Section 1: 10-Q (10-Q)

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 June 30, 2020

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. 0-19341

BOK FINANCIAL CORP ET AL
(Exact name of registrant as specified in its charter)

Oklahoma	73-1373454
(State or other jurisdiction of Incorporation or Organization)	**(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)

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 and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted 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. See definition of "accelerated filer and large accelerated filer" in Rule 12b-2 of the Exchange Act. (Check one):

Large accelerated filer ☒ Accelerated filer ☐ Non-accelerated filer ☐ (Do not check if a smaller reporting company) 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: 70,306,690 shares of common stock ($.00006 par value) as of June 30, 2020.

BOK Financial Corporation
Form 10-Q
Quarter Ended June 30, 2020

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

Performance Summary

BOK Financial Corporation (“the Company”) reported net income of $64.7 million or $0.92 per diluted share for the second quarter of 2020. Net income was $137.6 million or $1.93 per diluted share for the second quarter of 2019 and $62.1 million or $0.88 per diluted share for the first quarter of 2020. The Company recorded a pre-tax provision for expected credit losses of $135.3 million in the second quarter of 2020 and $93.8 million in the first quarter of 2020. A pre-tax provision for incurred credit losses of $5.0 million was recorded in the second quarter of 2019.

Highlights of the second quarter of 2020 included:

- Net interest revenue totaled $278.1 million, a decrease of $7.3 million compared to the second quarter of 2019. Net interest margin was 2.83 percent for the second quarter of 2020 compared to 3.30 percent for the second quarter of 2019. The Federal Reserve decreased the federal funds rate a total of 225 basis points since the middle of 2019. Three 25 basis point cuts were made in the second half of 2019 and an additional 150 basis points in emergency cuts were made in March 2020 in response to the economic environment resulting from the COVID-19 pandemic. Average earning assets were $40.3 billion for the second quarter of 2020 compared to $35.4 billion for the second quarter of 2019. Net interest revenue increased $16.7 million compared to the first quarter of 2020, largely due to the addition of loans related to the Small Business Administration's ("SBA") Paycheck Protection Program ("PPP") that began on April 3, 2020. Net interest margin increased 3 basis points, primarily due to our ability to move deposit costs down, along with LIBOR remaining elevated early in the second quarter and the strategic positioning of our balance sheet.

- Fees and commissions revenue totaled $213.7 million, an increase of $37.6 million over the second quarter of 2019. Mortgage banking revenue increased $25.8 million and brokerage and trading revenue increased $21.5 million. Low mortgage interest rates continued to drive increases in mortgage production and related bond trading activity. These increases were partially offset by a reduction in service charges and fiduciary and asset management revenue. We waived certain fees during the second quarter as a result of the pandemic and lower interest rates. Fees and commissions revenue increased $21.0 million over the first quarter of 2020, largely due to increases in mortgage banking and brokerage and trading revenue.

- Other operating expense totaled $295.4 million, an $18.3 million increase compared to the second quarter of 2019. Personnel expense increased $15.9 million, largely due to an increase in incentive compensation costs reflecting the growth in our trading activity. Non-personnel expense increased $2.4 million over the second quarter of 2019. Increases in mortgage banking costs, occupancy and equipment expense, data processing and communications expense and charitable contributions were partially offset by a decrease in business promotion expenses. Operating expense increased $26.8 million compared to the first quarter of 2020. Personnel expense increased $20.1 million including an $11.0 million increase in incentive compensation expense related to increased trading activity. Non-personnel expense increased $6.7 million compared to the first quarter of 2020, led by increases in mortgage banking costs, occupancy and equipment expenses, and charitable contributions, partially offset by a decrease in business promotion expenses.

- Changes in the fair value of mortgage servicing rights and related economic hedges provided $9.3 million during the second quarter of 2020. A $7.4 million increase in the fair value of securities and derivative contracts held as an economic hedge and $2.7 million of related net interest revenue, was partially offset by a $761 thousand decrease in the fair value of mortgage servicing rights. The net economic cost of the changes in fair value of mortgage servicing rights and related economic hedges was $7.3 million during the second quarter of 2019, including a $21.0 million increase in the fair value of securities and derivatives contracts held as an economic hedge, $29.6 million decrease in the fair value of mortgage servicing rights, and $1.3 million of related net interest revenue.

- We have implemented programs to help our customers through the pandemic and resulting uncertain times. We are actively participating in programs initiated by the CARES Act, including the SBA's PPP. Period-end outstanding loan balances totaled $24.2 billion at June 30, 2020, an increase of $1.7 billion over March 31, 2020. Average loan balances increased $2.2 billion to $24.1 billion at June 30, 2020. Period-end PPP loans were $2.1 billion and average PPP loans for the second quarter were $1.7 billion. We have also granted $1.2 billion in forbearance requests from customers as of June 30, including $704 million in commercial loans, $398 million in commercial real estate loans and $143 million in loans to individuals.

- The allowance for loan losses totaled $436 million or 1.80 percent of outstanding loans and 175 percent of nonaccruing loans at June 30, 2020, excluding residential mortgage loans guaranteed by U.S. government agencies. The combined allowance for loan losses and accrual for off-balance sheet credit risk from unfunded loan commitments was $469 million or 1.94 percent of outstanding loans at June 30, 2020. Excluding PPP loans, the allowance for loan losses was 1.97 percent of outstanding loans and the combined allowance for loan losses and accrual for off-balance sheet credit risk from unfunded loan commitments was 2.12 percent. At March 31, 2020, the allowance for loan losses was $315 million or 1.40 percent of outstanding loans and 199 percent of nonaccruing loans, excluding loans guaranteed by U.S. government agencies. The combined allowance for loan losses and accrual for off-balance sheet credit risk from unfunded loan commitments was $344 million or 1.53 percent of outstanding loans.

- Nonperforming assets not guaranteed by U.S. government agencies increased $90 million compared to March 31, 2020. Potential problem loans increased $333 million while other loans especially mentioned increased $391 million. Net charge-offs were $14.1 million or 0.25 percent of average loans on an annualized basis for the second quarter of 2020, excluding PPP loans, compared to $17.2 million or 0.31 percent of average loans on an annualized basis for the first quarter of 2020.

- Period-end deposits were $33.9 billion at June 30, 2020, a $4.6 billion increase compared to March 31, 2020. Interest-bearing transaction deposits increased $2.3 billion while demand deposit balances increased $2.2 billion. Average deposits increased $4.5 billion, including a $2.3 billion increase in demand deposits and a $1.9 billion increase in interest-bearing deposits. An estimated $2.7 billion of this growth was related to funding of PPP loans and other CARES Act stimulus initiatives, with the remainder due to growth from our broader customer base.

- The common equity Tier 1 capital ratio at June 30, 2020 was 11.44 percent. Other regulatory capital ratios were Tier 1 capital ratio, 11.44 percent, total capital ratio, 13.39 percent, and leverage ratio, 7.74 percent. We have elected to implement relief afforded by the CARES Act, which allows us to defer a portion of the impact to regulatory capital resulting from our adoption of CECL over the next two years, followed by a phase out of that deferral over the following three years. At March 31, 2020, the common equity Tier 1 capital ratio was 10.98 percent, the Tier 1 capital ratio was 10.98 percent, total capital ratio was 12.65 percent, and leverage ratio was 8.15 percent.

- The Company paid a regular cash dividend of $35.8 million or $0.51 per common share during the second quarter of 2020. On August 4, 2020, the board of directors approved a quarterly cash dividend of $0.51 per common share payable on or about August 26, 2020 to shareholders of record as of August 17, 2020.

Critical Accounting Policies & Estimates

The Consolidated Financial Statements and accompanying notes are prepared in accordance with generally accepted accounting principles in the United States of America ("GAAP"). The Company's accounting policies are more fully described in Note 1 of the Consolidated Financial Statements included in the 2019 Form 10-K. Management makes significant assumptions and estimates in the preparation of the Consolidated Financial Statements and accompanying notes in conformity with GAAP that may be highly subjective, complex and subject to variability. Actual results could differ significantly from these assumptions and estimates. The following discussion represents significant changes to critical accounting policies and estimates during 2020 in the most critical areas where these assumptions and estimates could affect the financial condition, results of operations and cash flows of the Company. Significant changes to critical accounting policies and estimates have been discussed with the appropriate committees of the Board of Directors.

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

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

As of January 1, 2020 BOK Financial's accounting policies have changed significantly with the adoption of Financial Accounting Standards Board ("FASB") Accounting Standards Update No. 2016-13 *Financial Instruments - Credit Losses (Topic 326): Assets Measured at Amortized Cost* ("ASU 2016-13" or "CECL"). Prior years are not restated. Prior to January 1, 2020, general allowances and nonspecific allowances were based on incurred credit losses. See Note 4 to the Consolidated Financial Statements for the description of the expected credit losses calculation of the allowance for loan losses and accrual for off-balance sheet credit risk from unfunded loan commitments.

For the majority of risk-graded loans, the accruing loan's expected credit loss estimate is sensitive to management judgment, particularly probability of default and loss given default assumptions, changes in specific macroeconomic factor forecasts, the probability weight assigned to each economic scenario, and judgmental allocations for risks otherwise not captured in the calculation.

Probability of default and loss given default measurements are based on historical data that may not be a good predictor of future performance or actual losses. Probability of default is based on risk grades, a subjective measurement of the risk of a loan. This subjective assessment of risk may not reflect actual risk of loss.

Other subjective measures include the forecast for each relevant economic loss driver and the probability weighting of economic scenarios, both of which are overseen by a senior management committee with members independent of the allowance process. Determining appropriateness of the allowance for loan losses and accrual for off-balance sheet credit risk from unfunded loan commitments requires management judgment about effects of uncertain matters which may be reflected as industry or product judgmental allocations or nonspecific allowances. This results in a subjective calculation which is inherently imprecise.

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

Goodwill Impairment

Goodwill for each reporting unit is evaluated for impairment annually as of October 1st or more frequently if conditions indicate that impairment may have occurred. The evaluation of possible goodwill impairment involves significant judgment based upon short-term and long-term projections of future performance.

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

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

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

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

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 $280.7 million for the second quarter of 2020 and $288.9 million in the second quarter of 2019. PPP loans added $13.6 million to net interest revenue in the second quarter of 2020. Net purchase accounting discount accretion was $3.3 million in the second quarter of 2020 and $13.4 million in the second quarter of 2019. 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.

Net interest margin was 2.83 percent for the second quarter of 2020, compared to 3.30 percent for the second quarter of 2019. Loan discount accretion added 3 basis points to net interest margin in the second quarter of 2020 and 15 basis points in the second quarter of 2019. The tax-equivalent yield on earning assets was 3.12 percent, a decrease of 139 basis points compared to the second quarter of 2019. The Federal Reserve decreased the federal funds rate a total of 225 basis points since the middle of 2019. Three 25 basis point cuts were made in the second half of 2019 and an additional 150 basis points in emergency cuts were made in March 2020 in response to the economic environment resulting from the COVID-19 pandemic. The latest reductions reduced the federal funds rate to nearly zero. Loan yields decreased 176 basis points to 3.63 percent. The yield on trading securities decreased 113 basis points to 2.46 percent. The yield on interest-bearing cash and cash equivalents decreased 250 basis points to 0.07 percent. The available for sale securities portfolio yield decreased 34 basis points to 2.29 percent and the yield on fair value option securities decreased 134 basis points to 2.00 percent.

Funding costs decreased 133 basis points compared to the second quarter of 2019. The cost of other borrowed funds decreased 223 basis points and the cost of interest-bearing deposits decreased 79 basis points. The benefit to net interest margin from earning assets funded by non-interest bearing liabilities was 8 basis points for the second quarter of 2020, a decrease of 41 basis points compared to the second quarter of 2019.
Average earning assets for the second quarter of 2020 increased $5.0 billion or 14 percent over the second quarter of 2019. 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 $3.0 billion. We purchase securities to supplement earnings and to manage interest rate risk. We have increased the size of our bond portfolio in order to reduce our exposure to falling short-term interest rates. Average loans, net of allowance for loan losses, increased $1.9 billion, largely due to the inflow of PPP loans. Receivables from unsettled securities sales, primarily related to our U.S. agency residential mortgage-backed trading operations, increased $3.2 billion. Growth in average earning assets and non-interest bearing receivables was primarily funded by an increase in average deposits.

Average deposits increased $7.5 billion compared to the second quarter of 2019. Not only have we focused on acquiring and growing deposits to enhance liquidity and support balance sheet growth, but we also saw a large inflow of deposits with the funding of PPP loans and other CARES Act related stimulus initiatives. Interest-bearing deposits increased $5.9 billion while demand deposit balances increased $1.6 billion.

Tax-equivalent net interest revenue increased $16.7 million compared to the first quarter of 2020. PPP loans also added $13.6 million to net interest revenue in the second quarter.

Average earning assets increased $1.9 billion compared to the first quarter of 2020. Average loan balances increased $2.2 billion, largely due to the influx of PPP loans. Available for sale securities increased $816 million as we have adjusted our balance sheet for the current rate environment. Fair value option securities, held as an economic hedge of the changes in fair value of our mortgage servicing rights, decreased $1.0 billion. In addition, receivables from unsettled securities sales, primarily related to our U.S. agency residential mortgage-backed trading operations, increased $1.6 billion. Growth in average earning assets and non-interest bearing receivables was largely funded by a $2.2 billion increase in interest-bearing deposits. Other borrowings decreased $3.0 billion, primarily due to a decrease in funds borrowed from the Federal Home Loan Bank partially offset by an increase in PPP loans funded through the Federal Reserve's PPP Liquidity Facility. Funds purchased and repurchase agreements increased $2.0 billion.

Net interest margin was 2.83 percent compared to 2.80 percent in the previous quarter. The reduction in deposit costs, LIBOR remaining elevated early in the second quarter, and the strategic positioning of our balance sheet, have combined to reduce the pressure on margin. Excluding the impact of PPP loans, net interest margin was 2.82 percent compared to 2.80 percent in the previous quarter.

The yield on average earning assets decreased 61 basis points from the prior quarter as we start to see the effects of the recent Federal Reserve rate cuts. The loan portfolio yield was down 87 basis points. The yield on the available for sale securities portfolio decreased 19 basis points.

Funding costs decreased 82 basis points. The cost of interest-bearing deposits decreased 64 basis points and the cost of other borrowed funds was down 117 basis points. The benefit to net interest margin from assets funded by non-interest liabilities was 8 basis points for the second quarter of 2020 compared to 26 basis points for the first quarter of 2020.

Our overall objective is to manage the Company’s balance sheet to be relatively neutral to changes in interest rates as is further described in the Market Risk section of this report. Approximately 77% 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 would be asset sensitive, which means that assets generally reprice more quickly than liabilities. One of the strategies that we use to manage toward a relative rate-neutral position is to purchase fixed-rate residential mortgage-backed securities issued primarily by U.S. government agencies and fund them with market-rate-sensitive liabilities. The liability-sensitive nature of this strategy provides an offset to the asset-sensitive characteristics of our loan portfolio. We also may use derivative instruments to manage our interest rate risk.

The effectiveness of these strategies is reflected in the overall change in net interest 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 June 30, 2020 / 2019			Six Months Ended June 30, 2020 / 2019		
		Change Due To[1]			Change Due To[1]	
	Change	**Volume**	**Yield/Rate**	**Change**	**Volume**	**Yield/Rate**
Tax-equivalent interest revenue:						
Interest-bearing cash and cash equivalents	**$ (3,320)**	$ 273	$ (3,593)	**$ (4,324)**	$ 1,123	$ (5,447)
Trading securities	**(4,136)**	953	(5,089)	**(11,071)**	(1,392)	(9,679)
Investment securities	**(411)**	(604)	193	**(935)**	(1,225)	290
Available for sale securities	**8,470**	17,363	(8,893)	**21,317**	32,947	(11,630)
Fair value option securities	**(3,393)**	(517)	(2,876)	**3,078**	8,061	(4,983)
Restricted equity securities	**(4,636)**	(2,565)	(2,071)	**(5,087)**	(2,570)	(2,517)
Residential mortgage loans held for sale	**386**	704	(318)	**(154)**	602	(756)
Loans	**(78,247)**	23,060	(101,307)	**(115,062)**	27,167	(142,229)
Total tax-equivalent interest revenue	**(85,287)**	38,667	(123,954)	**(112,238)**	64,713	(176,951)
Interest expense:						
Transaction deposits	**(23,219)**	8,448	(31,667)	**(15,066)**	18,450	(33,516)
Savings deposits	**(89)**	19	(108)	**(123)**	25	(148)
Time deposits	**(2,130)**	1,025	(3,155)	**(1,507)**	1,499	(3,006)
Funds purchased and repurchase agreements	**(8,662)**	10,349	(19,011)	**(8,180)**	17,945	(26,125)
Other borrowings	**(42,746)**	(14,660)	(28,086)	**(62,253)**	(20,147)	(42,106)
Subordinated debentures	**(262)**	(4)	(258)	**(374)**	1	(375)
Total interest expense	**(77,108)**	5,177	(82,285)	**(87,503)**	17,773	(105,276)
Tax-equivalent net interest revenue	**(8,179)**	33,490	(41,669)	**(24,735)**	46,940	(71,675)
Change in tax-equivalent adjustment	**(851)**			**(665)**		
Net interest revenue	**$ (7,328)**			**$ (24,070)**		

[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 $232.7 million for the second quarter of 2020, a $60.6 million increase over the second quarter of 2019 and a $52.4 million increase over the first quarter of 2020. Lower mortgage interest rates have positively affected both our brokerage and trading and mortgage banking revenue, leading to increases of $21.5 million and $25.8 million over the second quarter of 2019, respectively, and $11.2 million and $16.8 million over the first quarter of 2020, respectively.

Table 2 – Other Operating Revenue
(In thousands)

	Three Months Ended June 30,		Increase (Decrease)	% Increase (Decrease)	Three Months Ended Mar. 31, 2020	Increase (Decrease)	% Increase (Decrease)
	2020	2019					
Brokerage and trading revenue	**$ 62,022**	$ 40,526	$ 21,496	53 %	$ 50,779	$ 11,243	22 %
Transaction card revenue	**22,940**	21,915	1,025	5 %	21,881	1,059	5 %
Fiduciary and asset management revenue	**41,257**	45,025	(3,768)	(8)%	44,458	(3,201)	(7)%
Deposit service charges and fees	**22,046**	28,074	(6,028)	(21)%	26,130	(4,084)	(16)%
Mortgage banking revenue	**53,936**	28,131	25,805	92 %	37,167	16,769	45 %
Other revenue	**11,479**	12,437	(958)	(8)%	12,309	(830)	(7)%
Total fees and commissions revenue	**213,680**	176,108	37,572	21 %	192,724	20,956	11 %
Other gains (losses), net	**6,768**	3,480	3,288	N/A	(10,741)	17,509	N/A
Gain on derivatives, net	**21,885**	11,150	10,735	N/A	18,420	3,465	N/A
Gain (loss) on fair value option securities, net	**(14,459)**	9,853	(24,312)	N/A	68,393	(82,852)	N/A
Change in fair value of mortgage servicing rights	**(761)**	(29,555)	28,794	N/A	(88,480)	87,719	N/A
Gain on available for sale securities, net	**5,580**	1,029	4,551	N/A	3	5,577	N/A
Total other operating revenue	**$ 232,693**	$ 172,065	$ 60,628	35 %	$ 180,319	$ 52,374	29 %

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 43 percent of total revenue for the second quarter of 2020, excluding provision for credit losses and gains and losses on other assets, securities and derivatives and the change in the fair value of mortgage servicing rights. We believe that a variety of fee revenue sources provides an offset to changes in interest rates, values in the equity markets, commodity prices and consumer spending, all of which can be volatile. As an example of this strength, many of the economic factors such as rising interest rates resulting in a decline in mortgage related trading activities and mortgage production volumes, may also increase net interest revenue or fiduciary and asset management revenue. We expect growth in other operating revenue to come through offering new products and services and by further development of our presence in other markets. However, current and future economic conditions, including the recent impact of the COVID-19 pandemic, 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 and investment banking, increased $21.5 million or 53 percent compared to the second quarter of 2019.

Trading revenue includes net realized and unrealized gains and losses primarily related to sales of residential mortgage-backed securities guaranteed by U.S. government agencies and related derivative instruments that enable our mortgage-banking customers to manage their market risk. Trading revenue also includes net realized and unrealized gains and losses on municipal securities, asset-backed 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 $43.9 million for the second quarter of 2020, a $22.0 million or 101 percent increase compared to the second quarter of 2019. Industry-wide mortgage loan production grew in the second quarter of 2020 driven by lower rates as the Federal Reserve stepped in to provide market stability. We increased our bond trading pipeline to provide greater liquidity to the housing market during a time of record loan production volumes.

Customer hedging revenue is based primarily on realized and unrealized changes in the fair value of derivative contracts held for customer risk management programs. As more fully discussed under Customer Derivative Programs in Note 3 of the Consolidated Financial Statements, we offer commodity, interest rate, foreign exchange and equity derivatives to our customers. Customer hedging revenue totaled $6.2 million for the second quarter of 2020, an $896 thousand or 17 percent increase compared to the second quarter of 2019.

Brokerage and trading revenue increased $11.2 million compared to the previous quarter. Continued low mortgage interest rates have increased mortgage production as well as related trading activity, which grew trading revenue $9.5 million. Customer hedging revenue also increased $3.0 million as existing customers increased energy hedging activities in the volatile environment.

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. Approximately 90 percent of fiduciary and asset management revenue is primarily 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 decreased $3.8 million or 8 percent compared to the second quarter of 2019 and $3.2 million compared to the first quarter of 2020. The decrease is largely due to the decline in the fair value of average assets combined with the addition of approximately $1.1 million in fee waivers. A distribution of assets under management or administration and related fiduciary and asset management revenue follows:

Table 3 -- Assets Under Management or Administration

	Three Months Ended								
	June 30, 2020			June 30, 2019			March 31, 2020		
	Balance	Revenue[1]	Margin[2]	Balance	Revenue[1]	Margin[2]	Balance	Revenue[1]	Margin[2]
Managed fiduciary assets:									
Personal	**$ 9,786,686**	**$ 23,826**	**0.97 %**	$ 8,516,076	$ 26,134	1.23 %	$ 8,796,030	$ 23,609	1.07 %
Institutional	**13,568,898**	**6,872**	**0.20 %**	14,286,046	6,283	0.18 %	12,186,588	7,347	0.24 %
Total managed fiduciary assets	**23,355,584**	**30,698**	**0.53 %**	22,802,122	32,417	0.57 %	20,982,618	30,956	0.59 %
Non-managed assets:									
Fiduciary	**27,205,000**	**10,142**	**0.15 %**	26,494,774	12,275	0.19 %	26,070,483	13,132	0.20 %
Non-fiduciary	**12,831,130**	**417**	**0.01 %**	15,894,874	333	0.01 %	13,176,722	370	0.01 %
Safekeeping and brokerage assets under administration	**16,060,788**	**—**	**— %**	16,582,832	—	— %	15,554,006	—	— %
Total non-managed assets	**56,096,918**	**10,559**	**0.08 %**	58,972,480	12,608	0.09 %	54,801,211	13,502	0.10 %
Total assets under management or administration	**$ 79,452,502**	**$ 41,257**	**0.21 %**	$ 81,774,602	$ 45,025	0.22 %	$ 75,783,829	$ 44,458	0.23 %

[1] Fiduciary and asset management revenue includes asset-based and other fees associated with the assets.
[2] Annualized revenue divided by period-end balance.

A summary of changes in assets under management or administration for the three months ended June 30, 2020 and 2019 follows:

Table 4 -- Changes in Assets Under Management or Administration

	Three Months Ended June 30,	
	2020	**2019**
Beginning balance	**$ 75,783,829**	$ 78,852,284
Net inflows (outflows)	**(1,219,567)**	1,075,070
Net change in fair value	**4,888,240**	1,847,248
Ending balance	**$ 79,452,502**	$ 81,774,602

Mortgage Banking Revenue

Mortgage banking revenue increased $25.8 million or 92 percent compared to the second quarter of 2019. Mortgage loan production volumes increased $262 million or 32 percent as average primary mortgage interest rates have decreased. The gain on sale margin increased 219 basis points to 3.65 percent in the second quarter of 2020. A rapid decrease in interest rates has led to increased application demand, especially refinance demand, and industry-wide capacity constraints.

Mortgage banking revenue increased $16.8 million or 45 percent compared to the first quarter of 2020. Lower mortgage interest rates during the quarter led to an increase in mortgage production of 2 percent over an already strong first quarter. Gain on sale margin improved 159 basis points over the prior quarter due to industry-wide capacity constraints.

