Provision for credit losses		16,000		
Other operating revenue		177,865		
Other operating expense		305,812		
Income before taxes		208,401		
Federal and state income taxes		45,905		
Net income		162,496		
Net income attributable to non-controlling interests		128		
Net income attributable to BOK Financial Corp. shareholders		\$ 162,368		
Earnings Per Average Common Share Equivalent:				
Basic	\$	2.43		
Diluted	\$	2.43		

Yield calculations are shown on a tax equivalent 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.

Quarterly Earnings Trends – Unaudited

(In thousands, except share and per share data)

	Three Months Ended				
	Mar. 31, 2024	Dec. 31, 2023	Sep. 30, 2023	June 30, 2023	Mar. 31, 2023
Interest revenue	\$ 645,212	\$ 638,324	\$ 617,044	\$ 570,367	\$ 516,729
Interest expense	351,640	341,649	316,148	248,106	164,381
Net interest revenue	293,572	296,675	300,996	322,261	352,348
Provision for credit losses	8,000	6,000	7,000	17,000	16,000
Net interest revenue after provision for credit losses	285,572	290,675	293,996	305,261	336,348
Other operating revenue					
Brokerage and trading revenue	59,179	60,896	62,312	65,006	52,396
Transaction card revenue	25,493	28,847	26,387	26,003	25,621
Fiduciary and asset management revenue	55,305	51,408	52,256	52,997	50,657
Deposit service charges and fees	28,685	27,770	27,676	27,100	25,968
Mortgage banking revenue	18,967	12,834	13,356	15,141	14,367
Other revenue	12,935	15,035	15,865	14,250	16,970
Total fees and commissions	200,564	196,790	197,852	200,497	185,979
Other gains, net	4,269	40,452	1,474	12,618	2,251
Gain (loss) on derivatives, net	(8,633)	8,592	(9,010)	(8,159)	(1,344)
Gain (loss) on fair value option securities, net	(305)	1,031	(203)	(2,158)	(2,962)
Change in fair value of mortgage servicing rights	10,977	(14,356)	8,039	9,261	(6,059)
Loss on available for sale securities, net	(45,171)	(27,626)	—	(3,010)	—
Total other operating revenue	161,701	204,883	198,152	209,049	177,865
Other operating expense					
Personnel	202,653	203,022	190,791	190,652	182,145
Business promotion	7,978	8,629	6,958	7,640	8,569
Charitable contributions to BOKF Foundation	—	1,542	23	1,142	—
Professional fees and services	12,010	16,288	13,224	12,777	13,048
Net occupancy and equipment	30,293	30,355	32,583	30,105	28,459
FDIC and other insurance	8,740	8,495	7,996	6,974	7,315
FDIC special assessment	6,454	43,773	—	—	—
Data processing and communications	45,564	45,584	45,672	45,307	44,802
Printing, postage and supplies	3,997	3,844	3,760	3,728	3,893
Amortization of intangible assets	3,003	3,543	3,474	3,474	3,391
Mortgage banking costs	6,355	8,085	8,357	8,300	5,782
Other expense	13,337	10,923	11,475	8,574	8,408
Total other operating expense	340,384	384,083	324,313	318,673	305,812
Net income before taxes	106,889	111,475	167,735	195,637	208,401
Federal and state income taxes	23,195	28,953	33,256	44,001	45,905
Net income	83,694	82,522	134,479	151,636	162,496
Net income (loss) attributable to non-controlling interests	(9)	(53)	(16)	328	128
Net income attributable to BOK Financial Corporation shareholders	\$ 83,703	\$ 82,575	\$ 134,495	\$ 151,308	\$ 162,368
Earnings per share:					
Basic	\$ 1.29	\$ 1.26	\$ 2.04	\$ 2.27	\$ 2.43
Diluted	\$ 1.29	\$ 1.26	\$ 2.04	\$ 2.27	\$ 2.43
Average shares used in computation:					
Basic	64,290,105	64,750,171	65,548,307	65,994,132	66,331,775
Diluted	64,290,105	64,750,171	65,548,307	65,994,132	66,331,775

PART II. Other Information**Item 1. Legal Proceedings**

See discussion of legal proceedings at Note 6 to the Consolidated Financial Statements.

Item 1A. Risk Factors

There are no material changes from the risk factors set forth under Part I, Item 1A. "Risk Factors" in the Company's Annual Report on Form 10-K for the year ended December 31, 2023.

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

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 March 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
January 1 to January 31, 2024	79,534	\$ 88.22	44,630	2,527,156
February 1 to February 29, 2024	425,000	\$ 82.73	425,000	2,102,156
March 1 to March 31, 2024	147,316	\$ 86.50	147,000	1,955,156
Total	651,850		616,630	

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 March 31, 2024, the Company had repurchased 3,044,844 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 mature shares from employees to cover the exercise price and taxes in connection with employee equity compensation.

Item 5. 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 first 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).

Item 6. Exhibits

31.1 [Certification of Chief Executive Officer Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002](#)

31.2 [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](#)

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](#)

101 Interactive data files pursuant to Rule 405 of Regulation S-T: (i) the Consolidated Balance Sheets, (ii) the Consolidated Statements of Earnings, (iii) the Consolidated Statements of Changes in Equity, (iv) the Consolidated Statement of Cash Flows and (v) the Notes to Consolidated Financial Statements. 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)

Items 3 and 4 are not applicable and have been omitted.

Signatures

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

BOK FINANCIAL CORPORATION
(Registrant)

Date: May 1, 2024

/s/ Martin E. Grunst
Martin E. Grunst
Executive Vice President and
Chief Financial Officer

/s/ Michael J. Rogers
Michael J. Rogers
Senior Vice President and
Chief Accounting Officer

**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 Quarterly Report on Form 10-Q 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: May 1, 2024

/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 Quarterly Report on Form 10-Q 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: May 1, 2024

/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 Quarterly Report of BOK Financial Corporation ("BOK Financial") on Form 10-Q for the fiscal period ending March 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.

May 1, 2024

/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