Table 5 – Mortgage Banking Revenue
(In thousands)

	Three Months Ended June 30,		Increase	% Increase	Three Months Ended	Increase	% Increase
	2020	**2019**	**(Decrease)**	**(Decrease)**	**Mar. 31, 2020**	**(Decrease)**	**(Decrease)**
Mortgage production revenue	**$ 39,185**	$ 11,869	$ 27,316	230 %	$ 21,570	$ 17,615	82 %
Mortgage loans funded for sale	**$ 1,184,249**	$ 729,841			$ 548,956		
Add: Current period end outstanding commitments	**546,304**	344,087			657,570		
Less: Prior period end outstanding commitments	**657,570**	263,434			158,460		
Total mortgage production volume	**$ 1,072,983**	$ 810,494	$ 262,489	32 %	$ 1,048,066	$ 24,917	2 %
Mortgage loan refinances to mortgage loans funded for sale	**71 %**	31 %	4,000 bps		57 %	1,400 bps	
Gains on sale margin	**3.65 %**	1.46 %	219 bps		2.06 %	159 bps	
Primary mortgage interest rates:							
Average	**3.24 %**	4.01 %	(77) bps		3.51 %	(27) bps	
Period end	**3.13 %**	3.73 %	(60) bps		3.33 %	(20) bps	
Mortgage servicing revenue	**$ 14,751**	$ 16,262	$ (1,511)	(9)%	$ 15,597	$ (846)	(5)%
Average outstanding principal balance of mortgage loans serviced for others	**19,319,872**	21,418,690	(2,098,818)	(10)%	20,416,546	(1,096,674)	(5)%
Average mortgage servicing revenue rates	**0.31 %**	0.30 %	1 bp		0.31 %	— bp	

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

Service Charges

Deposit service charges and fees decreased $6.0 million compared to the second quarter of 2019 and $4.1 million compared to the first quarter of 2020. This decrease was due in part to "shelter in place" orders that led to lower activity and also to certain fee waivers in order to help our customers during uncertain times caused by the pandemic.

Net gains on other assets, securities and derivatives

Other net gains totaled $6.8 million in the second quarter of 2020 compared to other net gains of $3.5 million in the second quarter of 2019 and other net losses of $10.7 million in the first quarter of 2020. These fluctuations are primarily related to changes in the fair value of investments related to deferred compensation that are largely offset in deferred compensation expense. The first quarter of 2020 also included a $3.1 million impairment of an energy fund investment.

As discussed in the Market Risk section following, the fair value of our mortgage servicing rights ("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. In the second quarter of 2020, we completed a sale of mortgage servicing rights on $1.6 billion of unpaid principal balance, primarily related to loans guaranteed by the Veteran's Administration. This sale was completed to reduce exposure to out of footprint MSRs with higher credit risk where no other relationships with the borrower exist. The fair value of contracts held as an economic hedge increased in the second quarter of 2020 while the fair value of MSRs was largely unchanged. Interest rate movements between the date we established the transaction price and the closing date of the sale produced positive results.

Table 6 - Gain (Loss) on Mortgage Servicing Rights
(In thousands)

	Three Months Ended		
	June 30, 2020	**Mar. 31, 2020**	**June 30, 2019**
Gain on mortgage hedge derivative contracts, net	**$ 21,815**	$ 18,371	$ 11,128
Gain (loss) on fair value option securities, net	**(14,459)**	68,393	9,853
Gain on economic hedge of mortgage servicing rights, net	**7,356**	86,764	20,981
Loss on change in fair value of mortgage servicing rights	**(761)**	(88,480)	(29,555)
Gain (loss) on changes in fair value of mortgage servicing rights, net of economic hedges included in other operating revenue	**6,595**	(1,716)	(8,574)
Net interest revenue on fair value option securities[1]	**2,702**	4,268	1,296
Total economic benefit (cost) of changes in the fair value of mortgage servicing rights, net of economic hedges	**$ 9,297**	$ 2,552	$ (7,278)

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

Other Operating Expense

Other operating expense for the second quarter of 2020 totaled $295.4 million, an increase of $18.3 million compared to the second quarter of 2019 and $26.8 million compared to the first quarter of 2020.

Table 7 – Other Operating Expense
(In thousands)

	Three Months Ended June 30, 2020	Three Months Ended June 30, 2019	Increase (Decrease)	% Increase (Decrease)	Three Months Ended Mar. 31, 2020	Increase (Decrease)	% Increase (Decrease)
Regular compensation	**$ 99,267**	$ 98,247	$ 1,020	1 %	$ 97,760	$ 1,507	2 %
Incentive compensation:							
Cash-based	**47,209**	33,155	14,054	42 %	36,189	11,020	30 %
Share-based	**2,815**	2,734	81	3 %	3,108	(293)	9 %
Deferred compensation	**5,932**	1,534	4,398	N/A	(5,673)	11,605	N/A
Total incentive compensation	**55,956**	37,423	18,533	50 %	33,624	22,332	66 %
Employee benefits	**21,012**	24,672	(3,660)	(15)%	24,797	(3,785)	(15)%
Total personnel expense	**176,235**	160,342	15,893	10 %	156,181	20,054	13 %
Business promotion	**1,935**	10,142	(8,207)	(81)%	6,215	(4,280)	(69)%
Charitable contributions to BOKF Foundation	**3,000**	1,000	2,000	N/A	—	3,000	N/A
Professional fees and services	**12,161**	13,002	(841)	(6)%	12,948	(787)	(6)%
Net occupancy and equipment	**30,675**	26,880	3,795	14 %	26,061	4,614	18 %
Insurance	**5,156**	6,454	(1,298)	(20)%	4,980	176	4 %
Data processing and communications	**32,942**	29,735	3,207	11 %	32,743	199	1 %
Printing, postage and supplies	**3,502**	4,107	(605)	(15)%	4,272	(770)	(18)%
Net losses and operating expenses of repossessed assets	**1,766**	580	1,186	204 %	1,531	235	15 %
Amortization of intangible assets	**5,190**	5,138	52	1 %	5,094	96	2 %
Mortgage banking costs	**15,598**	11,545	4,053	35 %	10,545	5,053	48 %
Other expense	**7,227**	8,212	(985)	(12)%	8,054	(827)	(10)%
Total other operating expense	**$ 295,387**	$ 277,137	$ 18,250	7 %	$ 268,624	$ 26,763	10 %
Average number of employees (full-time equivalent)	5,037	5,123	(86)	(2)%	5,075	(38)	(1)%

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

Personnel expense

Personnel expense increased $15.9 million compared to the second quarter of 2019. Incentive compensation increased $18.5 million. Cash based incentive compensation increased $14.1 million, largely due to increased mortgage-backed securities trading activity. Deferred compensation increased $4.4 million; however, this is largely offset by an increase in the value of related investments included in Other gains (losses). Employee benefits decreased $3.7 million. Due to the COVID-19 pandemic, many elective procedures have been put on hold and only essential services performed driving down employee healthcare costs.

Personnel expense increased $20.1 million compared the first quarter of 2020. Incentive compensation increased $22.3 million. Cash based incentive compensation increased $11.0 million, primarily due to increased mortgage-backed securities trading activity. Deferred compensation increased $11.6 million. This is largely offset by an increase in the value of related investments included in Other gains (losses). Employee benefits decreased $3.8 million led by a seasonal decrease in payroll taxes and retirement plan expenses.

Non-personnel operating expense

Non-personnel operating expense increased $2.4 million over the second quarter of 2019. Mortgage banking costs increased $4.1 million due to additional accruals related to default servicing and loss mitigation costs on loans serviced for others. Occupancy and equipment expenses increased $3.8 million, largely due to the impairment of two leases where assumptions regarding subleasing changed due to deteriorating economic conditions. Data processing and communications expense increased $3.2 million, primarily due to technology project costs. A $3.0 million charitable contribution was also made to the BOKF Foundation in the second quarter of 2020. These increases were partially offset by a decrease of $8.2 million in business promotion expense, primarily related to a combination of decreased travel and entertainment expense due to the pandemic and decreased advertising costs. We experienced higher than usual advertising costs in the second quarter of 2019 as we worked on brand recognition advertising in our Arizona and Colorado markets following the CoBiz acquisition.

Non-personnel expense increased $6.7 million compared to the first quarter of 2020. Mortgage banking costs increased $5.1 million. Accruals related to default servicing and loss mitigation costs on loans serviced for others increased $2.8 million due to changes in our portfolio and loan counts, delinquency levels, and additional accruals related to losses on loans in forbearance. Increased amortization of mortgage servicing rights from actual prepayments also added $1.7 million to mortgage banking costs during the second quarter of 2020. Occupancy and equipment expense increased $4.6 million as impairment charges were incurred on two leases. These increases were partially offset by a decrease of $4.3 million in business promotion costs, largely related to reduced travel and entertainment expenses.

Income Taxes

The effective tax rate was 19.7 percent for the second quarter of 2020, 21.4 percent for the second quarter of 2019 and 21.8 percent for the first quarter of 2020. The effective tax rate decreased for the second quarter of 2020 as a result of a decrease in forecasted net income before tax for 2020.

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 operations of CoBiz were allocated to the operating segments in the second quarter of 2019. Prior to April 1, 2019, CoBiz operations were included in Funds Management and other.

We allocate resources and evaluate the performance of our lines of business using the net direct contribution, which includes the allocation of funds, actual net credit losses and capital costs. In addition, we measure the performance of our business lines after allocation of certain indirect expenses and taxes based on statutory rates.

The cost of funds borrowed from the Funds Management unit by the operating lines of business is transfer priced at rates that approximate market rates for funds with similar repricing and cash flow characteristics. Market rates are generally based on the applicable LIBOR or interest rate swap rates, adjusted for prepayment and liquidity risk. This method of transfer-pricing funds that supports assets of the operating lines of business tends to insulate them from interest rate risk.

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

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

As shown in Table 8, net income attributable to our lines of business decreased $1.9 million compared to the second quarter of 2019. Net interest revenue decreased by $52.9 million compared to the prior year, primarily due to decreases in the short-term interest rate related to a 225 basis point reduction in the federal funds rate by the Federal Reserve since the middle of 2019. Other operating revenue increased by $45.3 million led by our brokerage and trading and mortgage banking businesses. Operating expense increased $11.9 million compared to the second quarter of 2019, largely due to increased incentive compensation related to trading activities.

Net interest revenue decreased $3.0 million compared to the first quarter of 2020 as we started to see some of the effects of recent rate cuts by the Federal Reserve. Other operating revenue increased $30.6 million. Continued low mortgage interest rates drove increases in mortgage banking revenue of $16.7 million and brokerage and trading revenue of $12.5 million. Other operating expense increased $8.7 million, largely driven by increased incentive compensation related to trading activities. Net income attributed to Funds Management and other was affected by the provision for expected credit losses in excess of net charge-offs of $121.2 million in the second quarter of 2020 and $76.6 million in the first quarter of 2020.

Table 8 -- Net Income by Line of Business
(In thousands)

	Three Months Ended June 30,		**Increase**	**% Increase**	**Three Months Ended**	**Increase**	**% Increase**
	2020	**2019**	**(Decrease)**	**(Decrease)**	**Mar. 31, 2020**	**(Decrease)**	**(Decrease)**
Commercial Banking	**$ 80,992**	$ 106,280	$ (25,288)	(24)%	$ 74,975	$ 6,017	8 %
Consumer Banking	**31,900**	16,342	15,558	95 %	22,921	8,979	39 %
Wealth Management	**33,394**	25,544	7,850	31 %	22,573	10,821	48 %
Subtotal	**146,286**	148,166	(1,880)	(1)%	120,469	25,817	21 %
Funds Management and other	**(81,593)**	(10,603)	(70,990)	N/A	(58,390)	(23,203)	N/A
Total	**$ 64,693**	$ 137,563	$ (72,870)	(53)%	$ 62,079	$ 2,614	4 %

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 $81.0 million to consolidated net income in the second quarter of 2020, a decrease of $25.3 million or 24 percent compared to the second quarter of 2019.

Table 9 -- Commercial Banking
(Dollars in thousands)

	Three Months Ended June 30, 2020	Three Months Ended June 30, 2019	Increase (Decrease)	% Increase (Decrease)	Three Months Ended Mar. 31, 2020	Increase (Decrease)	% Increase (Decrease)
Net interest revenue from external sources	**$ 174,314**	$ 251,084	$ (76,770)	(31)%	$ 201,902	$ (27,588)	(14)%
Net interest expense from internal sources	**(29,205)**	(66,613)	37,408	(56)%	(50,495)	21,290	(42)%
Total net interest revenue	**145,109**	184,471	(39,362)	(21)%	151,407	(6,298)	(4)%
Net loans charged off	**13,762**	6,823	6,939	102 %	16,880	(3,118)	(18)%
Net interest revenue after net loans charged off	**131,347**	177,648	(46,301)	(26)%	134,527	(3,180)	(2)%
Fees and commissions revenue	**46,515**	41,105	5,410	13 %	41,459	5,056	12 %
Other gains (losses), net	**1,383**	506	877	N/A	(3,239)	4,622	N/A
Other operating revenue	**47,898**	41,611	6,287	15 %	38,220	9,678	25 %
Personnel expense	**39,873**	42,620	(2,747)	(6)%	37,020	2,853	8 %
Non-personnel expense	**23,060**	20,795	2,265	11 %	23,732	(672)	(3)%
Other operating expense	**62,933**	63,415	(482)	(1)%	60,752	2,181	4 %
Net direct contribution	**116,312**	155,844	(39,532)	(25)%	111,995	4,317	4 %
Gain on financial instruments, net	**48**	20	28	N/A	49	(1)	N/A
Gain on repossessed assets, net	**191**	—	191	N/A	9	182	N/A
Corporate expense allocations	**5,437**	10,652	(5,215)	(49)%	8,905	(3,468)	(39)%
Income before taxes	**111,114**	145,212	(34,098)	(23)%	103,148	7,966	8 %
Federal and state income tax	**30,122**	38,932	(8,810)	(23)%	28,173	1,949	7 %
Net income	**$ 80,992**	$ 106,280	$ (25,288)	(24)%	$ 74,975	$ 6,017	8 %
Average assets	**$ 27,575,652**	$ 22,910,724	$ 4,664,928	20 %	$ 24,687,976	$ 2,887,676	12 %
Average loans	**19,262,827**	18,812,800	450,027	2 %	18,812,015	450,812	2 %
Average deposits	**14,599,225**	10,724,206	3,875,019	36 %	11,907,386	2,691,839	23 %
Average invested capital	**2,230,707**	2,222,032	8,675	— %	2,188,242	42,465	2 %

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 $39.4 million compared to the second quarter of 2019. Net interest revenue decreased due to a combination of compressed loan spreads and lower deposit related net interest revenue as the value of deposits was impacted by falling interest rates. Net loans charged-off increased $6.9 million.

Fees and commissions revenue increased $5.4 million or 13 percent largely due to an increase in customer energy hedging revenue as customers increased hedges due to the volatile price environment. Operating expenses were relatively consistent with the second quarter of 2019. Corporate expense allocations decreased $5.2 million or 49 percent compared to the prior year.

The average outstanding balance of loans attributed to Commercial Banking was up $450 million or 2 percent over the second quarter of 2019 to $19.3 billion. See the Loans section of Management's Discussion and Analysis of Financial Condition following for additional discussion of changes in commercial and commercial real estate loans, which are primarily attributed to the Commercial Banking segment.

Average deposits attributed to Commercial Banking were $14.6 billion for the second quarter of 2020, a $3.9 billion or 36 percent increase over the second quarter of 2019, largely related to the inflow of deposits from the CARES Act and other government stimulus initiatives along with core customer growth. See Management's Discussion and Analysis of Financial Condition and Results of Operations – Liquidity and Capital for further discussion of change.

Net interest revenue decreased $6.3 million or 4 percent compared to the first quarter of 2020 largely due to a decrease in loan spreads combined with a decline in the value of deposits, as short term rates fell, from the Funds Management unit compared to the prior quarter. Fees and commissions revenue increased $5.1 million, led by an increase in customer energy hedging revenue of $4.4 million. Other gains (losses), net also increased over the first quarter of 2020, primarily related to an impairment charge recognized on an energy fund in the first quarter. Operating expense increased $2.2 million or 4 percent compared to the first quarter of 2020, primarily due to incentive compensation costs.

Average loan balances increased $451 million or 2 percent and average customer deposits increased $2.7 billion or 23 percent over the first quarter of 2020.

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 $31.9 million to consolidated net income for the second quarter of 2020, an increase of $15.6 million over the second quarter of 2019. Improved performance by Consumer Banking was largely due to the effect of lower mortgage interest rates, which has increased mortgage banking activity and related revenue. Changes in the fair value of mortgage servicing rights, net of economic hedges, increased pre-tax net income for the second quarter of 2020 by $6.6 million compared to an $8.6 million decrease in pre-tax net income in the second quarter of 2019.

Table 10 -- Consumer Banking
(Dollars in thousands)

	Three Months Ended June 30,		Increase (Decrease)	% Increase (Decrease)	Three Months Ended	Increase (Decrease)	% Increase (Decrease)
	2020	**2019**			**Mar. 31, 2020**		
Net interest revenue from external sources	**$ 18,795**	$ 25,300	$ (6,505)	(26)%	$ 25,876	$ (7,081)	(27)%
Net interest revenue from internal sources	**20,475**	27,415	(6,940)	(25)%	18,056	2,419	13 %
Total net interest revenue	**39,270**	52,715	(13,445)	(26)%	43,932	(4,662)	(11)%
Net loans charged off	**535**	1,728	(1,193)	(69)%	1,256	(721)	(57)%
Net interest revenue after net loans charged off	**38,735**	50,987	(12,252)	(24)%	42,676	(3,941)	(9)%
Fees and commissions revenue	**67,192**	48,830	18,362	38 %	55,062	12,130	22 %
Other losses, net	**—**	(19)	19	N/A	—	—	N/A
Other operating revenue	**67,192**	48,811	18,381	38 %	55,062	12,130	22 %
Personnel expense	**23,821**	24,377	(556)	(2)%	23,620	201	1 %
Non-personnel expense	**35,115**	33,317	1,798	5 %	31,173	3,942	13 %
Total other operating expense	**58,936**	57,694	1,242	2 %	54,793	4,143	8 %
Net direct contribution	**46,991**	42,104	4,887	12 %	42,945	4,046	9 %
Gain on financial instruments, net	**7,356**	20,981	(13,625)	N/A	86,764	(79,408)	N/A
Change in fair value of mortgage servicing rights	**(761)**	(29,555)	28,794	N/A	(88,480)	87,719	N/A
Gain on repossessed assets, net	**27**	92	(65)	N/A	13	14	N/A
Corporate expense allocations	**10,812**	11,695	(883)	(8)%	10,487	325	3 %
Income before taxes	**42,801**	21,927	20,874	95 %	30,755	12,046	39 %
Federal and state income tax	**10,901**	5,585	5,316	95 %	7,834	3,067	39 %
Net income	**$ 31,900**	$ 16,342	$ 15,558	95 %	$ 22,921	$ 8,979	39 %
Average assets	**$ 9,920,005**	$ 9,212,667	$ 707,338	8 %	$ 9,850,853	$ 69,152	1 %
Average loans	**1,679,164**	1,796,823	(117,659)	(7)%	1,711,703	(32,539)	(2)%
Average deposits	**7,587,246**	6,998,677	588,569	8 %	6,869,481	717,765	10 %
Average invested capital	**258,558**	304,990	(46,432)	(15)%	274,384	(15,826)	(6)%

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 declined by $13.4 million or 26 percent compared to the second quarter of 2019, primarily due to a decrease in the yield on deposits sold to our Funds Management unit. Average consumer deposits grew $589 million over the second quarter of 2019 with demand deposit balances increasing $398 million or 18 percent. Deposit growth was related to CARES Act funding and government stimulus payments in addition to core growth.

Fees and commissions revenue increased $18.4 million or 38 percent over the second quarter of 2019. Lower mortgage interest rates increased mortgage loan origination volumes, particularly refinance volumes, which jumped to 71 percent of originations in the second quarter of 2020. Mortgage production volume increased $262 million or 32 percent and gain on sale margin increased 219 basis points due to industry-wide capacity constraints. Deposit service charges decreased $6.3 million, primarily due to reduced activity as a result of "shelter in place" initiatives as well as waived fees as a result of the pandemic. Operating expense increased by $1.2 million or 2 percent. Mortgage banking costs increased $4.0 million, largely related to accruals related to default servicing and loss mitigation costs on loans serviced for others. This was largely offset by a decrease in business promotion expense of 2.7 million, primarily due to rebranding efforts in the second quarter of 2019 following the CoBiz acquisition. Corporate expense allocations were $883 thousand or 8 percent lower than the prior year.

Changes in the fair value of mortgage servicing rights, net of economic hedges, increased pre-tax net income for the second quarter of 2020 by $6.6 million compared to an $8.6 million decrease in pre-tax net income in the second quarter of 2019. The completion of a sale of mortgage servicing rights on $1.6 billion of unpaid principal balance, primarily related to loans guaranteed by the Veteran's Administration, was a large contributor. The fair value of contracts held as an economic hedge increased while the fair value of the servicing rights was largely unchanged. Interest rate movements between the date the transaction price was established and the closing date of the sale produced positive results.

Net interest revenue from Consumer Banking activities decreased $4.7 million or 11 percent compared to the first quarter of 2020. Operating revenue increased $12.1 million or 22 percent over the first quarter of 2020. Revenues from mortgage banking activities increased $16.7 million. Mortgage production volume increased $25 million or 2 percent as a result of lower interest rates. Gain on sale margins climbed to 3.65 percent from 2.06 percent. Deposit service charge revenue decreased $3.9 million compared to the first quarter of 2020. We proactively waived certain fees in the second quarter to help customers throughout the uncertain time caused by the pandemic.

Operating expenses increased $4.1 million, largely related to higher amortization of mortgage servicing rights and accruals related to default servicing and loss mitigation costs on loans serviced for others.

Average consumer loans decreased $33 million or 2 percent. Average deposits increased $718 million or 10 percent, primarily due to funding related to the CARES Act as well as core growth.

Wealth Management

Wealth Management contributed $33.4 million to consolidated net income in the second quarter of 2020, an increase of $7.9 million or 31 percent compared to the second quarter of 2019. Increased fees and commissions revenue, primarily from residential mortgage-backed securities trading, was partially offset by related incentive compensation costs.

Table 11 -- Wealth Management
(Dollars in thousands)

	Three Months Ended June 30, 2020	Three Months Ended June 30, 2019	Increase (Decrease)	% Increase (Decrease)	Three Months Ended Mar. 31, 2020	Increase (Decrease)	% Increase (Decrease)
Net interest revenue from external sources	**$ 34,359**	$ 17,222	$ 17,137	100 %	$ 14,366	$ 19,993	139 %
Net interest revenue from internal sources	**(7,479)**	9,719	(17,198)	(177)%	4,538	(12,017)	(265)%
Total net interest revenue	**26,880**	26,941	(61)	— %	18,904	7,976	42 %
Net loans charged off (recovered)	**(89)**	(48)	(41)	85 %	(48)	(41)	85 %
Net interest revenue after net loans charged off (recovered)	**26,969**	26,989	(20)	— %	18,952	8,017	42 %
Fees and commissions revenue	**106,757**	85,925	20,832	24 %	97,881	8,876	9 %
Other gains (losses), net	**(83)**	92	(175)	N/A	—	(83)	N/A
Other operating revenue	**106,674**	86,017	20,657	24 %	97,881	8,793	9 %
Personnel expense	**61,909**	50,080	11,829	24 %	56,443	5,466	10 %
Non-personnel expense	**18,658**	19,372	(714)	(4)%	21,749	(3,091)	(14)%
Other operating expense	**80,567**	69,452	11,115	16 %	78,192	2,375	3 %
Net direct contribution	**53,076**	43,554	9,522	22 %	38,641	14,435	37 %
Corporate expense allocations	**8,204**	9,168	(964)	(11)%	8,265	(61)	(1)%
Income before taxes	**44,872**	34,386	10,486	30 %	30,383	14,489	48 %
Federal and state income tax	**11,478**	8,842	2,636	30 %	7,810	3,668	47 %
Net income	**$ 33,394**	$ 25,544	$ 7,850	31 %	$ 22,573	$ 10,821	48 %
Average assets	**$ 15,721,452**	$ 9,849,396	$ 5,872,056	60 %	$ 12,723,412	$ 2,998,040	24 %
Average loans	**1,709,363**	1,647,680	61,683	4 %	1,705,735	3,628	— %
Average deposits	**8,385,681**	6,220,848	2,164,833	35 %	7,623,986	761,695	10 %
Average invested capital	**295,245**	274,050	21,195	8 %	288,264	6,981	2 %

Net interest revenue was relatively consistent with the second quarter of 2019. Increased net interest revenue related to growth in trading activity was offset by a reduction in the value of deposits sold to the Funds Management unit. Average loans attributed to the Wealth Management segment increased $62 million or 4 percent. Average deposits increased $2.2 billion or 35 percent, largely due to core growth.

Fees and commissions revenue increased $20.8 million or 24 percent over the second quarter of 2019. Brokerage and trading revenue increased $20.7 million due to increased trading activity as a result of lower mortgage interest rates. We increased our bond trading pipeline in the second quarter of 2020 to provide greater liquidity to the housing market during a time of record volumes. Average trading assets, which includes trading securities inventory and receivables from unsettled securities sales, were $6.3 billion for the second quarter of 2020 compared to $3.1 billion for the second quarter of 2019. Fiduciary and asset management revenue decreased $3.8 million related to a combination of lower average asset values and waived fees. Operating expense increased $11.1 million or 16 percent compared to the second quarter of 2019, primarily related to incentive compensation expense on higher trading activity. Corporate expense allocations decreased $964 thousand or 11 percent compared to the prior year.

Net income for Wealth Management increased $10.8 million or 48 percent compared to the first quarter of 2020.

Net interest revenue increased $8.0 million due to higher net interest revenue related to residential mortgage-backed trading activities and increased deposit balances, partially offset by the decline in the value of deposits sold to the Funds Management unit. Brokerage and trading revenue increased $8.9 million due to an increase in trading activity and volumes due to market volatility. Operating expenses increased $2.4 million, largely due to variable incentive compensation related to revenue growth, partially offset by lower business promotion expense.

Average loans maintained at $1.7 billion and average deposits increased $762 million or 10 percent to $8.4 billion.

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 June 30, 2020 and December 31, 2019.

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 decreased $914 million to $1.2 billion during the second quarter of 2020. 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. These limits remain relatively unchanged from levels set before our expanded trading activities.

At June 30, 2020, the carrying value of investment (held-to-maturity) securities was $268 million, including a $1.6 million allowance for expected credit losses compared to $274 million at March 31, 2020 with a $1.5 million allowance for expected credit losses. The fair value of investment securities was $299 million at June 30, 2020 and $296 million at March 31, 2020. Investment securities consist primarily of residential mortgage-backed securities issued by U.S. government agencies, 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 $12.0 billion at June 30, 2020, a $270 million decrease compared to March 31, 2020. At June 30, 2020, 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 prepayment during periods of falling interest rates. We evaluate this risk through extensive modeling of risk both before making an investment and throughout the life of the security. Our best estimate of the duration of the combined residential mortgage-backed securities portfolio held in investment and available for sale securities at June 30, 2020 is 2.4 years. Management estimates the duration extends to 3.7 years assuming an immediate 200 basis point upward shock. The estimated duration contracts to 2.1 years assuming a 100 basis point decline in the current low rate environment.

Loans

The aggregate loan portfolio before allowance for loan losses totaled $24.2 billion at June 30, 2020, up $1.7 billion over March 31, 2020, primarily due to a $2.1 billion increase from PPP loans, partially offset by paydowns in the commercial portfolio.

Table 12 -- Loans
(In thousands)

	June 30, 2020	Mar. 31, 2020	Dec. 31, 2019	Sept. 30, 2019	June 30, 2019
Commercial:					
Energy	**$ 3,974,174**	$ 4,111,676	$ 3,973,377	$ 4,114,269	$ 3,921,353
Services	**3,779,881**	3,955,748	3,832,031	4,011,089	4,105,117
Healthcare	**3,289,343**	3,165,096	3,033,916	3,032,968	2,926,510
General business	**3,115,112**	3,563,455	3,192,326	3,266,299	3,383,928
Total commercial	**14,158,510**	14,795,975	14,031,650	14,424,625	14,336,908
Commercial real estate:					
Multifamily	**1,407,107**	1,282,457	1,265,562	1,324,839	1,300,372
Office	**973,995**	962,004	928,379	1,014,275	1,056,306
Retail	**780,467**	774,198	775,521	799,169	825,399
Industrial	**723,005**	728,026	856,117	873,536	828,569
Residential construction and land development	**136,911**	138,958	150,879	135,361	141,509
Other commercial real estate	**532,659**	564,442	457,325	478,877	557,878
Total commercial real estate	**4,554,144**	4,450,085	4,433,783	4,626,057	4,710,033
Paycheck protection program	**2,081,428**	—	—	—	—
Loans to individuals:					
Residential mortgage	**1,813,442**	1,844,555	1,886,378	1,925,539	1,975,449
Residential mortgage guaranteed by U.S. government agencies	**322,269**	197,889	197,794	191,764	195,373
Personal	**1,226,097**	1,175,466	1,201,382	1,117,382	1,037,889
Total loans to individuals	**3,361,808**	3,217,910	3,285,554	3,234,685	3,208,711
Total	**$ 24,155,890**	$ 22,463,970	$ 21,750,987	$ 22,285,367	$ 22,255,652

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 $14.2 billion or 59 percent of the loan portfolio at June 30, 2020, a $637 million decrease compared to March 31, 2020, primarily due to paydowns in the second quarter.

Approximately 79 percent 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 4 percent 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 loans totaled $4.0 billion or 16 percent of total loans at June 30, 2020, a $138 million decrease compared to March 31, 2020. Approximately $3.1 billion of energy loans were to oil and gas producers, down $105 million compared to March 31, 2020. 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 62 percent of the committed production loans are secured by properties primarily producing oil and 38 percent of the committed production loans are secured by properties primarily producing natural gas.

Loans to midstream oil and gas companies totaled $688 million at June 30, 2020, up $17 million over March 31, 2020. Loans to borrowers that provide services to the energy industry totaled $142 million at June 30, 2020, down $42 million. Loans to other energy borrowers, including those engaged in wholesale or retail energy sales, totaled $63 million, a $7.3 million decrease compared to the prior quarter.

Unfunded energy loan commitments were $2.5 billion at June 30, 2020, a $222 million decrease compared to March 31, 2020 primarily due to semi-annual borrowing base redeterminations completed during the second quarter.

The healthcare sector of the loan portfolio totaled $3.3 billion or 14 percent of total loans. Healthcare loans increased $124 million over March 31, 2020, primarily due to growth in balances from medical service providers. 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. Healthcare also includes loans to hospitals and other medical service providers impacted by a deferral of elective procedures. The CARES Act includes multiple revenue enhancement measures for both hospitals and skilled nursing facilities as they manage through the risks of the virus.
The services sector of the loan portfolio decreased $176 million to $3.8 billion or 16 percent of total loans. Service sector loans consist of a large number of loans to a variety of businesses, including Native American tribal and state and local governments, Native American tribal casino operations, educational services, foundations and not-for-profit organizations and specialty trade contractors. Approximately $1.9 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 decreased $448 million to $3.1 billion or 13 percent of total loans. General business loans consist of $1.7 billion of wholesale/retail loans, $780 million of loans from other commercial industries, and the remainder from manufacturing loans.

Our services and general business loans include areas we consider to be more exposed to the economic slowdown as a result of the social distancing measures in place to combat the COVID-19 pandemic such as entertainment and recreation, retail, hotels, churches, airline travel, and higher education that are dependent on large social gatherings to remain profitable. This represents less than 7 percent of our total portfolio. Some of these borrowers have participated in the PPP, which has provided some measure of relief. We will continue to monitor these areas closely in the coming months.

We participate in shared national credits when appropriate to obtain or maintain business relationships with local customers. Shared national credits are defined by banking regulators as credits of more than $100 million and with three or more non-affiliated banks as participants. At June 30, 2020, the outstanding principal balance of these loans totaled $4.7 billion, including $2.2 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 percent 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.

The commercial real estate loan balance as a percentage of our total loan portfolio has ranged from 19 percent to 22 percent over the past five years. The outstanding balance of commercial real estate loans increased $104 million over March 31, 2020. Multifamily residential loans, our largest exposure in commercial real estate, increased $125 million to $1.4 billion at June 30, 2020. Pay downs from refinances into the permanent market slowed during the second quarter. Loans secured by office buildings increased $12 million to $974 million. Loans secured by other commercial real estate properties decreased $32 million to $533 million. Loans secured by retail facilities were $780 million at June 30, 2020, largely unchanged from the prior quarter.

Approximately 71 percent 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 7 percent of the segment, followed by California at 6 percent. All other states represent less than 5 percent individually.

Loans secured by retail facilities and office buildings may be adversely impacted by measures being taken to hinder the spread of the virus as well as changes in consumer behavior.

Payment Protection Program

We are actively participating in programs initiated by the Coronavirus Aid, Relief and Economic Security Act ("CARES Act"), including the Small Business Administration's ("SBA") Paycheck Protection Program ("PPP") that began on April 3, 2020. PPP provided fully forgivable loans when utilized for qualified expenditures, including to help small business maintain payrolls during the COVID-19 pandemic. These loans have a contractual term of two years, though most are expected to be forgiven prior to maturity after completion of a compliance period. Loans are guaranteed and amounts forgiven will be reimbursed to the Company by the SBA. The loans carry a rate of 1 percent. Interest plus loan fees, which vary depending on loan size, are accrued over the contractual life of the loan. Any unaccreted origination fees will be recognized when the loan is paid.

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. 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 loan originations in the secondary market and retain the majority of our non-conforming and adjustable-rate mortgage loans. We have no concentration in sub-prime residential 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, which includes home equity loans, and personal 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.

Personal loans consist primarily of loans to Wealth Management clients secured by the cash surrender value of insurance policies and marketable securities. It also includes direct loans secured by and for the purchase of automobiles, recreational and marine equipment as well as unsecured loans.

Approximately 93 percent 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 operating location.

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.

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)

	June 30, 2020	Mar. 31, 2020	Dec. 31, 2019	Sept. 30, 2019	June 30, 2019
Texas:					
Commercial	**$ 5,771,691**	$ 6,350,690	$ 6,174,894	$ 6,220,227	$ 5,877,265
Commercial real estate	**1,389,547**	1,296,266	1,259,117	1,292,116	1,341,609
Paycheck protection program	**612,133**	—	—	—	—
Loans to individuals	**748,474**	756,634	727,175	749,361	673,463
Total Texas	**8,521,845**	8,403,590	8,161,186	8,261,704	7,892,337
Oklahoma:					
Commercial	**5,086,934**	3,886,086	3,454,825	3,690,100	3,762,234
Commercial real estate	**636,021**	593,473	631,026	679,786	717,970
Paycheck protection program	**442,518**	—	—	—	—
Loans to individuals	**1,967,665**	1,788,518	1,854,864	1,753,698	1,786,162
Total Oklahoma	**8,133,138**	6,268,077	5,940,715	6,123,584	6,266,366
Colorado:					
Commercial	**1,600,382**	2,181,309	2,169,598	2,247,798	2,325,742
Commercial real estate	**937,742**	955,608	927,826	975,066	1,023,410
Paycheck protection program	**488,279**	—	—	—	—
Loans to individuals	**264,872**	268,674	276,939	303,605	314,317
Total Colorado	**3,291,275**	3,405,591	3,374,363	3,526,469	3,663,469
Arizona:					
Commercial	**1,036,862**	1,396,582	1,307,073	1,276,534	1,330,415
Commercial real estate	**689,121**	714,161	728,832	771,425	761,243
Paycheck protection program	**318,961**	—	—	—	—
Loans to individuals	**177,066**	181,821	186,539	170,815	168,019
Total Arizona	**2,222,010**	2,292,564	2,222,444	2,218,774	2,259,677
Kansas/Missouri:					
Commercial	**404,860**	556,255	527,872	566,969	602,836
Commercial real estate	**314,504**	310,799	322,541	374,795	331,443
Paycheck protection program	**76,724**	—	—	—	—
Loans to individuals	**102,577**	116,734	131,069	146,522	155,453
Total Kansas/Missouri	**898,665**	983,788	981,482	1,088,286	1,089,732
New Mexico:					
Commercial	**182,688**	327,164	305,320	335,409	350,520
Commercial real estate	**455,574**	434,150	402,148	374,331	385,058
Paycheck protection program	**128,058**	—	—	—	—
Loans to individuals	**83,470**	87,110	90,257	92,270	92,626
Total New Mexico	**849,790**	848,424	797,725	802,010	828,204
Arkansas:					
Commercial	**75,093**	97,889	92,068	87,588	87,896
Commercial real estate	**131,635**	145,628	162,293	158,538	149,300
Paycheck protection program	**14,755**	—	—	—	—
Loans to individuals	**17,684**	18,419	18,711	18,414	18,671
Total Arkansas	**239,167**	261,936	273,072	264,540	255,867
Total BOK Financial loans	**$ 24,155,890**	$ 22,463,970	$ 21,750,987	$ 22,285,367	$ 22,255,652

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 U.S. Department of Veteran's Affairs ("VA"). During the second quarter, we sold mortgage servicing rights related to residential mortgage loans primarily guaranteed by the VA with an unpaid principal balance of $1.6 billion.

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.

The CARES Act provided protections for borrowers with agency-backed residential mortgages that are serviced by the Company. Forbearance must be granted upon receiving a request from a borrower and the borrower's attestation to a financial hardship associated with the COVID-19 emergency. The Bank is required to offer up to a 6 month forbearance, with the possibility of an additional 6 month extension. This program was available to all current and delinquent borrowers, including those in bankruptcy and/or foreclosure. As of June 30, 2020, agency-serviced loans in forbearance included 4,503 borrowers with an unpaid principal balance of $792 million. For certain contracts, we must advance principal and interest payments during the forbearance period. Advances as of June 30, 2020 totaled $6.2 million. Advances are generally reimbursed to us by the appropriate agencies. Loans in forbearance are considered delinquent when payments are not made for purposes of valuing mortgage servicing rights and for purposes of determining GNMA loans that are eligible to be repurchased. As of June 30, 2020, 40% of borrowers in forbearance remained current.

Table 14 – Off-Balance Sheet Credit Commitments
(In thousands)

	June 30, 2020	Mar. 31, 2020	Dec. 31, 2019	Sept. 30, 2019	June 30, 2019
Loan commitments	**$ 10,298,572**	$ 9,960,678	$ 11,065,649	$ 11,259,366	$ 11,411,819
Standby letters of credit	**693,177**	683,516	645,505	712,944	698,527
Unpaid principal balance of residential mortgage loans sold with recourse	**82,305**	86,336	88,808	92,139	93,606
Unpaid principal balance of residential mortgage loans transferred into mortgage-backed securities guaranteed by U.S. Dept. of Veteran's Affairs	**1,715,025**	3,217,567	3,375,451	3,472,375	3,568,408

Customer Derivative 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 derivative programs create credit risk for potential amounts due to the Company from our customers and from the counterparties. Customer credit risk is monitored through existing credit policies and procedures. The effects of changes in commodity prices, interest rates or foreign exchange rates are evaluated across a range of possible 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 deteriorated such that either the fair value of underlying collateral no longer supported the contract or the customer or the counterparty's ability to provide margin collateral was 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 June 30, 2020, the net fair values of derivative contracts, before consideration of cash margin, reported as assets under these programs totaled $658 million compared to $929 million at March 31, 2020. At June 30, 2020, the net fair value of our derivative contracts included $282 million for foreign exchange contracts, $235 million for energy contracts and $140 million for interest rate swaps. The aggregate net fair value of derivative contracts, before consideration of cash margin, held under these programs reported as liabilities totaled $620 million at June 30, 2020 and $893 million at March 31, 2020.

At June 30, 2020, total derivative assets were reduced by $156 million of cash collateral received from counterparties and total derivative liabilities were reduced by $132 million of cash collateral paid to counterparties related to instruments executed with the same counterparty under a master netting agreement.

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 June 30, 2020 follows in Table 15.

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

Customers	$ 292,957
Banks and other financial institutions	162,132
Exchanges and clearing organizations	46,645
Fair value of customer risk management program asset derivative contracts, net	$ 501,734

At June 30, 2020, our largest derivative exposure was to an exchange for energy contracts of $47 million.

Our customer derivative program also introduces liquidity and capital risk. We are required to provide cash margin to certain counterparties when the net negative fair value of the contracts exceeds established limits. Also, changes in commodity prices affect the amount of regulatory capital we are required to hold as support for the fair value of our derivative assets. These risks are modeled as part of the management of these programs. Based on current prices, a decrease in market prices equivalent to $26.16 per barrel of oil would not be great enough to create a scenario in which we are owed by our customers. This is due to the price of oil being within the weighted average fixed price of the portfolio. Rather, we would be owed by the counterparties, however, due to our margining status with counterparties, one would not see any impact here. An increase in prices equivalent to $53.24 per barrel of oil would increase the fair value of derivative assets by $127 million as margin received falls faster than the asset values. Further increases in price to the equivalent of $70.65 per barrel of oil would increase the fair value of our derivative assets by $312 million with lending customers comprising the bulk of the assets. Liquidity requirements of this program may also be affected by our credit rating. At June 30, 2020, 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 June 30, 2020, 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
(In thousands)

	Three Months Ended	
	June 30, 2020	**Mar. 31, 2020**
Allowance for loan losses:		
Beginning balance	**$ 315,311**	$ 210,759
CECL transition adjustment[1]	**—**	25,809
Beginning balance, adjusted	**315,311**	236,568
Loans charged off	**(15,570)**	(18,917)
Recoveries of loans previously charged off	**1,491**	1,696
Net loans charged off	**(14,079)**	(17,221)
Provision for credit losses	**134,365**	95,964
Ending balance	**$ 435,597**	$ 315,311
Accrual for off-balance sheet credit risk from unfunded loan commitments:		
Beginning balance	**$ 28,514**	$ 1,585
CECL transition adjustment	**—**	23,552
Beginning balance, adjusted	**28,514**	25,137
Provision for credit losses	**4,405**	3,377
Ending balance	**$ 32,919**	$ 28,514
Accrual for off-balance sheet credit risk associated with mortgage banking activities:		
Beginning balance	**$ 9,660**	$ 4,820
CECL transition adjustment	**—**	10,915
Beginning balance, adjusted	**9,660**	15,735
Loans charged off	**(44)**	(55)
Provision for credit losses	**(3,575)**	(6,020)
Ending balance	**$ 6,041**	$ 9,660
Allowance for credit losses related to held-to-maturity (investment) securities:		
Beginning balance	**$ 1,502**	$ —
CECL transition adjustment	**—**	1,052
Beginning balance, adjusted	**1,502**	1,052
Provision for credit losses	**126**	450
Ending balance	**$ 1,628**	$ 1,502
Total provision for credit losses	**$ 135,321**	$ 93,771
Net charge-offs (recoveries) (annualized) to average loans	**0.23 %**	0.31 %
Net charge-offs (recoveries) (annualized) to average loans excluding PPP loans[2]	**0.25 %**	0.31 %
Recoveries to gross charge-offs	**9.58 %**	8.97 %
Provision for loan losses (annualized) to average loans	**2.25 %**	1.71 %
Allowance for loan losses to loans outstanding at period-end	**1.80 %**	1.40 %
Allowance for loan losses to loans outstanding at period-end excluding PPP loans[2]	**1.97 %**	1.40 %
Accrual for unfunded loan commitments to loan commitments	**0.32 %**	0.29 %
Combined allowance for loan losses and accrual for off-balance sheet credit risk from unfunded loan commitments to loans outstanding at period-end	**1.94 %**	1.53 %
Combined allowance for loan losses and accrual for off-balance sheet credit risk from unfunded loan commitments to loans outstanding at period-end excluding PPP loans[2]	**2.12 %**	1.53 %

[1] Included $1.3 million related to measurement changes to the allowance attributed to outstanding loan balances and $24.5 million related to recognition of expected credit losses on acquired loans.

[2] Metric meaningful due to the unique characteristics and short-term nature of the PPP loans.

	Three Months Ended		
	Dec. 31, 2019	Sept. 30, 2019	June 30, 2019
Allowance for loan losses:			
Beginning balance	$ 204,432	$ 202,534	$ 205,340
Loans charged off	(14,268)	(11,707)	(13,227)
Recoveries of loans previously charged off	1,816	1,066	5,503
Net loans charged off	(12,452)	(10,641)	(7,724)
Provision for loan losses	18,779	12,539	4,918
Ending balance	$ 210,759	$ 204,432	$ 202,534
Accrual for off-balance sheet credit losses:			
Beginning balance	$ 1,364	$ 1,903	$ 1,821
Provision for off-balance sheet credit losses	221	(539)	82
Ending balance	$ 1,585	$ 1,364	$ 1,903
Total combined provision for credit losses	$ 19,000	$ 12,000	$ 5,000
Net charge-offs (recoveries) (annualized) to average loans	0.22 %	0.19 %	0.14 %
Recoveries to gross charge-offs	12.73 %	9.11 %	41.60 %
Provision for loan losses (annualized) to average loans	0.34 %	0.21 %	0.09 %
Allowance for loan losses to loans outstanding at period-end	0.97 %	0.92 %	0.91 %
Accrual for off-balance sheet credit losses to off-balance sheet credit commitments	0.01 %	0.01 %	0.02 %
Combined allowance for credit losses and off-balance sheet credit risk from unfunded loan commitments to loans outstanding at period-end	0.98 %	0.92 %	0.92 %

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

The Company adopted FASB Accounting Standard Update No. 2016-13, *Financial Instruments – Credit Losses (Topic 326): Assets Measured at Amortized Cost* ("CECL") on January 1, 2020 through a pre-tax cumulative-effect adjustment to equity of $61.4 million. CECL requires recognition of expected credit losses on assets carried at amortized cost over their expected lives. The previous incurred loss model incorporated only known information as of the balance sheet date. Prior years reported under the incurred loss model have not been restated. CECL uses models to 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 gross domestic product ("GDP") growth, civilian unemployment rate and West Texas Intermediate ("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.

The provision for credit losses was $135.3 million for the second quarter of 2020, with $138.8 million related to lending activities. Changes in our reasonable and supportable forecasts of macroeconomic variables, primarily due to the anticipated impact of the on-going COVID-19 pandemic, and other assumptions, required a provision of $54.6 million. All other changes totaled $84.2 million, which included $14.4 million primarily due to increased specific impairment of energy loans, portfolio changes of $55.7 million primarily due to changes in risk grades related to energy loans partially offset by the impact of a decrease in loan balances, and net charge-offs of $14.1 million. The provision related to lending activities was decreased by a $3.6 million reduction in the accrual for expected credit losses from mortgage banking activities. During the second quarter, the Company sold certain mortgage servicing rights related to residential mortgage loans transferred to mortgage-backed securities. These servicing rights expose the Company to credit risk for amounts that exceed the U.S. government agency guarantees.

Our reasonable and supportable forecast of macroeconomic variables are significantly influenced by the COVID-19 pandemic developments and related government stimulus policies. A summary of macroeconomic variables considered in developing our estimate of expected credit losses follows:

	Base	**Downside**	**Upside**
Scenario probability weighting	50%	25%	25%
COVID-19 trajectory	Localized and state-level hotspots with second waves emerging. This leads to more targeted shutdowns; however, widespread shutdown is not enacted.	A broader second wave emerges in the second half of 2020. As cases rise, a widespread shutdown is implemented.	Improves more quickly than currently expected and the severity of the illness abates. Minimal shutdowns occur, even at a more localized level.
Economic recovery (driven by COVID-19 trajectory)	Swoosh shaped recovery. A gradual and measured reopening of the economy after a significant second quarter decline. GDP recovering to pre-COVID-19 levels by mid-year 2022.	U-shaped recovery. Pace of recovery is slow. Economic activity and the labor market struggle significantly though improved from April trough. GDP does not recover to pre-COVID-19 levels until late 2023.	V-shaped recovery. A more confident and full reopening of the economy. GDP recovering to pre-COVID-19 levels by mid-year 2021.
Fiscal stimulus (driven by economic recovery)	Additional fiscal stimulus of $1.3 trillion to $1.6 trillion is expected to be deployed over the next 6 to 9 months. Stimulus will be more targeted and include a less generous round of unemployment benefits and additional direct payment to individuals, state fiscal aid, and support for specifically impacted business sectors.	Additional broad-based fiscal stimulus of $2.0 trillion to $2.5 trillion is deployed.	Smaller, more-targeted stimulus package of $1.0 trillion to $1.2 trillion is deployed focused on state aid and specific business support.
Macro-eocnomic factors	– Cumulative GDP from the fourth quarter of 2019 (pre-COVID-19) through the second quarter of 2021 is forecasted to contract 2.4 percent. – Civilian unemployment rate of 13.7 percent in the second quarter of 2020 gradually improves to 8.5 percent by the second quarter of 2021. – WTI oil prices are projected to generally follow the NYMEX forward curve that existed at the end of June 2020 and are expected to average $39.58 per barrel over the next 12 months.	– Cumulative GDP from the fourth quarter of 2019 (pre-COVID-19) through the second quarter of 2021 is forecasted to contract 7.0 percent. – Civilian unemployment rate of 13.7 percent in the second quarter of 2020 slowly improves to 10.0 percent by the second quarter of 2021. – WTI oil prices are projected to average $32.90 over the next 12 months.	– Cumulative GDP from the fourth quarter of 2019 (pre-COVID-19) through the second quarter of 2021 forecasted to grow by 0.7 percent. – Civilian unemployment rate of 13.7 percent in the second quarter of 2020 quickly improves to 6.8 percent by the second quarter of 2021. – WTI oil prices are projected to average $42.78 per barrel over the next 12 months.

The civilian unemployment rate is used in estimating expected credit losses for a number of our portfolios because historically it has been a good indicator of financial difficulty. The upward change in unemployment rates during the first half of 2020 was unprecedented and has been considered within the context of the government's response through the CARES Act. These enacted economic stimulus programs, which expire in the third quarter of 2020, have increased benefits available and broadened definitions of those eligible for unemployment benefits. As a result, the historical relationship between unemployment rates and credit losses is currently not a reliable indicator of future expected credit losses. Instead, management developed a forecast for civilian unemployment rates then analyzed the effect of enacted economic stimulus. This analysis showed current expected credit losses are likely more similar to unemployment rates 2 to 4 percentage points lower than forecasted rates. We reduced the base case forecasted civilian unemployment rate for the third quarter of 2020 to 8.4 percent, the downside case to 9.7 percent, and the upside case to 7.4 percent.

Management took a similar approach in estimating the impact of possible future government stimulus programs deployed after the third quarter of 2020 for the remainder of the forecast period. Expected credit losses are likely to be more similar to unemployment rates that are 1 percentage point lower than forecasted rates causing management to reduce its estimate of expected credit losses through a qualitative adjustment of $15 million.

The second quarter provision for credit losses was also affected by changes in risk grading. A summary of loans by risk grade is included in Note 4 to the Consolidated Financial Statements. Non-pass grade loans which include other loans especially mentioned, defined by regulatory guidelines as loans that are currently performing in compliance with original terms but may have a potential weakness that deserves management's close attention, accruing substandard loans, and nonaccruing loans totaled $1.5 billion at June 30, an $816 million increase from March 31. Non-pass graded energy loans totaled $1.1 billion at June 30, a $716 million increase from March 31. The recent oil price decline, coupled with the capital markets environment requiring certain customers to work through their liquidity needs weighed on some energy borrowers. The forward price curve for energy, particularly oil, remained depressed throughout most of the second quarter, but recovered somewhat in June. This risk grade migration was realized as we completed most of our energy borrowing base redeterminations in April and May. Prices have improved since, but do remain fragile and closely tied to the continued economic recovery. Should current price levels hold into our next semi-annual borrowing base redetermination in the fall, we would anticipate positive credit quality migration in this portfolio.

Although fiscal stimulus through PPP, SBA support and other CARES Act programs have had a positive impact on credit quality, we received a number of deferral or forbearance requests early in the second quarter. All requests were evaluated on a case-by-case basis and all loans greater than $1 million that requested forbearance were reviewed for proper grading. We granted $1.2 billion in forbearance requests from customers as of June 30, including $704 million, or 5 percent of commercial loans, primarily in small business and healthcare, $398 million, or 9 percent of commercial real estate loans and $143 million, or 4 percent of loans to individuals. As of mid-July, we are approaching the expiration of the first 90-day deferral period. Upon request, we will consider an additional 90-day deferral. To date, over 60 percent of the loans with payment deferrals are going back to regular payments.

The allowance for loan losses totaled $436 million or 1.80 percent of outstanding loans and 175 percent of nonaccruing loans at June 30, 2020, excluding residential mortgage loans guaranteed by U.S. government agencies. The combined allowance for loan losses and accrual for off-balance sheet credit risk from unfunded loan commitments was $469 million or 1.94 percent of outstanding loans and 188 percent of nonaccruing loans at June 30, 2020. Excluding PPP loans, the allowance for loan losses was 1.97 percent of outstanding loans and the combined allowance for loan losses and accrual for off-balance sheet credit risk from unfunded loan commitments was 2.12 percent.

The allowance for credit losses attributed to energy was 4.44 percent of outstanding energy loans at June 30. Our semi-annual borrowing base redeterminations based on forward pricing curves that existed at that time resulted in credit quality migration. While forward prices subsequently improved, the pricing environment remains fragile and tied to the continued economic recovery from the impact of the COVID-19 pandemic. We believe the duration of the downturn is a more significant factor affecting performance than the level of prices.

We also conduct quarterly stress tests of our energy borrowers with more than 50 percent funding on their lines of credit and all non-pass graded loans using a current price deck discounted at 20 percent. This stress test helps us identify potential issues, although the most recent test corroborated the risk grading of energy borrowers evaluated once hedging was taken into consideration. Of all the energy customers that we stress test, which makes up 96 percent of production loans outstanding, 91 percent of our customers have some level of hedging in the 12-month range and many of them carry into the 24-month range.

The company recorded a $93.8 million provision for credit losses in the first quarter of 2020. The allowance for loan losses was $315 million or 1.40 percent of outstanding loans and 199 percent of nonaccruing loans, excluding loans guaranteed by U.S. government agencies at March 31, 2020. The combined allowance for loan losses and accrual for off-balance sheet credit risk from unfunded loan commitments was $344 million or 1.53 percent of outstanding loans and 217 percent of nonaccruing loans.

Net Loans Charged Off

Net charge-offs of commercial loans were $14.2 million in the second quarter of 2020, primarily related to energy production loans. Net commercial real estate loan recoveries were $74 thousand and net recoveries of loans to individuals were $16 thousand. 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 U.S. Department of Veteran's Affairs ("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.

The accrual for off-balance sheet credit risk associated with mortgage banking activities decreased $3.6 million during the second quarter, primarily due to the sale of mortgage servicing rights related to $1.6 billion of residential mortgage loans during the quarter. These servicing rights expose the Company to credit risk for amounts that exceed the U.S. government agency guarantees.

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 is based on 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. Accruing renegotiated loans guaranteed by U.S. government agencies represent residential mortgage loans that have been modified in troubled debt restructurings. Interest continues to accrue based on the modified terms of the loan and loans may be sold once they become eligible according to U.S. government agency guidelines. Real estate and other repossessed assets are assets acquired in partial or total forgiveness of loans. The assets are carried at the lower of cost as determined by fair value at the date of foreclosure or current fair value, less estimated selling costs. A summary of nonperforming assets follows in Table 17:

Table 17 -- Nonperforming Assets
(In thousands)

	June 30, 2020	Mar. 31, 2020	Dec. 31, 2019	Sept. 30, 2019	June 30, 2019
Nonaccruing loans:					
Commercial:					
Energy	**$ 162,989**	$ 96,448	$ 91,722	$ 88,894	$ 71,632
Healthcare	**3,645**	4,070	4,480	5,978	16,148
Services	**21,032**	8,425	7,483	6,119	10,087
General business	**14,333**	9,681	11,731	10,715	25,528
Total commercial	**201,999**	118,624	115,416	111,706	123,395
Commercial real estate	**13,956**	8,545	27,626	23,185	21,670
Loans to individuals:					
Residential mortgage	**33,098**	30,721	31,522	30,972	31,734
Residential mortgage guaranteed by U.S. government agencies	**6,110**	5,005	6,100	6,332	6,743
Personal	**233**	277	287	271	237
Total loans to individuals	**39,441**	36,003	37,909	37,575	38,714
Total nonaccruing loans	**$ 255,396**	$ 163,172	$ 180,951	$ 172,466	$ 183,779
Accruing renegotiated loans guaranteed by U.S. government agencies	**114,571**	91,757	92,452	92,718	95,989
Real estate and other repossessed assets	**35,330**	36,744	20,359	21,026	16,940
Total nonperforming assets	**$ 405,297**	$ 291,673	$ 293,762	$ 286,210	$ 296,708
Total nonperforming assets excluding those guaranteed by U.S. government agencies	**$ 284,616**	$ 194,911	$ 195,210	$ 187,160	$ 193,976
Allowance for loan losses to nonaccruing loans[1,2]	**174.74 %**	199.35 %	120.54 %	123.05 %	114.40 %
Nonperforming assets to outstanding loans and repossessed assets	**1.68 %**	1.30 %	1.35 %	1.28 %	1.33 %
Nonperforming assets to outstanding loans and repossessed assets excluding residential mortgage and PPP loans guaranteed by U.S. government agencies[2]	**1.31 %**	0.87 %	0.90 %	0.85 %	0.88 %
Nonaccruing commercial loans to outstanding commercial loans	**1.43 %**	0.80 %	0.82 %	0.77 %	0.86 %
Nonaccruing commercial real estate loans to outstanding commercial real estate loans	**0.31 %**	0.19 %	0.62 %	0.50 %	0.46 %
Nonaccruing loans to individuals to outstanding loans to individuals[3]	**1.10 %**	1.03 %	1.03 %	1.03 %	1.06 %

[1] Effective January 1, 2020, the Company adopted the required expected credit loss approach for the allowance as required by ASU 2016-13, *Financial Instruments - Credit Losses*. All periods prior to January 1, 2020 reflect the incurred loss approach in effect at that time.

[2] Excludes residential mortgage and PPP loans guaranteed by U.S. government agencies.

[3] Excludes residential mortgages guaranteed by U.S. government agencies.

Excluding assets guaranteed by U.S. government agencies, nonperforming assets increased $90 million over March 31, 2020, primarily due to a $67 million increase in nonaccruing energy loans and a $13 million increase in nonaccruing services loans. Newly identified nonaccruing loans totaled $124 million, partially offset by $16 million of payments, $16 million of charge-offs and $1.1 million of foreclosures. 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 and six months ended June 30, 2020 follows in Table 18.

Table 18 -- Rollforward of Nonperforming Assets
(In thousands)

	Three Months Ended June 30, 2020						
	Nonaccruing Loans						
	Commercial	Commercial Real Estate	Loan to Individuals	Total	Renegotiated Loans	Real Estate and Other Repossessed Assets	Total Nonperforming Assets
Balance, Mar. 31, 2020	$ 118,624	$ 8,545	$ 36,003	$ 163,172	$ 91,757	$ 36,744	$ 291,673
Additions	112,947	5,446	6,044	124,437	31,992	—	156,429
Payments	(14,005)	(34)	(2,455)	(16,494)	(671)	—	(17,165)
Charge-offs	(14,487)	(1)	(1,082)	(15,570)	—	—	(15,570)
Net gains (losses) and write-downs	—	—	—	—	—	579	579
Foreclosure of nonperforming loans	(1,080)	—	(2)	(1,082)	—	1,082	—
Foreclosure of loans guaranteed by U.S. government agencies	—	—	—	—	(323)	—	(323)
Proceeds from sales	—	—	—	—	(7,592)	(3,075)	(10,667)
Return to accrual status	—	—	933	933	(933)	—	—
Other, net	—	—	—	—	341	—	341
Balance, June 30, 2020	$ 201,999	$ 13,956	$ 39,441	$ 255,396	$ 114,571	$ 35,330	$ 405,297

	Six Months Ended June 30, 2020						
	Nonaccruing Loans						
	Commercial	Commercial Real Estate	Loan to Individuals	Total	Renegotiated Loans	Real Estate and Other Repossessed Assets	Total Nonperforming Assets
Balance, Dec. 31, 2019	$ 115,416	$ 27,626	$ 37,909	$ 180,951	$ 92,452	$ 20,359	$ 293,762
Additions	139,636	5,450	9,190	154,276	40,849	—	195,125
Payments	(20,652)	(188)	(4,585)	(25,425)	(1,585)	—	(27,010)
Charge-offs	(31,102)	(887)	(2,498)	(34,487)	—	—	(34,487)
Net gains (losses) and write-downs	—	—	—	—	—	582	582
Foreclosure of nonperforming loans	(1,080)	(18,045)	(431)	(19,556)	—	19,556	—
Foreclosure of loans guaranteed by U.S. government agencies	—	—	(1,077)	(1,077)	(2,162)	—	(3,239)
Proceeds from sales	—	—	—	—	(14,735)	(5,167)	(19,902)
Return to accrual status	(219)	—	933	714	(933)	—	(219)
Other, net	—	—	—	—	685	—	685
Balance, June 30, 2020	$ 201,999	$ 13,956	$ 39,441	$ 255,396	$ 114,571	$ 35,330	$ 405,297

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 repossessed assets totaled $35 million at June 30, 2020, composed primarily of $23 million of developed commercial real estate, $5.6 million of undeveloped land primarily zoned for commercial development, $5.1 million of oil and gas properties and $1.6 million of 1-4 family residential properties. Real estate and other repossessed assets totaled $37 million at March 31, 2020.

Liquidity and Capital

Based on the average balances for the second quarter of 2020, approximately 66 percent of our funding was provided by deposit accounts, 19 percent from borrowed funds, less than 1 percent from long-term subordinated debt and 10 percent from equity. 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.

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 second quarter of 2020 totaled $32.7 billion, a $4.5 billion increase over the first quarter of 2020. Inflows resulting from PPP loans and other government stimulus payments provided to customers by the CARES Act during the pandemic, along with additional core deposit growth as customer's maintain higher balances, have all contributed to the significant increase in deposits. Demand deposits increased $2.3 billion, interest-bearing transaction account balances increased $1.9 billion.

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

	Three Months Ended				
	June 30, 2020	**Mar. 31, 2020**	**Dec. 31, 2019**	**Sept. 30, 2019**	**June 30, 2019**
Commercial Banking	**$ 14,599,225**	$ 11,907,386	$ 11,419,558	$ 10,833,057	$ 10,724,206
Consumer Banking	**7,587,246**	6,869,481	6,974,453	6,983,018	6,998,677
Wealth Management	**8,385,681**	7,623,986	7,301,391	6,590,332	6,220,848
Subtotal	**30,572,152**	26,400,853	25,695,402	24,406,407	23,943,731
Funds Management and other	**2,078,802**	1,794,715	1,404,838	1,293,767	1,218,645
Total	**$ 32,650,954**	$ 28,195,568	$ 27,100,240	$ 25,700,174	$ 25,162,376

Average Commercial Banking deposit balances increased $2.7 billion over the first quarter of 2020. Demand deposit balances increased $1.6 billion and interest-bearing transaction account balances increased $723 million. Time deposits were up $358 million over the prior quarter. Commercial customers continue to retain large cash reserves primarily due to a combination of factors including uncertainty about the economic environment and potential for growth, lack of preferable liquid alternatives and a desire to minimize deposit service charges through the earnings credit. The earnings credit is a non-cash method that enables commercial customers to offset deposit service charges based on account balances. Commercial deposit balances may decrease as the economic outlook improves and if short-term rates move higher, enhancing their investment alternatives.

Average Consumer Banking deposit balances increased $718 million compared to the prior quarter. A $502 million increase in demand deposit balances, a $153 million increase in interest-bearing transaction deposit balances and an $81 million increase in savings account balances was partially offset by an $18 million decrease in time deposit balances.

Average Wealth Management deposits increased $762 million over the first quarter of 2020. Interest-bearing transaction account balances were up $603 million. Demand deposit balances increased $163 million.

Average time deposits for the second quarter of 2020 included $158 million of brokered deposits, an $89 million decrease compared to the first quarter of 2020. Average interest-bearing transaction accounts for the second quarter included $1.8 billion of brokered deposits, a $448 million increase over the first quarter of 2020.

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)

	June 30, 2020	Mar. 31, 2020	Dec. 31, 2019	Sept. 30, 2019	June 30, 2019
Oklahoma:					
Demand	**$ 4,378,559**	$ 3,669,558	$ 3,257,337	$ 3,515,312	$ 3,279,360
Interest-bearing:					
Transaction	**11,438,489**	9,955,697	8,574,912	7,447,799	7,020,484
Savings	**387,557**	329,631	306,194	308,103	307,785
Time	**1,330,619**	1,137,802	1,125,446	1,198,170	1,253,804
Total interest-bearing	**13,156,665**	11,423,130	10,006,552	8,954,072	8,582,073
Total Oklahoma	**17,535,224**	15,092,688	13,263,889	12,469,384	11,861,433
Texas:					
Demand	**3,070,955**	2,767,399	2,757,376	2,867,915	2,970,340
Interest-bearing:					
Transaction	**3,358,090**	2,874,362	2,911,731	2,589,063	2,453,187
Savings	**128,892**	115,039	102,456	100,597	103,125
Time	**476,867**	505,565	495,343	464,264	425,253
Total interest-bearing	**3,963,849**	3,494,966	3,509,530	3,153,924	2,981,565
Total Texas	**7,034,804**	6,262,365	6,266,906	6,021,839	5,951,905
Colorado:					
Demand	**2,096,075**	1,579,764	1,729,674	1,694,044	1,621,820
Interest-bearing:					
Transaction	**1,816,604**	1,759,384	1,769,037	1,910,874	1,800,271
Savings	**67,477**	58,000	53,307	60,107	57,263
Time	**254,845**	279,105	283,517	273,622	246,198
Total interest-bearing	**2,138,926**	2,096,489	2,105,861	2,244,603	2,103,732
Total Colorado	**4,235,001**	3,676,253	3,835,535	3,938,647	3,725,552
New Mexico:					
Demand	**965,877**	750,052	623,722	645,698	630,861
Interest-bearing:					
Transaction	**752,565**	563,891	558,493	539,260	557,881
Savings	**80,242**	67,553	63,999	62,863	62,636
Time	**222,370**	235,778	238,140	236,135	232,569
Total interest-bearing	**1,055,177**	867,222	860,632	838,258	853,086
Total New Mexico	**2,021,054**	1,617,274	1,484,354	1,483,956	1,483,947

	June 30, 2020	Mar. 31, 2020	Dec. 31, 2019	Sept. 30, 2019	June 30, 2019
Arizona:					
Demand	**985,757**	665,396	681,268	705,895	704,144
Interest-bearing:					
Transaction	**780,500**	729,603	684,929	600,103	560,861
Savings	**15,669**	8,832	10,314	12,487	11,966
Time	**42,318**	47,081	49,676	44,347	43,099
Total interest-bearing	**838,487**	785,516	744,919	656,937	615,926
Total Arizona	**1,824,244**	1,450,912	1,426,187	1,362,832	1,320,070
Kansas/Missouri:					
Demand	**427,795**	318,985	384,533	376,020	431,856
Interest-bearing:					
Transaction	**526,635**	537,552	784,574	284,940	310,774
Savings	**15,033**	12,888	12,169	11,689	13,125
Time	**17,746**	19,137	17,877	19,126	19,205
Total interest-bearing	**559,414**	569,577	814,620	315,755	343,104
Total Kansas/Missouri	**987,209**	888,562	1,199,153	691,775	774,960
Arkansas:					
Demand	**67,147**	70,428	27,381	39,513	29,176
Interest-bearing:					
Transaction	**177,535**	175,803	108,076	149,506	148,485
Savings	**2,101**	1,862	1,837	1,747	1,783
Time	**7,995**	8,005	7,850	7,877	7,810
Total interest-bearing	**187,631**	185,670	117,763	159,130	158,078
Total Arkansas	**254,778**	256,098	145,144	198,643	187,254
Total BOK Financial deposits	**$ 33,892,314**	$ 29,244,152	$ 27,621,168	$ 26,167,076	$ 25,305,121

In addition to deposits, liquidity is provided primarily by federal funds purchased, securities repurchase agreements and Federal Home Loan Bank borrowings. Federal funds purchased consist primarily of unsecured, overnight funds acquired from other financial institutions. Funds are primarily purchased from bankers' banks and Federal Home Loan banks from across the country. The largest single source of wholesale federal funds purchased totaled $200 million at June 30, 2020. Securities repurchase agreements generally mature within 90 days and are secured by certain available for sale and trading securities. Federal Home Loan Bank borrowings are generally short-term and are secured by a blanket pledge of eligible collateral (generally unencumbered U.S. Treasury and 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 $2.7 billion during the quarter, compared to $6.5 billion in the first quarter of 2020.

On March 15, 2020, the Federal Reserve announced changes to the Discount Window, including narrowing the spread of the primary credit rate relative to the general level of overnight interest to help encourage more active use of the Discount Window by depository institutions. We increased our collateral at the Discount Window and maintained a modest amount of borrowings in late March into early April. On April 13, 2020, the banking agencies published an interim final rule which permits banking organizations to exclude from regulatory capital requirements PPP covered loans pledged to the Federal Reserve's Paycheck Protection Program Liquidity Facility ("PPLF"). The Company initially funded PPP loans from deposits and Federal Home Loan Bank borrowings, but transitioned to the PPLF in June in order to realize this regulatory capital relief.

At June 30, 2020, the estimated unused credit available to BOKF, NA from collateralized sources was approximately $14.6 billion.

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

Table 21 -- Borrowed Funds
(In thousands)

		Three Months Ended June 30, 2020				Three Months Ended Mar. 31, 2020		
	June 30, 2020	Average Balance During the Quarter	Rate	Maximum Outstanding At Any Month End During the Quarter	Mar. 31, 2020	Average Balance During the Quarter	Rate	Maximum Outstanding At Any Month End During the Quarter
Funds purchased	**830,732**	**2,411,533**	**0.15 %**	**3,311,938**	1,827,134	2,848,816	1.25 %	2,608,315
Repurchase agreements	**526,870**	**3,404,951**	**0.14 %**	**3,230,097**	2,756,634	967,125	0.82 %	2,756,634
Other borrowings:								
Federal Home Loan Bank advances	**1,000,000**	**2,658,242**	**0.53 %**	**2,300,000**	5,500,000	6,474,725	1.65 %	7,500,000
GNMA repurchase liability	**126,569**	**21,229**	**4.28 %**	**126,569**	15,030	14,304	4.41 %	15,030
Federal Reserve Bank advances	**—**	**135,165**	**0.25 %**	**—**	—	36,264	0.31 %	—
Paycheck protection program liquidity facility	**2,013,414**	**678,645**	**0.36 %**	**2,013,414**	—	—	— %	—
Other	**33,580**	**34,022**	**3.51 %**	**49,376**	14,524	17,032	4.13 %	14,524
Total other borrowings	**3,173,563**	**3,527,303**	**0.56 %**		5,529,554	6,542,325	1.66 %	
Subordinated debentures[1]	**275,973**	**275,949**	**5.16 %**	**275,973**	275,942	275,932	5.30 %	275,942
Total other borrowed funds and subordinated debentures	**$ 4,807,138**	**$ 9,619,736**	**0.44 %**		$ 10,389,264	$ 10,634,198	1.57 %	

[1] Parent Company only.

BOKF, NA also has a liability related to the repurchase of certain delinquent residential mortgage loans previously sold in GNMA mortgage pools. Interest is payable monthly at rates contractually due to investors. This liability increased over the prior quarter primarily due to GNMA loans serviced by the Company that are participating in the forbearance program included in the CARES Act, which began in the second quarter. As delinquencies increase, the GNMA repurchase liability will also increase.

Parent Company

At June 30, 2020, cash and interest-bearing cash and cash equivalents held by the parent company totaled $180 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 June 30, 2020, based upon the most restrictive limitations as well as management's internal capital policy, BOKF, NA could declare up to $134 million of dividends without regulatory approval. Dividend constraints may be alleviated through increases in retained earnings, capital issuances or changes in risk weighted assets. Future losses or increases in required regulatory capital at the bank could affect its ability to pay dividends to the parent company.

Our equity capital at June 30, 2020 was $5.1 billion, a $70 million increase over March 31, 2020. Net income less cash dividends paid increased equity $29 million during the second quarter of 2020. Changes in interest rates resulted in a $39 million increase in accumulated other comprehensive gain over March 31, 2020. 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 April 30, 2019, 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 June 30, 2020, 1,308,713 shares have been repurchased under this authorization. The Company paused share repurchases through the second quarter of 2020. 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 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 CECL the option to delay for two years an estimate of the CECL methodology's effect on regulatory capital, followed by a three-year transition period. The estimate includes the implementation date adjustment as of January 1, 2020 plus an estimate of the impact of the change for a two year period following implementation of CECL. We have elected to delay the regulatory capital impact of the transition in accordance with the interim final rule. Deferral of the impact of CECL added 30 basis points to the Company's Common equity Tier 1 capital at June 30, 2020.

The capital ratios for BOK Financial on a consolidated basis are presented in Table 22.

Table 22 -- Capital Ratios

	Minimum Capital Requirement	Capital Conservation Buffer	Minimum Capital Requirement Including Capital Conservation Buffer	June 30, 2020	Mar. 31, 2020	June 30, 2019
Risk-based capital:						
Common equity Tier 1	**4.50 %**	**2.50 %**	**7.00 %**	**11.44 %**	10.98 %	10.84 %
Tier 1 capital	**6.00 %**	**2.50 %**	**8.50 %**	**11.44 %**	10.98 %	10.84 %
Total capital	**8.00 %**	**2.50 %**	**10.50 %**	**13.43 %**	12.65 %	12.34 %
Tier 1 Leverage	**4.00 %**	**N/A**	**4.00 %**	**7.74 %**	8.15 %	8.75 %
Average total equity to average assets				**10.19 %**	10.73 %	11.26 %
Tangible common equity ratio				**8.79 %**	8.39 %	8.69 %

Capital resources of financial institutions are also regularly measured by the tangible common shareholders’ equity ratio. Tangible common shareholders’ equity is shareholders’ equity as defined by generally accepted accounting principles in the United States of America (“GAAP”) less intangible assets and equity which does not benefit common shareholders. Equity that does not benefit common shareholders includes preferred equity. This non-GAAP measure is a valuable indicator of a financial institution’s capital strength since it eliminates intangible assets from shareholders’ equity and retains the effect of unrealized losses on securities and other components of accumulated other comprehensive income in shareholders’ equity.

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

Table 23 -- Non-GAAP Measure
(Dollars in thousands)

	June 30, 2020	Mar. 31, 2020	Dec. 31, 2019	Sept. 30, 2019	June 30, 2019
Tangible common equity ratio:					
Total shareholders' equity	**$ 5,096,995**	$ 5,026,248	$ 4,855,795	$ 4,829,016	$ 4,709,438
Less: Goodwill and intangible assets, net	**1,171,686**	1,169,898	1,173,362	1,172,411	1,172,564
Tangible common equity	**3,925,309**	3,856,350	3,682,433	3,656,605	3,536,874
Total assets	**45,819,874**	47,119,162	42,172,021	43,127,205	41,893,073
Less: Goodwill and intangible assets, net	**1,171,686**	1,169,898	1,173,362	1,172,411	1,172,564
Tangible assets	**$ 44,648,188**	$ 45,949,264	$ 40,998,659	$ 41,954,794	$ 40,720,509
Tangible common equity ratio	**8.79 %**	8.39 %	8.98 %	8.72 %	8.69 %

Off-Balance Sheet Arrangements

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

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 un-pledged assets, among other things. Further, the Board 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 to have relatively limited exposure to changes in interest rates over a twelve-month period. 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 5 percent. The results of a decrease in interest rates in the current low-rate environment are not meaningful.

The Company’s primary interest rate exposures include the Federal Funds rate, which affects short-term borrowings, and the prime lending rate and LIBOR, which are 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.

Table 24 -- Interest Rate Sensitivity
(Dollars in thousands)

	200 bp Increase[1]		100 bp Decrease[2]	
	June 30,		June 30,	
	2020	**2019**	**2020**	**2019**
Anticipated impact over the next twelve months on net interest revenue	**$ 35,746**	$ (15,527)	**N/A**	$ (32,930)
	3.47 %	(1.38)%	**N/A**	(2.93)%

[1] Repricing assumptions for non-maturity deposits were updated in the second quarter of 2020 to better represent observed historical performance.
[2] The results of a decrease in the current low-rate environment in 2020 are not meaningful. The results of a 200 basis point decrease in interest rates in the low-rate environment in 2019 were not meaningful, therefore we reported the effect of a 100 basis point decrease.

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
(Dollars in thousands)

	June 30,			
	2020		**2019**	
	Up 50 bp	**Down 50 bp**	**Up 50 bp**	**Down 50 bp**
MSR Asset	**$ 28,466**	**$ (13,198)**	$ 32,153	$ (41,160)
MSR Hedge	**(25,186)**	**23,542**	(36,192)	33,383
Net Exposure	**3,280**	**10,344**	(4,039)	(7,777)

Trading Activities

The Company bears market risk by originating residential mortgages held for sale ("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
(Dollars in thousands)

	Three Months Ended June 30,				**Six Months Ended June 30,**			
	2020		**2019**		**2020**		**2019**	
	Up 50 bp	**Down 50 bp**	**Up 50 bp**	**Down 50 bp**	**Up 50 bp**	**Down 50 bp**	**Up 50 bp**	**Down 50 bp**
Average[1]	**$ (393)**	**$ (49)**	$ (229)	$ (190)	**$ (304)**	**$ (107)**	$ (104)	$ (490)
Low[2]	**403**	**723**	189	330	**582**	**998**	436	330
High[3]	**(1,310)**	**(823)**	(664)	(1,163)	**(1,344)**	**(1,483)**	(664)	(1,343)
Period End	**(195)**	**10**	(278)	(169)	**(195)**	**10**	(278)	(169)

[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 engages in trading activities both as an intermediary for customers and for its own account. As an intermediary, we take positions in securities, generally U.S. government agency 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, liquidity and price risk. BOK Financial has an insignificant exposure to foreign exchange risk and does not take positions in commodity derivatives.

A variety of methods are used to monitor the interest rate 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. Economic hedges in either the futures or cash markets may be used to reduce the risk associated with some trading programs.

Management performs a stress test to measure market risk from changes in interest rates on its trading portfolio. 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 an $11 million market risk limit for the trading portfolio, net of economic hedges.

Table 27 -- Trading Sensitivity Analysis
(Dollars in thousands)

	Three Months Ended June 30,				Six Months Ended June 30,			
	2020		2019		2020		2019	
	Up 50 bp	Down 50 bp	Up 50 bp	Down 50 bp	Up 50 bp	Down 50 bp	Up 50 bp	Down 50 bp
Average[1]	**$ (2,161)**	**$ 3,314**	$ (2,436)	$ 2,503	**$ (3,371)**	**$ 5,266**	$ (2,080)	$ 2,051
Low[2]	**2,919**	**14,163**	(202)	5,378	**2,919**	**15,309**	857	5,378
High[3]	**(12,490)**	**(2,049)**	(5,153)	267	**(12,490)**	**(2,049)**	(5,153)	(729)
Period End	**704**	**463**	(629)	936	**704**	**463**	629	936

[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.

We have a significant number of loans, derivative contracts, borrowings and other financial instruments with attributes that are either directly or indirectly dependent on LIBOR. In 2017, the U.K. Financial Conduct Authority announced that it would no longer persuade or compel banks to submit to LIBOR after 2021. U.S. regulatory authorities have voiced similar support for phasing out LIBOR. The Federal Reserve Bank of New York's Alternative Reference Rate Committee has recommended the Secured Overnight Financing Rate ("SOFR") as an alternative for LIBOR. However, for two key reasons, SOFR is a secured rate while LIBOR is an unsecured rate and SOFR is an overnight rate while LIBOR is published for different maturities, SOFR is not the economic equivalent of LIBOR. The impact of SOFR or other alternatives to LIBOR on the valuations, pricing and operation of our financial instruments is not yet known.

Management has established a LIBOR Transition Working Group (the "Group") whose purpose is to guide the overall transition process for the company. The Group is an internal, cross-functional team with representatives from all business lines, support and control functions and legal counsel. Key loan provisions have been modified to ensure that new and renewed loans include appropriate LIBOR fallback language to ensure the smoothest possible transition from LIBOR to the new benchmark when such transition occurs. All direct exposures resulting from existing financial contracts that mature after 2021 have been inventoried and are monitored on an ongoing basis. Remediation of these exposures will be consistent with industry timing. The Group has also inventoried indirect LIBOR exposures within the Company's systems, models and processes. The results of this assessment will drive development and prioritization of remediation plans.

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 report, 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, the economy generally and the expected or potential impact of the novel coronavirus (COVID-19) pandemic, and the related responses of the government, consumers, and others, on our business, financial condition and results of operations. Words such as “anticipates,” “believes,” “estimates,” “expects,” “forecasts,” “plans,” “projects,” “will,” “intends,” variations of such words and similar expressions are intended to identify such forward-looking statements. Management judgments relating to and discussion of the provision and allowance for credit losses, allowance for uncertain tax positions, accruals for loss contingencies and valuation of mortgage servicing rights involve judgments as to expected events and are inherently forward-looking statements. Assessments that acquisitions and growth endeavors will be profitable are necessary statements of belief as to the outcome of future events based in part on information provided by others which BOK Financial has not independently verified. These various forward-looking statements are not guarantees of future performance and involve certain risks, uncertainties, and assumptions which are difficult to predict with regard to timing, extent, likelihood and degree of occurrence. Therefore, actual results and outcomes may materially differ from what is expected, implied or forecasted in such forward-looking statements. Internal and external factors that might cause such a difference include, but are not limited to changes in government, consumer or business responses to, and ability to treat or prevent further outbreak of, the COVID-19 pandemic, 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 June 30,		Six Months Ended June 30,	
Interest revenue	**2020**	**2019**	**2020**	**2019**
Loans	**$ 215,438**	$ 293,332	**$ 458,656**	$ 573,204
Residential mortgage loans held for sale	**2,140**	1,754	**3,263**	3,417
Trading securities	**11,407**	15,498	**23,167**	34,193
Investment securities	**3,000**	2,905	**6,121**	6,939
Available for sale securities	**68,297**	59,880	**138,017**	116,711
Fair value option securities	**4,110**	7,503	**15,818**	12,740
Restricted equity securities	**1,880**	6,516	**7,774**	12,861
Interest-bearing cash and cash equivalents	**112**	3,432	**2,505**	6,829
Total interest revenue	**306,384**	390,820	**655,321**	766,894
Interest expense				
Deposits	**17,745**	43,183	**63,904**	80,600
Borrowed funds	**6,996**	58,404	**44,781**	115,214
Subordinated debentures	**3,539**	3,801	**7,172**	7,546
Total interest expense	**28,280**	105,388	**115,857**	203,360
Net interest revenue	**278,104**	285,432	**539,464**	563,534
Provision for credit losses	**135,321**	5,000	**229,092**	13,000
Net interest revenue after provision for credit losses	**142,783**	280,432	**310,372**	550,534
Other operating revenue				
Brokerage and trading revenue	**62,022**	40,526	**112,801**	72,143
Transaction card revenue	**22,940**	21,915	**44,821**	42,653
Fiduciary and asset management revenue	**41,257**	45,025	**85,715**	88,383
Deposit service charges and fees	**22,046**	28,074	**48,176**	56,317
Mortgage banking revenue	**53,936**	28,131	**91,103**	51,965
Other revenue	**11,479**	12,437	**23,788**	25,199
Total fees and commissions	**213,680**	176,108	**406,404**	336,660
Other gains (losses), net	**6,768**	3,480	**(3,973)**	6,456
Gain on derivatives, net	**21,885**	11,150	**40,305**	15,817
Gain (loss) on fair value option securities, net	**(14,459)**	9,853	**53,934**	19,518
Change in fair value of mortgage servicing rights	**(761)**	(29,555)	**(89,241)**	(50,221)
Gain on available for sale securities, net	**5,580**	1,029	**5,583**	1,105
Total other operating revenue	**232,693**	172,065	**413,012**	329,335
Other operating expense				
Personnel	**176,235**	160,342	**332,416**	329,570
Business promotion	**1,935**	10,142	**8,150**	18,016
Charitable contributions to BOKF Foundation	**3,000**	1,000	**3,000**	1,000
Professional fees and services	**12,161**	13,002	**25,109**	29,141
Net occupancy and equipment	**30,675**	26,880	**56,736**	56,401
Insurance	**5,156**	6,454	**10,136**	11,293
Data processing and communications	**32,942**	29,735	**65,685**	61,184
Printing, postage and supplies	**3,502**	4,107	**7,774**	8,992
Net losses and operating expenses of repossessed assets	**1,766**	580	**3,297**	2,576
Amortization of intangible assets	**5,190**	5,138	**10,284**	10,329
Mortgage banking costs	**15,598**	11,545	**26,143**	21,451
Other expense	**7,227**	8,212	**15,281**	14,341
Total other operating expense	**295,387**	277,137	**564,011**	564,294
Net income before taxes	**80,089**	175,360	**159,373**	315,575
Federal and state income taxes	**15,803**	37,580	**33,103**	67,530
Net income	**64,286**	137,780	**126,270**	248,045
Net income (loss) attributable to non-controlling interests	**(407)**	217	**(502)**	(130)
Net income attributable to BOK Financial Corporation shareholders	**$ 64,693**	$ 137,563	**$ 126,772**	$ 248,175
Earnings per share:				
Basic	**$ 0.92**	$ 1.93	**$ 1.80**	$ 3.47
Diluted	**$ 0.92**	$ 1.93	**$ 1.80**	$ 3.46

Average shares used in computation:								
Basic		**69,876,043**		70,887,063		**69,999,865**		71,135,414
Diluted		**69,877,467**		70,902,033		**70,003,817**		71,151,558
Dividends declared per share	**$**	**0.51**	$	0.50	**$**	**1.02**	$	1.00

See accompanying notes to consolidated financial statements.

Consolidated Statements of Comprehensive Income (Unaudited)

(In thousands, except share and per share data)

	Three Months Ended June 30,		Six Months Ended June 30,	
	2020	**2019**	**2020**	**2019**
Net income	**$ 64,286**	$ 137,780	**$ 126,270**	$ 248,045
Other comprehensive income before income taxes:				
Net change in unrealized gain (loss)	**56,922**	135,417	**354,765**	228,156
Reclassification adjustments included in earnings:				
Gain on available for sale securities, net	**(5,577)**	(1,029)	**(5,580)**	(1,105)
Other comprehensive income before income taxes	**51,345**	134,388	**349,185**	227,051
Federal and state income taxes	**12,321**	32,288	**83,792**	55,897
Other comprehensive income, net of income taxes	**39,024**	102,100	**265,393**	171,154
Comprehensive income	**103,310**	239,880	**391,663**	419,199
Comprehensive income (loss) attributable to non-controlling interests	**(407)**	217	**(502)**	(130)
Comprehensive income attributable to BOK Financial Corp. shareholders	**$ 103,717**	$ 239,663	**$ 392,165**	$ 419,329

See accompanying notes to consolidated financial statements.

Consolidated Balance Sheets

(In thousands, except share data)

	June 30, 2020 (Unaudited)	Dec. 31, 2019 (Footnote 1)
Assets		
Cash and due from banks	**$ 762,453**	$ 735,836
Interest-bearing cash and cash equivalents	**485,319**	522,985
Trading securities	**1,196,105**	1,623,921
Investment securities, net of allowance (fair value**: June 30, 2020 – $299,126;** December 31, 2019 – $314,402)	**267,988**	293,418
Available for sale securities	**12,475,919**	11,269,643
Fair value option securities	**722,657**	1,098,577
Restricted equity securities	**125,683**	460,552
Residential mortgage loans held for sale	**319,357**	182,271
Loans	**24,155,890**	21,750,987
Allowance for loan losses	**(435,597)**	(210,759)
Loans, net of allowance	**23,720,293**	21,540,228
Premises and equipment, net	**550,230**	535,519
Receivables	**226,934**	231,811
Goodwill	**1,048,091**	1,048,091
Intangible assets, net	**123,595**	125,271
Mortgage servicing rights	**97,971**	201,886
Real estate and other repossessed assets, net of allowance (**June 30, 2020 – $10,861**; December 31, 2019 – $11,013)	**35,330**	20,359
Derivative contracts, net	**651,553**	323,375
Cash surrender value of bank-owned life insurance	**393,741**	389,879
Receivable on unsettled securities sales	**1,863,719**	1,020,404
Other assets	**752,936**	547,995
Total assets	**$ 45,819,874**	$ 42,172,021
Liabilities and Equity		
Liabilities:		
Noninterest-bearing demand deposits	**$ 11,992,165**	$ 9,461,291
Interest-bearing deposits:		
Transaction	**18,850,418**	15,391,752
Savings	**696,971**	550,276
Time	**2,352,760**	2,217,849
Total deposits	**33,892,314**	27,621,168
Funds purchased and repurchase agreements	**1,357,602**	3,818,350
Other borrowings	**3,173,563**	4,527,055
Subordinated debentures	**275,973**	275,923
Accrued interest, taxes and expense	**365,634**	259,701
Derivative contracts, net	**610,020**	251,128
Due on unsettled securities purchases	**599,510**	182,547
Other liabilities	**440,835**	372,230
Total liabilities	**40,715,451**	37,308,102
Shareholders' equity:		
Common stock ($.00006 par value; 2,500,000,000 shares authorized; shares issued and outstanding: **June 30, 2020 – 75,999,195;** December 31, 2019 – 75,758,597)	**5**	5
Capital surplus	**1,357,706**	1,350,995
Retained earnings	**3,737,862**	3,729,778
Treasury stock (shares at cost: **June 30, 2020 – 5,692,505;** December 31, 2019 – 5,178,999)	**(368,894)**	(329,906)
Accumulated other comprehensive gain	**370,316**	104,923
Total shareholders’ equity	**5,096,995**	4,855,795
Non-controlling interests	**7,428**	8,124
Total equity	**5,104,423**	4,863,919
Total liabilities and equity	**$ 45,819,874**	$ 42,172,021

See accompanying notes to consolidated financial statements.

Consolidated Statements of Changes in Equity (Unaudited)
(In thousands)

	Common Stock				Treasury Stock					
	Shares	Amount	Capital Surplus	Retained Earnings	Shares	Amount	Accumulated Other Comprehensive Income (Loss)	Total Shareholders' Equity	Non-Controlling Interests	Total Equity
Balance, March 31, 2020	76,001	$ 5	$ 1,354,826	$ 3,709,019	5,692	$ (368,894)	$ 331,292	$ 5,026,248	$ 7,912	$ 5,034,160
Net income (loss)	—	—	—	64,693	—	—	—	64,693	(407)	64,286
Other comprehensive income	—	—	—	—	—	—	39,024	39,024	—	39,024
Repurchase of common stock	—	—	—	—	—	—	—	—	—	—
Share-based compensation plans:										
Stock options exercised	—	—	—	—	—	—	—	—	—	—
Non-vested shares awarded, net	(2)	—	—	—	—	—	—	—	—	—
Vesting of non-vested shares	—	—	—	—	1	—	—	—	—	—
Share-based compensation	—	—	2,880	—	—	—	—	2,880	—	2,880
Cash dividends on common stock	—	—	—	(35,850)	—	—	—	(35,850)	—	(35,850)
Capital calls and distributions, net	—	—	—	—	—	—	—	—	(77)	(77)
Balance, June 30, 2020	75,999	$ 5	$ 1,357,706	$ 3,737,862	5,693	$ (368,894)	$ 370,316	$ 5,096,995	$ 7,428	$ 5,104,423
Balance, December 31, 2019	75,759	$ 5	$ 1,350,995	$ 3,729,778	5,179	$ (329,906)	$ 104,923	$ 4,855,795	$ 8,124	$ 4,863,919
Transition adjustment - CECL	—	—	—	(46,696)	—	—	—	(46,696)	—	(46,696)
Balance, January 1, 2020, Adjusted	75,759	5	1,350,995	3,683,082	5,179	(329,906)	104,923	4,809,099	8,124	4,817,223
Net income (loss)	—	—	—	126,772	—	—	—	126,772	(502)	126,270
Other comprehensive income	—	—	—	—	—	—	265,393	265,393	—	265,393
Repurchase of common stock	—	—	—	—	442	(33,380)	—	(33,380)	—	(33,380)
Share-based compensation plans:										
Stock options exercised	10	—	586	—	—	—	—	586	—	586
Non-vested shares awarded, net	230	—	—	—	—	—	—	—	—	—
Vesting of non-vested shares	—	—	—	—	72	(5,608)	—	(5,608)	—	(5,608)
Share-based compensation	—	—	6,125	—	—	—	—	6,125	—	6,125
Cash dividends on common stock	—	—	—	(71,992)	—	—	—	(71,992)	—	(71,992)
Capital calls and distributions, net	—	—	—	—	—	—	—	—	(194)	(194)
Balance, June 30, 2020	75,999	$ 5	$ 1,357,706	$ 3,737,862	5,693	$ (368,894)	$ 370,316	$ 5,096,995	$ 7,428	$ 5,104,423

	Common Stock		Capital Surplus	Retained Earnings	Treasury Stock		Accumulated Other Comprehensive Income (Loss)	Total Shareholders' Equity	Non-Controlling Interests	Total Equity
	Shares	Amount			Shares	Amount				
Balance, March 31, 2019	75,762	$ 5	$ 1,340,323	$ 3,447,076	4,312	$ (261,000)	$ (3,531)	$ 4,522,873	$ 8,836	$ 4,531,709
Net income	—	—	—	137,563	—	—	—	137,563	217	137,780
Other comprehensive income	—	—	—	—	—	—	102,100	102,100	—	102,100
Repurchase of common stock	—	—	—	—	250	(20,125)	—	(20,125)	—	(20,125)
Share-based compensation plans:										
Stock options exercised	—	—	24	—	—	—	—	24	—	24
Non-vested shares awarded, net	(6)	—	—	—	—	—	—	—	—	—
Vesting of non-vested shares	—	—	—	—	—	—	—	—	—	—
Share-based compensation	—	—	2,735	—	—	—	—	2,735	—	2,735
Cash dividends on common stock	—	—	—	(35,732)	—	—	—	(35,732)	—	(35,732)
Capital calls and distributions, net	—	—	—	—	—	—	—	—	(16)	(16)
Balance, June 30, 2019	75,756	$ 5	$ 1,343,082	$ 3,548,907	4,562	$ (281,125)	$ 98,569	$ 4,709,438	$ 9,037	$ 4,718,475
Balance, December 31, 2018	75,711	$ 5	$ 1,334,030	$ 3,369,654	3,589	$ (198,995)	$ (72,585)	$ 4,432,109	$ 10,936	$ 4,443,045
Transition adjustment - Leasing Standard	—	—	—	2,862	—	—	—	2,862	—	2,862
Balance, January 1, 2019, Adjusted	75,711	5	1,334,030	3,372,516	3,589	(198,995)	(72,585)	4,434,971	10,936	4,445,907
Net income (loss)	—	—	—	248,175	—	—	—	248,175	(130)	248,045
Other comprehensive loss	—	—	—	—	—	—	171,154	171,154	—	171,154
Repurchase of common stock	—	—	—	—	955	(80,702)	—	(80,702)	—	(80,702)
Share-based compensation plans:										
Stock options exercised	18	—	903	—	—	—	—	903	—	903
Non-vested shares awarded, net	27	—	—	—	—	—	—	—	—	—
Vesting of non-vested shares	—	—	—	—	18	(1,428)	—	(1,428)	—	(1,428)
Share-based compensation	—	—	8,149	—	—	—	—	8,149	—	8,149
Cash dividends on common stock	—	—	—	(71,784)	—	—	—	(71,784)	—	(71,784)
Capital calls and distributions, net	—	—	—	—	—	—	—	—	(1,769)	(1,769)
Balance, June 30, 2019	75,756	$ 5	$ 1,343,082	$ 3,548,907	4,562	$ (281,125)	$ 98,569	$ 4,709,438	$ 9,037	$ 4,718,475

See accompanying notes to consolidated financial statements.

Consolidated Statements of Cash Flows (Unaudited)
(in thousands)

	Six Months Ended June 30, 2020	Six Months Ended June 30, 2019
Cash Flows From Operating Activities:		
Net income	**$ 126,270**	$ 248,045
Adjustments to reconcile net income to net cash provided by (used in) operating activities:		
Provision for credit losses	**229,092**	13,000
Change in fair value of mortgage servicing rights due to market assumption changes	**89,241**	50,221
Change in the fair value of mortgage servicing rights due to principal payments	**17,779**	15,664
Net unrealized (gains) losses from derivative contracts	**(56,678)**	(17,095)
Share-based compensation	**6,125**	8,149
Depreciation and amortization	**47,016**	45,926
Net amortization of discounts and premiums	**7,199**	(10,913)
Net losses (gains) on financial instruments and other losses (gains), net	**(2,186)**	564
Net gain on mortgage loans held for sale	**(42,411)**	(16,735)
Mortgage loans originated for sale	**(1,733,205)**	(1,240,368)
Proceeds from sale of mortgage loans held for sale	**1,654,433**	1,215,756
Capitalized mortgage servicing rights	**(13,906)**	(14,939)
Change in trading and fair value option securities	**801,215**	(799,241)
Change in receivables	**(724,486)**	(228,973)
Change in other assets	**(29,352)**	(4,965)
Change in accrued interest, taxes and expense	**36,773**	(41,866)
Change in other liabilities	**373,541**	100,731
Net cash provided by (used in) operating activities	**786,460**	(677,039)
Cash Flows From Investing Activities:		
Proceeds from maturities or redemptions of investment securities	**23,296**	26,513
Proceeds from maturities or redemptions of available for sale securities	**1,070,585**	704,542
Purchases of available for sale securities	**(2,139,775)**	(2,510,271)
Proceeds from sales of available for sale securities	**205,945**	367,357
Change in amount receivable on unsettled available for sale securities transactions	**(118,744)**	(28,580)
Loans originated, net of principal collected	**(2,294,658)**	(569,075)
Net payments on derivative asset contracts	**(67,105)**	(10,838)
Proceeds from disposition of assets	**710,269**	116,163
Purchases of assets	**(416,815)**	(250,911)
Net cash used in investing activities	**(3,027,002)**	(2,155,100)
Cash Flows From Financing Activities:		
Net change in demand deposits, transaction deposits and savings accounts	**6,136,235**	(73,200)
Net change in time deposits	**134,911**	114,377
Net change in other borrowed funds	**(3,971,540)**	2,968,697
Net proceeds on derivative liability contracts	**60,851**	6,140
Net change in derivative margin accounts	**(96,114)**	(152,533)
Change in amount due on unsettled available for sale securities transactions	**75,544**	313,736
Issuance of common and treasury stock, net	**(5,022)**	(525)
Repurchase of common stock	**(33,380)**	(80,702)
Dividends paid	**(71,992)**	(71,784)
Net cash provided by financing activities	**2,229,493**	3,024,206
Net increase (decrease) in cash and cash equivalents	**(11,049)**	192,067
Cash and cash equivalents at beginning of period	**1,258,821**	1,143,424
Cash and cash equivalents at end of period	**$ 1,247,772**	$ 1,335,491
Supplemental Cash Flow Information:		
Cash paid for interest	**$ 117,471**	$ 203,513
Cash paid for taxes	**$ 5,470**	$ 54,722
Net loans and bank premises transferred to repossessed real estate and other assets	**$ 19,556**	$ 2,606
Residential mortgage loans guaranteed by U.S. government agencies that became eligible for repurchase during the period	**$ 157,300**	$ 44,258
Conveyance of other real estate owned guaranteed by U.S. government agencies	**$ 6,255**	$ 15,484
Right-of-use assets obtained in exchange for operating lease liabilities	**$ 9,151**	$ 12,754

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 Corporation (“BOK Financial” or “the Company”) 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 (“the Bank”), 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 2019 Form 10-K filed with the Securities and Exchange Commission, which contains audited financial statements. Amounts presented as of December 31, 2019 have been derived from the audited financial statements included in BOK Financial’s 2019 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 six-month period ended June 30, 2020 are not necessarily indicative of the results that may be expected for the year ending December 31, 2020.

Newly Adopted and Pending Accounting Policies

Financial Accounting Standards Board (“FASB”)

FASB Accounting Standards Update No. 2016-13, *Financial Instruments - Credit Losses (Topic 326): Assets Measured at Amortized Cost ("ASU 2016-13" or "CECL")*

On June 16, 2016, the FASB issued ASU 2016-13 to provide more timely recording of credit losses on loans and other financial assets measured at amortized cost. The Company adopted the new standard January 1, 2020, through a cumulative effect adjustment to retained earnings. Prior periods were not restated.

Under ASU 2016-13, acquired loans must be reserved in a manner consistent with originated loans while the incurred loss model excluded purchased loans because the loans had been marked to fair value at acquisition. Under ASU 2016-13, the fair value discount will remain in place and be accreted into interest income over the life of any acquired loans in the portfolio.

Another transition adjustment component is related to expected credit losses for residential mortgage loans sold that exceed amounts guaranteed by the U.S. Department of Veterans Affairs as we retain the credit risk for any amounts exceeding the guarantee as well as for recourse loans.

Prior to ASU 2016-13, held-to-maturity non-agency securities carried no reserve for credit losses.

Note 4 disaggregates the transition adjustment for loans and unfunded loan commitments among portfolio segments as well as on-and off-balance sheet reserves.

FASB Accounting Standards Update No. 2019-01, *Leases (Topic 842): Codification Improvements ("ASU 2019-01")*

On March 5, 2019, the FASB issued ASU 2019-01 which amends certain aspects of leasing standard ASU 2016-02. ASU 2019-01 provides guidance for determining the fair value of the underlying asset by lessors that are not manufacturers or dealers. The ASU also requires depository and lending lessors within the scope of ASC 942 to classify principal payments received from sales-type and direct financing leases within "investing activities" on the statement of cash flows. For the two issues above, the ASU is effective for the Company for fiscal years beginning after December 15, 2019, and interim periods therein; however early adoption is permitted. Additionally, ASU 2019-01 also clarifies interim disclosure requirements during transition and is effective with the original transition requirements in Topic 842. The Company adopted ASU 2019-01 in the first quarter of 2020. Adoption of ASU 2019-01 did not have a material impact on the Company's financial statements.

FASB Accounting Standards Update No. 2019-04, *Codification Improvements to Topic 326, Financial Instruments-Credit Losses, Topic 815, Derivatives and Hedging, and Topic 825, Financial Instruments ("ASU 2019-04")*

On April 25, 2019, the FASB issued ASU 2019-04 which clarifies certain aspects of the accounting for credit losses, hedging activities, and financial instruments addressed by ASUs 2016-13, 2017-12, and 2016-01, respectively. Significant amendments made to the provisions of ASU 2016-13 by ASU 2019-04 include providing certain alternatives for the measurement of the allowance for credit losses on accrued interest receivable and clarifying steps entities should take when recording the transfer of loans or debt securities between measurement classification or categories. ASU 2019-04 further clarifies the expectation that entities include recoveries of financial assets in the calculation of the current expected credit losses allowance for both pools of financial assets and individual financial assets. Significant amendments made to the provisions of ASU 2017-12 by ASU 2019-04 include clarification on partial-term fair value hedges of interest rate risk, amortization of fair value hedge basis adjustments and disclosure of fair value hedge basis adjustments. Significant amendments made to provisions of ASU 2016-01 include clarification of the measurement alternative practice for equity securities and remeasurement of equity securities at historical exchange rates. ASU 2019-04 includes other amendments which clarify various provisions within the codification. The Company adopted ASU 2019-04 in the first quarter of 2020. Adoption of ASU 2019-04 did not have a material impact on the Company's financial statements.

FASB Accounting Standards Update No. 2019-05, *Financial Instruments-Credit Losses (Topic 326): Targeted Transition Relief ("ASU 2019-05")*

On May 15, 2019, the FASB issued ASU 2019-05 which provides transition relief for entities adopting the Board's credit losses standard, ASU 2016-13. ASU 2019-05 amends ASU 2016-13 to allow companies to irrevocably elect, upon adoption of ASU 2016-13, the fair value option for financial instruments that meet specific requirements and is effective for the Company for annual reporting periods beginning after December 15, 2019. The Company did not elect the fair value option for additional financial instruments.

FASB Accounting Standards Update No. 2019-11, *Codification Improvements to Topic 326: Financial Instruments-Credit Losses* ("ASU 2019-11")

On November 27, 2019, the FASB issued ASU 2019-11 which revises certain aspects of new guidance on credit losses. Topics addressed include purchased credit-deteriorated assets, transition relief for troubled debt restructurings, disclosure relief for accrued interest receivable, and financial assets secured by collateral maintenance provisions. ASU 2019-11 is effective for the Company for annual reporting periods beginning after December 15, 2019. The Company adopted ASU 2019-11 in the first quarter of 2020. Adoption of ASU 2019-11 did not have a material impact on the Company's financial statements.

FASB Accounting Standards Update No. 2019-12, *Income Taxes (Topic 740): Simplifying the Accounting for Income Taxes* ("ASU 2019-12")

On December 18, 2019, the FASB issued ASU 2019-12 which simplifies the accounting for income taxes by eliminating certain exceptions related to the approach for intraperiod tax allocation, the methodology for calculating income taxes in an interim period and the recognition of deferred tax liabilities for outside basis differences. The ASU also simplifies aspects of the accounting for franchise taxes and enacted changes in tax laws or rates and clarifies the accounting for transactions that result in a step-up in the tax basis of goodwill. ASU 2019-12 is effective for the Company for annual reporting periods beginning after December 15, 2020, and interim periods within; however, early adoption is permitted. The Company adopted ASU 2019-12 in the first quarter of 2020. Adoption of ASU 2019-12 did not 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):

	June 30, 2020		December 31, 2019	
	Fair Value	Net Unrealized Gain (Loss)	Fair Value	Net Unrealized Gain (Loss)
U.S. government agency debentures	**$ 4,237**	**$ 19**	$ 44,264	$ 6
Residential agency mortgage-backed securities	**1,146,454**	**3,589**	1,504,651	2,293
Municipal and other tax-exempt securities	**22,710**	**116**	26,196	60
Asset-backed securities	**5**	**—**	14,084	(21)
Other debt securities	**22,699**	**127**	34,726	21
Total trading securities	**$ 1,196,105**	**$ 3,851**	$ 1,623,921	$ 2,359

Investment Securities

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

	June 30, 2020			
	Amortized	Fair	Gross Unrealized	
	Cost	Value	Gain	Loss
Municipal and other tax-exempt	**$ 84,239**	**$ 88,623**	**$ 4,384**	**$ —**
Residential agency mortgage-backed securities	**9,812**	**10,734**	**922**	**—**
Other debt securities	**175,565**	**199,769**	**24,235**	**(31)**
Total investment securities	**269,616**	**299,126**	**29,541**	**(31)**
Allowance for credit losses[1]	**(1,628)**			
Investment securities, net of allowance	**267,988**	**299,126**	**29,541**	**(31)**

[1] Effective with the adoption of FASB ASU No. 2016-13, Financial Instruments - Credit Losses (Topic 326) on January 1, 2020.

	December 31, 2019			
	Amortized	Fair	Gross Unrealized	
	Cost	Value	Gain	Loss
Municipal and other tax-exempt	$ 93,653	$ 96,897	$ 3,250	$ (6)
Residential agency mortgage-backed securities	10,676	11,164	488	—
Other debt securities	189,089	206,341	17,547	(295)
Total investment securities	$ 293,418	$ 314,402	$ 21,285	$ (301)

The amortized cost and fair values of investment securities at June 30, 2020, 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	$ 39,734	$ 87,863	$ 122,309	$ 9,898	$ 259,804	4.95
Fair value	40,151	96,615	141,378	10,248	288,392	
Residential mortgage-backed securities:						
Amortized cost					$ 9,812	[2]
Fair value					10,734	
Total investment securities:						
Amortized cost					$ 269,616	
Fair value					299,126	

[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 4.6 years based upon current prepayment assumptions.

Temporarily Impaired Investment Securities
(in thousands):

	June 30, 2020						
		Less Than 12 Months		12 Months or Longer		Total	
	Number of Securities	Fair Value	Unrealized Loss	Fair Value	Unrealized Loss	Fair Value	Unrealized Loss
Investment:							
Other debt securities	**4**	**—**	**—**	**2,142**	**31**	**2,142**	**31**
Total investment securities	**4**	**$ —**	**$ —**	**$ 2,142**	**$ 31**	**$ 2,142**	**$ 31**

	December 31, 2019						
		Less Than 12 Months		12 Months or Longer		Total	
	Number of Securities	Fair Value	Unrealized Loss	Fair Value	Unrealized Loss	Fair Value	Unrealized Loss
Investment:							
Municipal and other tax-exempt	4	$ 1,001	$ 1	$ 1,706	$ 5	$ 2,707	$ 6
Other debt securities	13	275	1	8,041	294	8,316	295
Total investment securities	17	$ 1,276	$ 2	$ 9,747	$ 299	$ 11,023	$ 301

Available for Sale Securities

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

	June 30, 2020			
	Amortized Cost	Fair Value	Gross Unrealized Gain	Gross Unrealized Loss
U.S. Treasury	$ 900	$ 912	$ 12	$ —
Municipal and other tax-exempt	29,670	31,240	1,570	—
Mortgage-backed securities:				
Residential agency	8,789,466	9,147,238	360,056	(2,284)
Residential non-agency	21,941	35,250	13,318	(9)
Commercial agency	3,146,108	3,260,807	116,042	(1,343)
Other debt securities	500	472	—	(28)
Total available for sale securities	$ 11,988,585	$ 12,475,919	$ 490,998	$ (3,664)

	December 31, 2019			
	Amortized Cost	Fair Value	Gross Unrealized Gain	Gross Unrealized Loss
U.S. Treasury	$ 1,598	$ 1,600	$ 2	$ —
Municipal and other tax-exempt	1,789	1,861	72	—
Mortgage-backed securities:				
Residential agency	7,956,297	8,046,096	104,912	(15,113)
Residential non-agency	25,968	41,609	15,641	—
Commercial agency	3,145,342	3,178,005	37,808	(5,145)
Other debt securities	500	472	—	(28)
Total available for sale securities	$ 11,131,494	$ 11,269,643	$ 158,435	$ (20,286)

The amortized cost and fair values of available for sale securities at June 30, 2020, 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	$ 34,044	$ 1,321,471	$ 1,241,310	$ 580,353	$ 3,177,178	8.03
Fair value	34,144	1,375,128	1,280,251	603,908	3,293,431	
Residential mortgage-backed securities:						
Amortized cost					$ 8,811,407	[2]
Fair value					9,182,488	
Total available-for-sale securities:						
Amortized cost					$ 11,988,585	
Fair value					12,475,919	

[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 3.1 years based upon current prepayment assumptions.

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

	Three Months Ended June 30,		Six Months Ended June 30,	
	2020	2019	**2020**	2019
Proceeds	**$ 179,051**	$ 122,098	**$ 205,945**	$ 367,357
Gross realized gains	**5,580**	1,029	**5,583**	6,327
Gross realized losses	**—**	—	**—**	(5,222)
Related federal and state income tax expense (benefit)	**1,421**	262	**1,422**	281

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 $12.3 billion at June 30, 2020 and $10.1 billion at December 31, 2019. The secured parties do not have the right to sell or repledge these securities.

Temporarily Impaired Available for Sale Securities
(in thousands)

	June 30, 2020						
		Less Than 12 Months		12 Months or Longer		Total	
	Number of Securities	**Fair Value**	**Unrealized Loss**	**Fair Value**	**Unrealized Loss**	**Fair Value**	**Unrealized Loss**
Available for sale:							
Mortgage-backed securities:							
Residential agency	**36**	**492,864**	**1,375**	**173,997**	**909**	**666,861**	**2,284**
Residential non-agency	**1**	**1,695**	**9**	**—**	**—**	**1,695**	**9**
Commercial agency	**22**	**271,735**	**902**	**160,806**	**441**	**432,541**	**1,343**
Other debt securities	**1**	**—**	**—**	**472**	**28**	**472**	**28**
Total available for sale securities	**60**	**$ 766,294**	**$ 2,286**	**$ 335,275**	**$ 1,378**	**$ 1,101,569**	**$ 3,664**

	December 31, 2019						
		Less Than 12 Months		12 Months or Longer		Total	
	Number of Securities	**Fair Value**	**Unrealized Loss**	**Fair Value**	**Unrealized Loss**	**Fair Value**	**Unrealized Loss**
Available for sale:							
Mortgage-backed securities:							
Residential agency	133	$ 1,352,597	$ 6,690	$ 686,002	$ 8,423	$ 2,038,599	$ 15,113
Commercial agency	69	830,047	4,238	210,877	907	1,040,924	5,145
Other debt securities	1	—	—	472	28	472	28
Total available for sale securities	203	$ 2,182,644	$ 10,928	$ 897,351	$ 9,358	$ 3,079,995	$ 20,286

Based on evaluations of impaired securities as of June 30, 2020, 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):

	June 30, 2020		December 31, 2019	
	Fair Value	Net Unrealized Gain (Loss)	Fair Value	Net Unrealized Gain (Loss)
U.S. Treasury	**$ 92,742**	**$ 307**	$ 9,917	$ (48)
Residential agency mortgage-backed securities	**629,915**	**16,549**	1,088,660	14,109
Total	**$ 722,657**	**$ 16,856**	$ 1,098,577	$ 14,061

(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 reduced 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.

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 June 30, 2020 (in thousands):

	Assets					
	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	2,772,027	140,157	(42)	140,115	—	140,115
Energy contracts	2,912,225	434,455	(199,805)	234,650	(155,160)	79,490
Agricultural contracts	13,183	59	(35)	24	—	24
Foreign exchange contracts	283,424	281,801	—	281,801	(507)	281,294
Equity option contracts	75,987	1,097	—	1,097	(286)	811
Total customer risk management programs	6,056,846	857,569	(199,882)	657,687	(155,953)	501,734
Trading	50,132,348	219,647	(91,830)	127,817	—	127,817
Internal risk management programs	865,964	23,823	(1,821)	22,002	—	22,002
Total derivative contracts	$ 57,055,158	$ 1,101,039	$ (293,533)	$ 807,506	$ (155,953)	$ 651,553

	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	2,772,027	140,509	(42)	140,467	(129,094)	11,373
Energy contracts	2,718,690	408,813	(199,805)	209,008	(3,298)	205,710
Agricultural contracts	13,191	50	(35)	15	(15)	—
Foreign exchange contracts	270,594	269,013	—	269,013	—	269,013
Equity option contracts	75,987	1,097	—	1,097	—	1,097
Total customer risk management programs	5,850,489	819,482	(199,882)	619,600	(132,407)	487,193
Trading	52,408,519	213,170	(91,830)	121,340	—	121,340
Internal risk management programs	168,491	3,308	(1,821)	1,487	—	1,487
Total derivative contracts	$ 58,427,499	$ 1,035,960	$ (293,533)	$ 742,427	$ (132,407)	$ 610,020

[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, 2019 (in thousands):

	Assets					
	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	2,464,478	49,100	(1,839)	47,261	—	47,261
Energy contracts	2,151,096	144,906	(107,591)	37,315	(38)	37,277
Agricultural contracts	16,118	1,522	(22)	1,500	—	1,500
Foreign exchange contracts	214,119	213,007	—	213,007	—	213,007
Equity option contracts	81,455	3,233	—	3,233	(660)	2,573
Total customer risk management programs	4,927,266	411,768	(109,452)	302,316	(698)	301,618
Trading	69,721,932	131,561	(115,949)	15,612	—	15,612
Internal risk management programs	1,268,180	6,226	(81)	6,145	—	6,145
Total derivative contracts	$ 75,917,378	$ 549,555	$ (225,482)	$ 324,073	$ (698)	$ 323,375

	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	2,464,478	49,194	(1,839)	47,355	(43,932)	3,423
Energy contracts	2,105,391	139,311	(107,591)	31,720	(6,031)	25,689
Agricultural contracts	16,139	1,507	(22)	1,485	(1,485)	—
Foreign exchange contracts	207,919	207,020	—	207,020	—	207,020
Equity option contracts	81,455	3,233	—	3,233	—	3,233
Total customer risk management programs	4,875,382	400,265	(109,452)	290,813	(51,448)	239,365
Trading	65,144,388	125,535	(115,949)	9,586	—	9,586
Internal risk management programs	380,401	3,121	(81)	3,040	(863)	2,177
Total derivative contracts	$ 70,400,171	$ 528,921	$ (225,482)	$ 303,439	$ (52,311)	$ 251,128

[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			
	June 30, 2020		June 30, 2019	
	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				
To-be-announced residential mortgage-backed securities	$ —	$ —	$ 2,212	$ —
Interest rate swaps	746	—	942	—
Energy contracts	5,383	—	2,086	—
Agricultural contracts	6	—	4	—
Foreign exchange contracts	107	—	100	—
Equity option contracts	—	—	—	—
Total customer risk management programs	6,242	—	5,344	—
Trading[1]	32,577	—	8,030	—
Internal risk management programs	—	21,885	—	11,150
Total derivative contracts	$ 38,819	$ 21,885	$ 13,374	$ 11,150

[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 include in Brokerage and Trading Revenue in the Consolidated Statements of Earnings.

	Six Months Ended			
	June 30, 2020		June 30, 2019	
	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				
To-be-announced residential mortgage-backed securities	$ —	$ —	$ 7,912	$ —
Interest rate swaps	1,688	—	1,535	—
Energy contracts	7,390	—	2,312	—
Agricultural contracts	21	—	8	—
Foreign exchange contracts	365	—	254	—
Equity option contracts	—	—	—	—
Total customer risk management programs	9,464	—	12,021	—
Trading[1]	(8,078)	—	735	—
Internal risk management programs	—	40,305	—	15,817
Total derivative contracts	$ 1,386	$ 40,305	$ 12,756	$ 15,817

[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 include 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 accreted on either an individual basis for loans with unique characteristics or on a pool basis for groups of homogeneous loans. Accretion is discontinued when a loan with an individually attributed discount is placed on nonaccruing status.

Loans to borrowers experiencing financial difficulties may be modified in troubled debt restructurings ("TDRs"). Primarily all TDRs are classified as nonaccruing, excluding loans guaranteed by U.S. government agencies. Modifications generally consist of extension of payment terms or interest rate concessions and may result either voluntarily through negotiations with the borrower or involuntarily through court order. Generally, principal and accrued but unpaid interest is not voluntarily forgiven. In accordance with the guidance provided by the banking agencies on April 7, 2020 concerning loan modifications for customers impacted by the COVID-19 pandemic, short-term (six months or less) payment deferrals made in good faith to borrowers current prior to the relief are not considered TDRs.

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 TDR. The charge-off amount is determined through a quarterly evaluation of available cash resources and collateral value 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. 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 TDRs 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):

	June 30, 2020			
	Fixed Rate	Variable Rate	Non-accrual	Total
Commercial	3,215,865	10,740,646	201,999	$ 14,158,510
Commercial real estate	1,029,544	3,510,644	13,956	4,554,144
Paycheck protection program	2,081,428	—	—	2,081,428
Loans to individuals	2,038,990	1,283,377	39,441	3,361,808
Total	$ 8,365,827	$ 15,534,667	$ 255,396	$ 24,155,890

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 June 30, 2020, outstanding commitments totaled $10.3 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 June 30, 2020, outstanding standby letters of credit totaled $693 million.

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

BOK Financial's accounting policies have changed significantly with the adoption of CECL as of January 1, 2020. Prior periods are not restated. Prior to January 1, 2020, general allowances and nonspecific allowances were based on incurred credit losses in accordance with accounting policies disclosed in Note 1 of the Consolidated Financial Statements included in the 2019 Form 10-K.

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 on-going 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 loans 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 costs basis exceeds its fair value. When repayment is expected to be provided substantially through the sale of collateral, we deduct estimated selling costs from the collateral's fair value. Generally, third party appraisals that conform to Uniform Standards of Professional Appraisal Practice serve as the basis for the fair value of real property held as collateral. These appraised values are on an "as-is" basis and generally are not adjusted by the Company. We obtain updated appraisals at least annually or more frequently if market conditions indicate collateral values may have declined. For energy loans, our internal staff of engineers generally determines collateral value of mineral rights based on projected cash flows from proven oil and gas reserves under existing economic and operating conditions. 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 percent 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 percent of the committed dollars in the portfolio is calculated using charge-off migration.

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

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

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

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

General allowances also consider the estimated impact of factors that are not captured in the modeled results or historical experience. These qualitative adjustments, determined by the Allowance Committee, may increase or decrease the allowance estimated by modeled results. 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 June 30, 2020					
	Commercial	**Commercial Real Estate**	**Paycheck Protection Program**	**Loans to Individuals**	**Nonspecific Allowance**	**Total**
Allowance for loan losses:						
Beginning balance	**$ 213,438**	**$ 51,461**	**$ —**	**$ 50,412**	**$ —**	**$ 315,311**
Provision for loan losses	**111,153**	**17,221**	**—**	**5,991**	**—**	**134,365**
Loans charged off	**(14,487)**	**(1)**	**—**	**(1,082)**	**—**	**(15,570)**
Recoveries of loans previously charged off	**318**	**75**	**—**	**1,098**	**—**	**1,491**
Ending Balance	**$ 310,422**	**$ 68,756**	**$ —**	**$ 56,419**	**—**	**$ 435,597**
Allowance for off-balance sheet credit risk from unfunded loan commitments:						
Beginning balance	**$ 14,040**	**$ 12,575**	**$ —**	**$ 1,899**	**$ —**	**$ 28,514**
Provision for off-balance sheet credit risk	**542**	**3,844**	**—**	**19**	**—**	**4,405**
Ending Balance	**$ 14,582**	**$ 16,419**	**$ —**	**$ 1,918**	**$ —**	**$ 32,919**

	Six Months Ended June 30, 2020					
	Commercial	Commercial Real Estate	Paycheck Protection Program	Loans to Individuals	Nonspecific Allowance	Total
Allowance for loan losses:						
Beginning balance	$ 118,187	$ 51,805	$ —	$ 23,572	$ 17,195	$ 210,759
Transition adjustment	33,681	(4,620)	—	13,943	(17,195)	25,809
Beginning balance, adjusted	151,868	47,185	—	37,515	—	236,568
Provision for loan losses	188,876	22,336	—	19,117	—	230,329
Loans charged off	(31,102)	(887)	—	(2,498)	—	(34,487)
Recoveries	780	122	—	2,285	—	3,187
Ending balance	$ 310,422	$ 68,756	$ —	$ 56,419	$ —	$ 435,597
Allowance for off-balance sheet credit risk from unfunded loan commitments:						
Beginning balance	$ 1,434	$ 107	$ —	$ 44	$ —	$ 1,585
Transition adjustment	10,144	11,660	—	1,748	—	23,552
Beginning balance, adjusted	11,578	11,767	—	1,792	—	25,137
Provision for off-balance sheet credit losses	3,004	4,652	—	126	—	7,782
Ending balance	$ 14,582	$ 16,419	$ —	$ 1,918	$ —	$ 32,919

Changes in our reasonable and supportable forecasts of macroeconomic variables, primarily due to the anticipated impact of the on-going COVID-19 pandemic, and other assumptions, required a provision of $54.6 million during the second quarter of 2020. All other changes totaled $84.2 million, $14.4 million related to changes in impairment, $55.7 million related to risk grading and other portfolio changes and net charge-offs of $14.1 million.

The allowance for loan losses and recorded investment of the related loans by portfolio segment for each measurement method at June 30, 2020 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	$ 13,956,511	$ 286,639	$ 201,999	$ 23,783	$ 14,158,510	$ 310,422
Commercial real estate	4,540,188	68,216	13,956	540	4,554,144	68,756
Paycheck protection program	2,081,428	—	—	—	2,081,428	—
Loans to individuals	3,322,367	56,419	39,441	—	3,361,808	56,419
Total	23,900,494	411,274	255,396	24,323	24,155,890	435,597

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 identified 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 June 30, 2020 by the risk grade categories and vintage (in thousands):

	Origination Year								
	2020	2019	2018	2017	2016	Prior	Revolving Loans	Revolving Loans Converted to Term Loans	Total
Commercial:									
Energy									
Pass	$ 23,119	$ 62,250	$ 94,216	$ 8,344	$ 1,427	$ 2,908	$ 2,664,680	$ —	$ 2,856,944
Special Mention	—	—	9,720	—	—	—	493,719	—	503,439
Accruing Substandard	—	—	194	—	49	—	450,559	—	450,802
Nonaccrual	—	6,586	15,496	—	—	38,325	102,582	—	162,989
Total energy	23,119	68,836	119,626	8,344	1,476	41,233	3,711,540	—	3,974,174
Healthcare									
Pass	212,781	609,757	641,607	489,096	248,094	767,193	245,123	—	3,213,651
Special Mention	—	27,500	—	3,714	—	13,771	3,515	—	48,500
Accruing Substandard	—	3,176	7,746	973	161	11,491	—	—	23,547
Nonaccrual	—	18	183	—	—	2,935	509	—	3,645
Total healthcare	212,781	640,451	649,536	493,783	248,255	795,390	249,147	—	3,289,343
Services									
Pass	335,961	475,608	437,812	366,772	400,480	857,564	743,258	673	3,618,128
Special Mention	—	3,919	1,474	170	4,513	3,626	35,203	—	48,905
Accruing Substandard	98	12,077	26,814	12,393	8,123	4,753	27,558	—	91,816
Nonaccrual	—	2,978	—	8,647	1,153	7,529	725	—	21,032
Total services	336,059	494,582	466,100	387,982	414,269	873,472	806,744	673	3,779,881
General business									
Pass	256,821	485,956	359,249	256,403	147,056	251,326	1,258,843	2,671	3,018,325
Special Mention	—	10,196	763	11,244	941	4,046	3,404	—	30,594
Accruing Substandard	21	13,906	13,989	2,353	6,216	5,206	10,165	4	51,860
Nonaccrual	1,675	3,713	5,168	1,938	1,315	140	369	15	14,333
Total general business	258,517	513,771	379,169	271,938	155,528	260,718	1,272,781	2,690	3,115,112
Total commercial	830,476	1,717,640	1,614,431	1,162,047	819,528	1,970,813	6,040,212	3,363	14,158,510
Commercial real estate:									
Pass	345,439	1,131,573	1,037,584	536,047	378,852	852,020	234,148	—	4,515,663
Special Mention	—	—	—	12,200	1,622	3,283	100	—	17,205
Accruing Substandard	—	—	—	7,228	—	65	27	—	7,320
Nonaccrual	—	—	—	232	7,477	803	5,444	—	13,956
Total commercial real estate	345,439	1,131,573	1,037,584	555,707	387,951	856,171	239,719	—	4,554,144

	Origination Year								
	2020	2019	2018	2017	2016	Prior	Revolving Loans	Revolving Loans Converted to Term Loans	Total
Paycheck protection program:									
Pass	2,081,428	—	—	—	—	—	—	—	2,081,428
Total paycheck protection program	2,081,428	—	—	—	—	—	—	—	2,081,428
Loans to individuals:									
Residential mortgage									
Pass	226,396	191,344	161,193	187,649	196,218	438,056	349,610	26,679	1,777,145
Special Mention	—	—	2,011	192	12	437	329	—	2,981
Accruing Substandard	—	—	123	—	40	4	—	51	218
Nonaccrual	—	588	1,614	554	1,142	26,339	2,170	691	33,098
Total residential mortgage	226,396	191,932	164,941	188,395	197,412	464,836	352,109	27,421	1,813,442
Residential mortgage guaranteed by U.S. government agencies									
Pass	751	6,794	19,678	24,184	46,676	218,076	—	—	316,159
Nonaccrual	—	—	244	—	—	5,866	—	—	6,110
Total residential mortgage guaranteed by U.S. government agencies	751	6,794	19,922	24,184	46,676	223,942	—	—	322,269
Personal:									
Pass	123,394	246,327	83,000	115,562	71,036	99,322	479,958	1,738	1,220,337
Special Mention	—	50	16	28	55	5,087	10	—	5,246
Accruing Substandard	19	229	11	6	—	—	16	—	281
Nonaccrual	—	22	60	29	47	44	31	—	233
Total personal	123,413	246,628	83,087	115,625	71,138	104,453	480,015	1,738	1,226,097
Total loans to individuals	350,560	445,354	267,950	328,204	315,226	793,231	832,124	29,159	3,361,808
Total loans	$ 3,607,903	$ 3,294,567	$ 2,919,965	$ 2,045,958	$ 1,522,705	$ 3,620,215	$ 7,112,055	$ 32,522	$ 24,155,890

Nonaccruing Loans

A summary of nonaccruing loans at June 30, 2020 follows (in thousands):

	As of June 30, 2020			
	Total	With No Allowance	With Allowance	Related Allowance
Commercial:				
Energy	$ 162,989	$ 85,171	$ 77,818	$ 20,863
Healthcare	3,645	3,645	—	—
Services	21,032	15,503	5,529	2,574
General business	14,333	13,014	1,319	346
Total commercial	201,999	117,333	84,666	23,783
Commercial real estate	13,956	8,511	5,445	540
Loans to individuals:				
Residential mortgage	33,098	33,098	—	—
Residential mortgage guaranteed by U.S. government agencies	6,110	6,110	—	—
Personal	233	233	—	—
Total loans to individuals	39,441	39,441	—	—
Total	$ 255,396	$ 165,285	$ 90,111	$ 24,323

Troubled Debt Restructurings

At June 30, 2020 the Company had $166 million in troubled debt restructurings ("TDRs"), of which $118 million were accruing residential mortgage loans guaranteed by U.S. government agencies, $21 million were nonaccruing energy loans with a related specific allowance of $3.7 million and $20 million were nonaccruing residential mortgage loans with no specific allowance necessary. Approximately $55 million of TDRs were performing in accordance with the modified terms.

At December 31, 2019, the Company had $132 million in TDRs, of which $92 million were accruing residential mortgage loans guaranteed by U.S. government agencies. Approximately $57 million of TDRs were performing in accordance with the modified terms.

TDRs generally consist of interest rate concessions, payment stream concessions or a combination of concessions to distressed borrowers. During the three and six months ended June 30, 2020, $35 million and $59 million of loans were restructured and $7.7 million and $9.7 million of loans designated as TDRs were charged off. During the three and six months ended June 30, 2019, $21 million and $38 million of loans were restructured and $10 thousand and $12.6 million of loans designated as TDRs were charged off.

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 June 30, 2020 is as follows (in thousands):

		Past Due				
	Current	**30 to 59 Days**	**60 to 89 Days**	**90 Days or More**	**Total**	**Past Due 90 Days or More and Accruing**
Commercial:						
Energy	**$ 3,893,481**	**$ 32,439**	**$ 3,889**	**$ 44,365**	**$ 3,974,174**	**$ —**
Healthcare	**3,284,305**	**1,216**	**177**	**3,645**	**3,289,343**	**—**
Services	**3,754,841**	**7,357**	**4,440**	**13,243**	**3,779,881**	**632**
General business	**3,087,741**	**9,235**	**1,169**	**16,967**	**3,115,112**	**9,833**
Total commercial	**14,020,368**	**50,247**	**9,675**	**78,220**	**14,158,510**	**10,465**
Commercial real estate	**4,536,541**	**2,749**	**5,874**	**8,980**	**4,554,144**	**469**
Paycheck protection program	**2,081,428**	**—**	**—**	**—**	**2,081,428**	**—**
Loans to individuals:						
Residential mortgage	**1,797,197**	**7,254**	**1,360**	**7,631**	**1,813,442**	**42**
Residential mortgage guaranteed by U.S. government agencies	**60,121**	**20,494**	**15,908**	**225,746**	**322,269**	**221,201**
Personal	**1,225,469**	**477**	**58**	**93**	**1,226,097**	**16**
Total loans to individuals	**3,082,787**	**28,225**	**17,326**	**233,470**	**3,361,808**	**221,259**
Total	**$ 23,721,124**	**$ 81,221**	**$ 32,875**	**$ 320,670**	**$ 24,155,890**	**$ 232,193**

Following is disclosure of loans and the combined allowance for loan losses and accrual for off-balance sheet credit losses under the previous incurred loss model.

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

	December 31, 2019			
	Fixed Rate	**Variable Rate**	**Non-accrual**	**Total**
Commercial	$ 3,231,485	$ 10,684,749	$ 115,416	$ 14,031,650
Commercial real estate	1,056,321	3,349,836	27,626	4,433,783
Residential mortgage	1,652,653	393,897	37,622	2,084,172
Personal	193,903	1,007,192	287	1,201,382
Total	$ 6,134,362	$ 15,435,674	$ 180,951	$ 21,750,987
Accruing loans past due (90 days)[1]				$ 7,680

[1] Excludes residential mortgage loans guaranteed by agencies of the U.S. government

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 June 30, 2019					
	Commercial	Commercial Real Estate	Residential Mortgage	Personal	Nonspecific Allowance	Total
Allowance for loan losses:						
Beginning balance	$ 103,577	$ 58,134	$ 15,668	$ 8,783	$ 19,178	$ 205,340
Provision for loan losses	13,771	(8,173)	1	1,660	(2,341)	4,918
Loans charged off	(11,385)	(118)	(94)	(1,630)	—	(13,227)
Recoveries	434	4,345	149	575	—	5,503
Ending balance	$ 106,397	$ 54,188	$ 15,724	$ 9,388	$ 16,837	$ 202,534
Allowance for off-balance sheet credit losses:						
Beginning balance	1,725	48	47	1	—	$ 1,821
Provision for off-balance sheet credit losses	17	68	(3)	—	—	82
Ending balance	$ 1,742	$ 116	$ 44	$ 1	$ —	$ 1,903
Total provision for credit losses	$ 13,788	$ (8,105)	$ (2)	$ 1,660	$ (2,341)	$ 5,000

	Six Months Ended June 30, 2019					
	Commercial	Commercial Real Estate	Residential Mortgage	Personal	Nonspecific Allowance	Total
Allowance for loan losses:						
Beginning balance	$ 102,226	$ 60,026	$ 17,964	$ 9,473	$ 17,768	$ 207,457
Provision for loan losses	24,879	(10,177)	(2,407)	1,523	(931)	12,887
Loans charged off	(21,853)	(118)	(136)	(2,895)	—	(25,002)
Recoveries	1,145	4,457	303	1,287	—	7,192
Ending balance	$ 106,397	$ 54,188	$ 15,724	$ 9,388	$ 16,837	$ 202,534
Allowance for off-balance sheet credit losses:						
Beginning balance	$ 1,655	$ 52	$ 52	$ 31	$ —	$ 1,790
Provision for off-balance sheet credit losses	87	64	(8)	(30)	—	113
Ending balance	$ 1,742	$ 116	$ 44	$ 1	$ —	$ 1,903
Total provision for credit losses	$ 24,966	$ (10,113)	$ (2,415)	$ 1,493	$ (931)	$ 13,000

The allowance for loan losses and recorded investment of the related loans by portfolio segment for each impairment measurement method at December 31, 2019 is as follows (in thousands):

	Collectively Measured for Impairment		Individually Measured for Impairment		Total	
	Recorded Investment	Related Allowance	Recorded Investment	Related Allowance	Recorded Investment	Related Allowance
Commercial	$ 13,916,234	$ 100,773	$ 115,416	$ 17,414	$ 14,031,650	$ 118,187
Commercial real estate	4,406,157	51,805	27,626	—	4,433,783	51,805
Residential mortgage	2,046,550	14,400	37,622	—	2,084,172	14,400
Personal	1,201,095	9,172	287	—	1,201,382	9,172
Total	21,570,036	176,150	180,951	17,414	21,750,987	193,564
Nonspecific allowance	—	—	—	—	—	17,195
Total	$ 21,570,036	$ 176,150	$ 180,951	$ 17,414	$ 21,750,987	$ 210,759

The allowance for loan losses and recorded investment of the related loans by portfolio segment for risk graded and non-risk graded loans at December 31, 2019 is as follows (in thousands):

	Internally Risk Graded		Non-Graded		Total	
	Recorded Investment	Related Allowance	Recorded Investment	Related Allowance	Recorded Investment	Related Allowance
Commercial	$ 13,997,538	$ 117,236	$ 34,112	$ 951	$ 14,031,650	$ 118,187
Commercial real estate	4,433,783	51,805	—	—	4,433,783	51,805
Residential mortgage	279,113	3,085	1,805,059	11,315	2,084,172	14,400
Personal	1,116,297	7,003	85,085	2,169	1,201,382	9,172
Total	19,826,731	179,129	1,924,256	14,435	21,750,987	193,564
Nonspecific allowance	—	—	—	—	—	17,195
Total	$ 19,826,731	$ 179,129	$ 1,924,256	$ 14,435	$ 21,750,987	$ 210,759

The following table summarizes the Company’s loan portfolio at December 31, 2019 by the risk grade categories (in thousands):

	Internally Risk Graded				Non-Graded		
	Performing						
	Pass	Other Loans Especially Mentioned	Accruing Substandard	Nonaccrual	Performing	Nonaccrual	Total
Commercial:							
Energy	$ 3,700,406	$ 117,298	$ 63,951	$ 91,722	$ —	$ —	$ 3,973,377
Services	3,050,946	29,943	33,791	7,483	—	—	3,122,163
Wholesale/retail	1,749,023	5,281	5,399	1,163	—	—	1,760,866
Manufacturing	623,219	18,214	13,883	10,133	—	—	665,449
Healthcare	2,995,514	13,117	20,805	4,480	—	—	3,033,916
Public finance	709,868	—	—	—	—	—	709,868
Other commercial and industrial	709,729	4,028	17,744	398	34,075	37	766,011
Total commercial	13,538,705	187,881	155,573	115,379	34,075	37	14,031,650
Commercial real estate:							
Residential construction and land development	150,529	—	—	350	—	—	150,879
Retail	743,343	12,067	1,243	18,868	—	—	775,521
Office	923,202	5,177	—	—	—	—	928,379
Multifamily	1,257,005	1,604	95	6,858	—	—	1,265,562
Industrial	852,539	1,658	1,011	909	—	—	856,117
Other commercial real estate	455,045	1,639	—	641	—	—	457,325
Total commercial real estate	4,381,663	22,145	2,349	27,626	—	—	4,433,783
Residential mortgage:							
Permanent mortgage	276,138	78	2,404	493	758,260	19,948	1,057,321
Permanent mortgage guaranteed by U.S. government agencies	—	—	—	—	191,694	6,100	197,794
Home equity	—	—	—	—	817,976	11,081	829,057
Total residential mortgage	276,138	78	2,404	493	1,767,930	37,129	2,084,172
Personal	1,116,196	45	—	56	84,853	232	1,201,382
Total	$ 19,312,702	$ 210,149	$ 160,326	$ 143,554	$ 1,886,858	$ 37,398	$ 21,750,987

Impaired Loans

Loans are considered to be impaired when it is probable that the Company will not be able to collect all amounts due according to the contractual terms of the loan agreement. This generally includes all nonaccruing loans, all loans modified in a TDR and all loans repurchased from GNMA pools.

Generally, no interest income is recognized on impaired loans until all principal balances, including amounts charged-off, are recovered.

A summary of impaired loans at December 31, 2019 follows (in thousands):

	Unpaid Principal Balance	Recorded Investment			Related Allowance
		Total	With No Allowance	With Allowance	
Commercial:					
Energy	$ 149,441	$ 91,722	$ 44,244	$ 47,478	$ 16,854
Services	10,923	7,483	6,301	1,182	240
Wholesale/retail	1,980	1,163	902	261	101
Manufacturing	10,848	10,133	9,914	219	219
Healthcare	13,774	4,480	4,480	—	—
Public finance	—	—	—	—	—
Other commercial and industrial	8,227	435	435	—	—
Total commercial	195,193	115,416	66,276	49,140	17,414
Commercial real estate:					
Residential construction and land development	1,306	350	350	—	—
Retail	20,265	18,868	18,868	—	—
Office	—	—	—	—	—
Multifamily	6,858	6,858	6,858	—	—
Industrial	909	909	909	—	—
Other commercial real estate	801	641	641	—	—
Total commercial real estate	30,139	27,626	27,626	—	—
Residential mortgage:					
Permanent mortgage	24,868	20,441	20,441	—	—
Permanent mortgage guaranteed by U.S. government agencies[1]	204,187	197,794	197,794	—	—
Home equity	12,967	11,081	11,081	—	—
Total residential mortgage	242,022	229,316	229,316	—	—
Personal	360	287	287	—	—
Total	$ 467,714	$ 372,645	$ 323,505	$ 49,140	$ 17,414

[1] All permanent mortgage loans guaranteed by U.S. government agencies are considered impaired as we do not expect full collection of contractual principal and interest. At December 31, 2019, the majority were accruing based on the guarantee by U.S. government agencies.

A summary of loans currently performing, loans past due and accruing and nonaccrual loans as of December 31, 2019 is as follows (in thousands):

	Current	Past Due 30 to 59 Days	Past Due 60 to 89 Days	Past Due 90 Days or More	Nonaccrual	Total
Commercial:						
Energy	$ 3,881,244	$ 401	$ 10	$ —	91,722	$ 3,973,377
Services	3,105,621	1,737	523	6,799	7,483	3,122,163
Wholesale	1,758,878	712	113	—	1,163	1,760,866
Manufacturing	654,329	410	190	387	10,133	665,449
Healthcare	3,027,329	2,039	—	68	4,480	3,033,916
Public finance	707,638	2,230	—	—	—	709,868
Other commercial and industrial	764,390	414	772	—	435	766,011
Total commercial	13,899,429	7,943	1,608	7,254	115,416	14,031,650
Commercial real estate:						
Residential construction and land development	147,379	3,093	—	57	350	150,879
Retail	756,653	—	—	—	18,868	775,521
Office	928,379	—	—	—	—	928,379
Multifamily	1,258,704	—	—	—	6,858	1,265,562
Industrial	855,208	—	—	—	909	856,117
Other commercial real estate	454,253	1,827	250	354	641	457,325
Total commercial real estate	4,400,576	4,920	250	411	27,626	4,433,783
Residential Mortgage:						
Permanent mortgage	1,034,716	2,011	153	—	20,441	1,057,321
Permanent mortgage guaranteed by U.S. government agencies	46,898	24,203	18,187	102,406	6,100	197,794
Home equity	814,325	3,343	308	—	11,081	829,057
Total residential mortgage	1,895,939	29,557	18,648	102,406	37,622	2,084,172
Personal	1,196,362	4,664	54	15	287	1,201,382
Total	$ 21,392,306	$ 47,084	$ 20,560	$ 110,086	$ 180,951	$ 21,750,987

(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):

	June 30, 2020		December 31, 2019	
	Unpaid Principal Balance/ Notional	Fair Value	Unpaid Principal Balance/ Notional	Fair Value
Residential mortgage loans held for sale	**$ 285,274**	**$ 296,445**	$ 175,117	$ 177,703
Residential mortgage loan commitments	**546,304**	**27,631**	158,460	5,233
Forward sales contracts	**825,775**	**(4,719)**	315,203	(665)
		$ 319,357		$ 182,271

No residential mortgage loans held for sale were 90 days or more past due or considered impaired as of June 30, 2020 or December 31, 2019. No credit losses were recognized on residential mortgage loans held for sale for the six month period ended June 30, 2020 and 2019.

Mortgage banking revenue was as follows (in thousands):

	Three Months Ended June 30,		Six Months Ended June 30,	
	2020	2019	2020	2019
Production revenue:				
Net realized gains on sale of mortgage loans	**$ 24,109**	$ 10,174	**$ 33,826**	$ 15,867
Net change in unrealized gain on mortgage loans held for sale	**5,024**	921	**8,585**	868
Net change in the fair value of mortgage loan commitments	**3,381**	1,506	**22,398**	4,219
Net change in the fair value of forward sales contracts	**6,671**	(732)	**(4,054)**	(1,217)
Total production revenue	**39,185**	11,869	**60,755**	19,737
Servicing revenue	**14,751**	16,262	**30,348**	32,228
Total mortgage banking revenue	**$ 53,936**	$ 28,131	**$ 91,103**	$ 51,965

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):

	June 30, 2020	December 31, 2019
Number of residential mortgage loans serviced for others	**116,232**	126,828
Outstanding principal balance of residential mortgage loans serviced for others	**$ 18,038,428**	$ 20,727,106
Weighted average interest rate	**3.96 %**	3.98 %
Remaining term (in months)	**283**	289

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

	Three Months Ended June 30,		Six Months Ended June 30,	
	2020	2019	2020	2019
Beginning Balance	**$ 110,828**	$ 238,193	**$ 201,886**	$ 259,254
Additions	**8,465**	8,751	**13,906**	14,939
Disposals	**(10,801)**	—	**(10,801)**	—
Change in fair value due to principal payments	**(9,760)**	(9,081)	**(17,779)**	(15,664)
Change in fair value due to market assumption changes	**(761)**	(29,555)	**(89,241)**	(50,221)
Ending Balance	**$ 97,971**	$ 208,308	**$ 97,971**	$ 208,308

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:

	June 30, 2020	December 31, 2019
Discount rate – risk-free rate plus a market premium	**9.67%**	9.81%
Prepayment rate - based upon loan interest rate, original term and loan type	**9.04% - 30.87%**	8.28% - 16.05%
Loan servicing costs – annually per loan based upon loan type:		
Performing loans	**$69 - $94**	$68 - $94
Delinquent loans	**$150 - $500**	$150 - $500
Loans in foreclosure	**$1,000 - $4,000**	$1,000 - $4,000
Escrow earnings rate – indexed to rates paid on deposit accounts with comparable average life	**0.33%**	1.73%
Primary/secondary mortgage rate spread	**105 bps**	104 bps
Delinquency rate	**4.51%**	2.73%

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

On June 24, 2015, BOKF, NA received a complaint alleging that an employee had colluded with a bond issuer and an individual in misusing revenues pledged to municipal bonds for which BOKF, NA served as trustee under the bond indenture. The Company conducted an investigation and concluded that employees in one of its Corporate Trust offices had, with respect to a single group of affiliated bond issuances, violated Company policies and procedures by waiving financial covenants, granting forbearances and accepting without disclosure to the bondholders, debt service payments from sources other than pledged revenues. The relationship manager was terminated. The Company reported the circumstances to, and cooperated with an investigation by, the Securities and Exchange Commission ("SEC").

On December 28, 2015, in an action brought by the SEC, the United States District Court for the District of New Jersey entered a judgment against the principals involved in issuing the bonds, precluding the principals from denying the alleged violations of the federal securities laws and requiring the principals to pay all outstanding principal, accrued interest, and other amounts required under the bond documents, less the value of the facilities securing repayment of the bonds, subject to oversight by a court appointed monitor (“Payment Plan”).

On September 7, 2016, BOKF, NA agreed, and the SEC entered, a Consent Order finding that BOKF, NA had violated Section 17(a) of the Securities Act of 1933 and Section 10(b) of the Securities Exchange Act and requiring BOKF, NA to disgorge
$1,067,721 of fees and pay a civil penalty of $600,000. BOKF, NA disgorged the fees and paid the penalty.

On August 26, 2016, BOKF, NA was sued in the United States District Court for New Jersey by two bondholders in a putative class action on behalf of all holders of the bonds alleging BOKF, NA participated in the fraudulent sale of securities by the principals. The New Jersey Federal District Action has been stayed until September 25, 2020. On September 14, 2016, BOKF, NA was sued in the District Court of Tulsa County, Oklahoma by 19 bondholders alleging BOKF, NA participated in the fraudulent sale of securities by the principals. The Tulsa County District Court Action is pending on BOKF, NA’s motion to dismiss the plaintiff's Second Amended Petition.

On January 8, 2020, the New Jersey District Court entered judgment against the principal individual and his wife for $36,805,051 in principal amount and $10,937,831 in pre-judgment interest. On January 19, 2020, the New Jersey Federal District Court formally terminated the Payment Plan. Management is no longer able to conclude that the individual principal and his wife will be successful in paying the obligations they have to pay the bonds in full but such obligations remain and are not dischargeable in bankruptcy. If the individual principal and his wife do not have the financial ability to pay the bonds in full, a bondholder loss could become probable. Management has been advised by counsel that BOKF, NA has valid defenses to claims of bondholders and that no loss to the company is probable. No provision for losses has been made at this time. BOKF, NA estimates that, upon sale of all collateral securing payment of the bonds, approximately $20 million will remain outstanding. A reasonable estimate cannot be made of the amount of any bondholder loss, though the amount of bondholder loss could be material to the company in the event a loss to the company becomes probable.
On March 5, 2018, BOKF, NA was sued in the Fulton, Georgia County District Court by a Wrongful Death Judgment Creditor of one of the operators of a nursing home financed by one of the bonds which are the subject of the litigation discussed above. The judgment is alleged to total approximately $8 million in principal and interest at this time. Plaintiff alleges that BOKF, as Trustee, colluded with the borrower and others to defraud creditors of the nursing home by misleading the public about the solvency of the nursing home. Plaintiff alleges that this conduct has prevented her from collecting on her judgment. On April 19, 2019, the Court granted BOKF, NA's Motion to Dismiss. On May 3, 2019, the plaintiff filed a Motion for Reconsideration which is pending. BOKF, NA is advised by counsel that BOKF, NA has valid defenses to the plaintiffs’ claims and no loss is probable.

On March 14, 2017, BOKF, NA was sued in the United States District Court for the Northern District of Oklahoma by bondholders in a second putative class action representing a different set of municipal securities. The bondholders in this second action allege two individuals purchased facilities from the principals who are the subject of the SEC New Jersey proceedings by means of the fraudulent sale of $60 million of municipal securities for which BOKF, NA also served as indenture trustee. The bondholders allege BOKF, NA failed to disclose that the seller of the purchased facilities had engaged in the conduct complained of in the New Jersey action. BOKF, NA properly performed all duties as indenture trustee of this second set of municipal securities, timely commenced proceedings against the issuer of the securities when default occurred, is cooperating with the SEC in actions against the two principals, is not a target of the SEC proceedings, and has been advised by counsel that BOKF, NA has valid defenses to the claims of these bondholders. Management is advised by counsel that a loss is not probable and that the loss, if any, cannot be reasonably estimated.

On March 7, 2017, a plaintiff filed a putative class action in the United States District Court for the Northern District of Texas alleging an extended overdraft fee charged by BOKF, NA is interest and exceeds permitted rates. On September 18, 2018, the District Court dismissed the Texas action and the plaintiff appealed the dismissal to the United States Court of Appeals for the Fifth Circuit which heard argument on October 8, 2019. On August 22, 2018, a plaintiff filed a second putative class action in the United States District Court for New Mexico making the same allegations as the Texas action. The District Court dismissed the plaintiff's action. The plaintiff has appealed to the United States Court of Appeals for the Tenth Circuit. Management is advised by counsel that a loss is not probable in either the now dismissed Texas action or the New Mexico action and that the loss, if any, cannot be reasonably estimated.

On March 7, 2020, three former employees sued BOKF, NA, the Plan Committee of the BOKF, NA 401k Plan, and Cavanal Hill Investment Management, Inc., a subsidiary of BOKF, NA, alleging that the Defendants included proprietary investment products as investment options in the BOKF, NA 401k Plan, whose fees were too high and performance too low, for the purpose of earning fees. The action is brought as a putative class action on behalf of all Plan Participants. The action is pending on the defendants' motion to dismiss. Management is advised by counsel that a loss is not probable and that the loss, if any, cannot be reasonably estimated.

On May 12, 2020, an accounting firm filed a putative class action in the District Court of Colorado alleging that BOKF, NA failed to pay the agents of borrowers making application through the Bank to the Small Business Administration for Paycheck Protection Program (CARES Act) loans. BOKF, NA implemented a policy to pay, and paid, all agents of PPP borrowers where the principals agreed the principals had agents. Management is advised by counsel that a loss is not probable and that the loss, if any, cannot be reasonably estimated.

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 sponsors a private equity fund and 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 June 30, 2020, the Company has $260 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. This investment balance also includes $78 million of unfunded commitments included in Other liabilities on the Consolidated Balance Sheets.

(7) Shareholders' Equity

On August 4, 2020, the Company declared a quarterly cash dividend of $0.51 per common share payable on or about August 26, 2020 to shareholders of record as of August 17, 2020.

Dividends declared were $0.51 and $1.02 per share during the three and six months ended June 30, 2020 and $0.50 and $1.00 per share during the three and six months ended June 30, 2019.

Accumulated Other Comprehensive Income (Loss)

AOCI includes unrealized gains and losses on available for sale ("AFS") securities and non-credit related unrealized losses on AFS securities for which an other-than-temporary impairment has been recorded in earnings. Unrealized losses on employee benefit plans will be reclassified into income as pension plan costs are recognized over the remaining service period of plan participants. 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	Employee Benefit Plans	Total
Balance, Dec. 31, 2018	$ (70,999)	$ (1,586)	$ (72,585)
Net change in unrealized gain (loss)	228,156	—	228,156
Reclassification adjustments included in earnings:			
Gain on available for sale securities, net	(1,105)	—	(1,105)
Other comprehensive income, before income taxes	227,051	—	227,051
Federal and state income taxes[1]	55,897	—	55,897
Other comprehensive income, net of income taxes	171,154	—	171,154
Balance, June 30, 2019	$ 100,155	$ (1,586)	$ 98,569
Balance, Dec. 31, 2019	**$ 104,996**	**$ (73)**	**$ 104,923**
Net change in unrealized gain (loss)	**354,765**	**—**	**354,765**
Reclassification adjustments included in earnings:			
Gain on available for sale securities, net	**(5,580)**	**—**	**(5,580)**
Other comprehensive income, before income taxes	**349,185**	**—**	**349,185**
Federal and state income taxes[1]	**83,792**	**—**	**83,792**
Other comprehensive income, net of income taxes	**265,393**	**—**	**265,393**
Balance, June 30, 2020	**$ 370,389**	**$ (73)**	**$ 370,316**

[1] Calculated using a 25 percent blended federal and state statutory tax rate.

(8) Earnings Per Share

(In thousands, except share and per share amounts)	Three Months Ended June 30, 2020	Three Months Ended June 30, 2019	Six Months Ended June 30, 2020	Six Months Ended June 30, 2019
Numerator:				
Net income attributable to BOK Financial Corp. shareholders	**$ 64,693**	$ 137,563	**$ 126,772**	$ 248,175
Less: Earnings allocated to participating securities	**397**	850	**740**	1,678
Numerator for basic earnings per share – income available to common shareholders	**64,296**	136,713	**126,032**	246,497
Effect of reallocating undistributed earnings of participating securities	**—**	—	**—**	—
Numerator for diluted earnings per share – income available to common shareholders	**$ 64,296**	$ 136,713	**$ 126,032**	$ 246,497
Denominator:				
Weighted average shares outstanding	**70,307,606**	71,327,928	**70,410,707**	71,625,332
Less: Participating securities included in weighted average shares outstanding	**431,563**	440,865	**410,842**	489,918
Denominator for basic earnings per common share	**69,876,043**	70,887,063	**69,999,865**	71,135,414
Dilutive effect of employee stock compensation plans[1]	**1,424**	14,970	**3,952**	16,144
Denominator for diluted earnings per common share	**69,877,467**	70,902,033	**70,003,817**	71,151,558
Basic earnings per share	**$ 0.92**	$ 1.93	**$ 1.80**	$ 3.47
Diluted earnings per share	**$ 0.92**	$ 1.93	**$ 1.80**	$ 3.46
[1] Excludes employee stock options with exercise prices greater than current market price.	**22,238**	—	**—**	—

(9) Reportable Segments

Reportable segments reconciliation to the Consolidated Financial Statements for the three months ended June 30, 2020 is as follows (in thousands):

	Commercial	Consumer	Wealth Management	Funds Management and Other	BOK Financial Consolidated
Net interest revenue from external sources	$ 174,314	$ 18,795	$ 34,359	$ 50,636	$ 278,104
Net interest revenue (expense) from internal sources	(29,205)	20,475	(7,479)	16,209	—
Net interest revenue	145,109	39,270	26,880	66,845	278,104
Provision for credit losses	13,762	535	(89)	121,113	135,321
Net interest revenue after provision for credit losses	131,347	38,735	26,969	(54,268)	142,783
Other operating revenue	47,898	67,192	106,674	10,929	232,693
Other operating expense	62,933	58,936	80,567	92,951	295,387
Net direct contribution	116,312	46,991	53,076	(136,290)	80,089
Gain on financial instruments, net	48	7,356	—	(7,404)	—
Change in fair value of mortgage servicing rights	—	(761)	—	761	—
Gain on repossessed assets, net	191	27	—	(218)	—
Corporate expense allocations	5,437	10,812	8,204	(24,453)	—
Net income before taxes	111,114	42,801	44,872	(118,698)	80,089
Federal and state income taxes	30,122	10,901	11,478	(36,698)	15,803
Net income	80,992	31,900	33,394	(82,000)	64,286
Net income (loss) attributable to non-controlling interests	—	—	—	(407)	(407)
Net income attributable to BOK Financial Corp. shareholders	$ 80,992	$ 31,900	$ 33,394	$ (81,593)	$ 64,693
Average assets	$ 27,575,652	$ 9,920,005	$ 15,721,452	$ (3,460,078)	$ 49,757,031

Reportable segments reconciliation to the Consolidated Financial Statements for the six months ended June 30, 2020 is as follows (in thousands):

	Commercial	Consumer	Wealth Management	Funds Management and Other	BOK Financial Consolidated
Net interest revenue from external sources	$ 376,216	$ 44,671	$ 48,725	$ 69,852	$ 539,464
Net interest revenue (expense) from internal sources	(79,700)	38,531	(2,941)	44,110	—
Net interest revenue	296,516	83,202	45,784	113,962	539,464
Provision for credit losses	30,642	1,791	(137)	196,796	229,092
Net interest revenue after provision for credit losses	265,874	81,411	45,921	(82,834)	310,372
Other operating revenue	86,118	122,254	204,555	85	413,012
Other operating expense	123,685	113,729	158,759	167,838	564,011
Net direct contribution	228,307	89,936	91,717	(250,587)	159,373
Gain on financial instruments, net	97	94,120	7	(94,224)	—
Change in fair value of mortgage servicing rights	—	(89,241)	—	89,241	—
Gain on repossessed assets, net	200	40	—	(240)	—
Corporate expense allocations	14,342	21,299	16,469	(52,110)	—
Net income before taxes	214,262	73,556	75,255	(203,700)	159,373
Federal and state income taxes	58,295	18,735	19,288	(63,215)	33,103
Net income	155,967	54,821	55,967	(140,485)	126,270
Net income (loss) attributable to non-controlling interests	—	—	—	(502)	(502)
Net income attributable to BOK Financial Corp. shareholders	$ 155,967	$ 54,821	$ 55,967	$ (139,983)	$ 126,772
Average assets	$ 26,131,814	$ 9,885,429	$ 14,222,432	$ (2,500,850)	$ 47,738,825

Reportable segments reconciliation to the Consolidated Financial Statements for the three months ended June 30, 2019 is as follows (in thousands):

	Commercial	Consumer	Wealth Management	Funds Management and Other[1]	BOK Financial Consolidated
Net interest revenue from external sources	$ 251,084	$ 25,300	$ 17,222	$ (8,174)	$ 285,432
Net interest revenue (expense) from internal sources	(66,613)	27,415	9,719	29,479	—
Net interest revenue	184,471	52,715	26,941	21,305	285,432
Provision for credit losses	6,823	1,728	(48)	(3,503)	5,000
Net interest revenue after provision for credit losses	177,648	50,987	26,989	24,808	280,432
Other operating revenue	41,611	48,811	86,017	(4,374)	172,065
Other operating expense	63,415	57,694	69,452	86,576	277,137
Net direct contribution	155,844	42,104	43,554	(66,142)	175,360
Gain (loss) on financial instruments, net	20	20,981	—	(21,001)	—
Change in fair value of mortgage servicing rights	—	(29,555)	—	29,555	—
Gain (loss) on repossessed assets, net	—	92	—	(92)	—
Corporate expense allocations	10,652	11,695	9,168	(31,515)	—
Net income before taxes	145,212	21,927	34,386	(26,165)	175,360
Federal and state income taxes	38,932	5,585	8,842	(15,779)	37,580
Net income	106,280	16,342	25,544	(10,386)	137,780
Net income attributable to non-controlling interests	—	—	—	217	217
Net income (loss) attributable to BOK Financial Corp. shareholders	$ 106,280	$ 16,342	$ 25,544	$ (10,603)	$ 137,563
Average assets	$ 22,910,724	$ 9,212,667	$ 9,849,396	$ (1,128,010)	$ 40,844,777

Reportable segments reconciliation to the Consolidated Financial Statements for the six months ended June 30, 2019 is as follows (in thousands):

	Commercial	Consumer	Wealth Management	Funds Management and Other[1]	BOK Financial Consolidated
Net interest revenue from external sources	$ 455,293	$ 47,775	$ 38,708	$ 21,758	$ 563,534
Net interest revenue (expense) from internal sources	(120,251)	56,042	16,489	47,720	—
Net interest revenue	335,042	103,817	55,197	69,478	563,534
Provision for credit losses	18,069	2,813	(167)	(7,715)	13,000
Net interest revenue after provision for credit losses	316,973	101,004	55,364	77,193	550,534
Other operating revenue	79,223	91,559	159,431	(878)	329,335
Other operating expense	114,042	111,515	130,959	207,778	564,294
Net direct contribution	282,154	81,048	83,836	(131,463)	315,575
Gain (loss) on financial instruments, net	38	35,078	—	(35,116)	—
Change in fair value of mortgage servicing rights	—	(50,221)	—	50,221	—
Gain (loss) on repossessed assets, net	(346)	195	—	151	—
Corporate expense allocations	20,107	23,595	17,528	(61,230)	—
Net income before taxes	261,739	42,505	66,308	(54,977)	315,575
Federal and state income taxes	69,938	10,826	17,045	(30,279)	67,530
Net income	191,801	31,679	49,263	(24,698)	248,045
Net income attributable to non-controlling interests	—	—	—	(130)	(130)
Net income attributable to BOK Financial Corp. shareholders	$ 191,801	$ 31,679	$ 49,263	$ (24,568)	$ 248,175
Average assets	$ 21,432,513	$ 8,794,498	$ 9,590,629	$ 444,327	$ 40,261,967

[1] CoBiz operations were included in Funds Management and Other for the first quarter of 2019.

(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 the Bank. 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 June 30, 2020.

	Commercial	Consumer	Wealth Management	Funds Management & Other	Consolidated	Out of Scope [1]	In Scope [2]
Trading revenue	$ —	$ —	$ 43,915	$ —	$ 43,915	$ 43,915	$ —
Customer hedging revenue	6,893	—	63	(714)	6,242	6,242	—
Retail brokerage revenue	—	—	3,394	—	3,394	—	3,394
Insurance brokerage revenue	—	—	3,153	—	3,153	—	3,153
Investment banking revenue	1,131	—	4,187	—	5,318	851	4,467
Brokerage and trading revenue	8,024	—	54,712	(714)	62,022	51,008	11,014
TransFund EFT network revenue	19,647	556	(9)	—	20,194	—	20,194
Merchant services revenue	2,230	13	—	—	2,243	—	2,243
Corporate card revenue	485	—	18	—	503	—	503
Transaction card revenue	22,362	569	9	—	22,940	—	22,940
Personal trust revenue	—	—	21,681	—	21,681	—	21,681
Corporate trust revenue	—	—	4,604	—	4,604	—	4,604
Institutional trust & retirement plan services revenue	—	—	10,723	—	10,723	—	10,723
Investment management services and other revenue	—	—	4,291	(42)	4,249	—	4,249
Fiduciary and asset management revenue	—	—	41,299	(42)	41,257	—	41,257
Commercial account service charge revenue	11,069	389	598	—	12,056	—	12,056
Overdraft fee revenue	20	3,607	16	—	3,643	—	3,643
Check card revenue	—	5,122	—	—	5,122	—	5,122
Automated service charge and other deposit fee revenue	29	1,179	17	—	1,225	—	1,225
Deposit service charges and fees	11,118	10,297	631	—	22,046	—	22,046
Mortgage production revenue	—	39,186	—	—	39,186	39,186	—
Mortgage servicing revenue	—	15,164	—	(414)	14,750	14,750	—
Mortgage banking revenue	—	54,350	—	(414)	53,936	53,936	—
Other revenue	5,011	1,976	10,106	(5,614)	11,479	8,970	2,509
Total fees and commissions revenue	$ 46,515	$ 67,192	$ 106,757	$ (6,784)	$ 213,680	$ 113,914	$ 99,766

[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 six months ended June 30, 2020.

	Commercial	Consumer	Wealth Management	Funds Management & Other	Consolidated	Out of Scope [1]	In Scope [2]
Trading revenue	$ —	$ —	$ 78,299	$ —	$ 78,299	$ 78,299	$ —
Customer hedging revenue	9,418	—	198	(151)	9,465	9,465	—
Retail brokerage revenue	—	—	7,737	—	7,737	—	7,737
Insurance brokerage revenue	—	—	6,942	—	6,942	—	6,942
Investment banking revenue	3,011	—	7,347	—	10,358	2,679	7,679
Brokerage and trading revenue	12,429	—	100,523	(151)	112,801	90,443	22,358
TransFund EFT network revenue	37,859	1,387	(28)	2	39,220	—	39,220
Merchant services revenue	4,535	27	—	—	4,562	—	4,562
Corporate card revenue	1,005	—	34	—	1,039	—	1,039
Transaction card revenue	43,399	1,414	6	2	44,821	—	44,821
Personal trust revenue	—	—	42,330	—	42,330	—	42,330
Corporate trust revenue	—	—	10,966	—	10,966	—	10,966
Institutional trust & retirement plan services revenue	—	—	22,480	—	22,480	—	22,480
Investment management services and other revenue	—	—	10,022	(83)	9,939	—	9,939
Fiduciary and asset management revenue	—	—	85,798	(83)	85,715	—	85,715
Commercial account service charge revenue	22,108	799	1,143	(1)	24,049	—	24,049
Overdraft fee revenue	69	10,812	38	2	10,921	—	10,921
Check card revenue	—	10,351	—	—	10,351	—	10,351
Automated service charge and other deposit fee revenue	258	2,565	30	2	2,855	—	2,855
Deposit service charges and fees	22,435	24,527	1,211	3	48,176	—	48,176
Mortgage production revenue	—	60,755	—	—	60,755	60,755	—
Mortgage servicing revenue	—	31,206	—	(858)	30,348	30,348	—
Mortgage banking revenue	—	91,961	—	(858)	91,103	91,103	—
Other revenue	9,711	4,352	17,100	(7,375)	23,788	17,378	6,410
Total fees and commissions revenue	$ 87,974	$ 122,254	$ 204,638	$ (8,462)	$ 406,404	$ 198,924	$ 207,480

[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 June 30, 2019.

	Commercial	Consumer	Wealth Management	Funds Management & Other [3]	Consolidated	Out of Scope [1]	In Scope [2]
Trading revenue	$ —	$ —	$ 21,879	$ —	$ 21,879	$ 21,879	$ —
Customer hedging revenue	2,385	—	1,906	1,054	5,345	5,345	—
Retail brokerage revenue	—	—	3,914	(13)	3,901	—	3,901
Insurance brokerage revenue	—	—	3,309	513	3,822	—	3,822
Investment banking revenue	2,548	—	3,032	(1)	5,579	2,198	3,381
Brokerage and trading revenue	4,933	—	34,040	1,553	40,526	29,422	11,104
TransFund EFT network revenue	18,504	997	(20)	—	19,481	—	19,481
Merchant services revenue	2,223	15	—	(1)	2,237	—	2,237
Corporate card revenue	190	—	5	2	197	—	197
Transaction card revenue	20,917	1,012	(15)	1	21,915	—	21,915
Personal trust revenue	—	—	21,215	1	21,216	—	21,216
Corporate trust revenue	—	—	6,331	(1)	6,330	—	6,330
Institutional trust & retirement plan services revenue	—	—	11,072	—	11,072	—	11,072
Investment management services and other revenue	—	—	6,449	(42)	6,407	—	6,407
Fiduciary and asset management revenue	—	—	45,067	(42)	45,025	—	45,025
Commercial account service charge revenue	10,625	429	538	—	11,592	—	11,592
Overdraft fee revenue	93	8,973	36	2	9,104	—	9,104
Check card revenue	—	5,586	—	1	5,587	—	5,587
Automated service charge and other deposit fee revenue	214	1,578	(2)	1	1,791	—	1,791
Deposit service charges and fees	10,932	16,566	572	4	28,074	—	28,074
Mortgage production revenue	—	11,871	—	(2)	11,869	11,869	—
Mortgage servicing revenue	—	16,741	—	(479)	16,262	16,262	—
Mortgage banking revenue	—	28,612	—	(481)	28,131	28,131	—
Other revenue	4,323	2,640	6,261	(787)	12,437	8,123	4,314
Total fees and commissions revenue	$ 41,105	$ 48,830	$ 85,925	$ 248	$ 176,108	$ 65,676	$ 110,432

[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.*
[3] CoBiz operations are included in Funds Management and Other for the first quarter of 2019.

Fees and commissions revenue by reportable segment and primary service line is as follows for the six months ended June 30, 2019.

	Commercial	Consumer	Wealth Management	Funds Management & Other[3]	Consolidated	Out of Scope[1]	In Scope[2]
Trading revenue	$ —	$ —	$ 34,799	$ —	$ 34,799	$ 34,799	$ —
Customer hedging revenue	3,960	—	7,634	428	12,022	12,022	—
Retail brokerage revenue	—	—	7,988	(65)	7,923	—	7,923
Insurance brokerage revenue	—	—	3,688	4,242	7,930	—	7,930
Investment banking revenue	3,937	—	5,533	(1)	9,469	3,427	6,042
Brokerage and trading revenue	7,897	—	59,642	4,604	72,143	50,248	21,895
TransFund EFT network revenue	36,158	1,955	(37)	1	38,077	—	38,077
Merchant services revenue	4,148	29	—	122	4,299	—	4,299
Corporate card revenue	270	—	5	2	277	—	277
Transaction card revenue	40,576	1,984	(32)	125	42,653	—	42,653
Personal trust revenue	—	—	40,789	1	40,790	—	40,790
Corporate trust revenue	—	—	12,532	(1)	12,531	—	12,531
Institutional trust & retirement plan services revenue	—	—	22,179	—	22,179	—	22,179
Investment management services and other revenue	—	—	11,250	1,633	12,883	—	12,883
Fiduciary and asset management revenue	—	—	86,750	1,633	88,383	—	88,383
Commercial account service charge revenue	20,687	816	1,065	1,807	24,375	—	24,375
Overdraft fee revenue	167	17,368	63	(234)	17,364	—	17,364
Check card revenue	—	10,578	—	165	10,743	—	10,743
Automated service charge and other deposit fee revenue	372	3,243	175	45	3,835	—	3,835
Deposit service charges and fees	21,226	32,005	1,303	1,783	56,317	—	56,317
Mortgage production revenue	—	19,739	—	(2)	19,737	19,737	—
Mortgage servicing revenue	—	33,186	—	(958)	32,228	32,228	—
Mortgage banking revenue	—	52,925	—	(960)	51,965	51,965	—
Other revenue	9,452	4,737	11,518	(508)	25,199	16,843	8,356
Total fees and commissions revenue	$ 79,151	$ 91,651	$ 159,181	$ 6,677	$ 336,660	$ 119,056	$ 217,604

[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.*
[3] CoBiz operations are included in Funds Management and Other for the first quarter of 2019.

(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 six months ended June 30, 2020 and 2019, respectively. Transfers between significant other observable inputs and significant unobservable inputs during the six months ended June 30, 2020 and 2019 are included in the summary of changes in recurring fair values measured using unobservable inputs.

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 June 30, 2020 or December 31, 2019.

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 June 30, 2020 (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 agency debentures	$ 4,237	$ —	$ 4,237	$ —
Residential agency mortgage-backed securities	1,146,454	—	1,146,454	—
Municipal and other tax-exempt securities	22,710	—	22,710	—
Asset-backed securities	5	—	5	—
Other trading securities	22,699	—	22,699	—
Total trading securities	1,196,105	—	1,196,105	—
Available for sale securities:				
U.S. Treasury	912	912	—	—
Municipal and other tax-exempt securities	31,240	—	31,240	—
Residential agency mortgage-backed securities	9,147,238	—	9,147,238	—
Residential non-agency mortgage-backed securities	35,250	—	35,250	—
Commercial agency mortgage-backed securities	3,260,807	—	3,260,807	—
Other debt securities	472	—	—	472
Total available for sale securities	12,475,919	912	12,474,535	472
Fair value option securities:				
U.S. Treasury	92,742	92,742	—	—
Residential agency mortgage-backed securities	629,915	—	629,915	—
Total fair value option securities	722,657	92,742	629,915	—
Residential mortgage loans held for sale	319,357	—	309,672	9,685
Mortgage servicing rights[1]	97,971	—	—	97,971
Derivative contracts, net of cash collateral[2]	651,553	66,207	585,346	—
Liabilities:				
Derivative contracts, net of cash collateral[2]	610,020	—	610,020	—

[1] 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.

[2] See Note 3 for detail of fair value of derivative contracts by contract type. Derivative contracts in asset positions that were valued based on quoted prices in active markets for identical instruments (Level 1) are primarily exchange-traded energy and interest rate derivative contacts, net of cash margin. Derivative contacts in liability positions that were valued using quoted prices in active markets for identical instruments are exchange-traded interest rate and agricultural derivative contracts, fully offset by cash margin.

The fair value of financial assets and liabilities measured on a recurring basis was as follows as of December 31, 2019 (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 agency debentures	$ 44,264	$ —	$ 44,264	$ —
Residential agency mortgage-backed securities	1,504,651	—	1,504,651	—
Municipal and other tax-exempt securities	26,196	—	26,196	—
Asset-backed securities	14,084	—	14,084	—
Other trading securities	34,726	—	34,726	—
Total trading securities	1,623,921	—	1,623,921	—
Available for sale securities:				
U.S. Treasury	1,600	1,600	—	—
Municipal and other tax-exempt securities	1,861	—	1,861	—
Residential agency mortgage-backed securities	8,046,096	—	8,046,096	—
Residential non-agency mortgage-backed securities	41,609	—	41,609	—
Commercial agency mortgage-backed securities	3,178,005	—	3,178,005	—
Other debt securities	472	—	—	472
Total available for sale securities	11,269,643	1,600	11,267,571	472
Fair value option securities:				
U.S. Treasury	9,917	9,917	—	—
Residential agency mortgage-backed securities	1,088,660	—	1,088,660	—
Total fair value option securities	1,098,577	9,917	1,088,660	—
Residential mortgage loans held for sale	182,271	—	173,958	8,313
Mortgage servicing rights[1]	201,886	—	—	201,886
Derivative contracts, net of cash collateral[2]	323,375	8,944	314,431	—
Liabilities:				
Derivative contracts, net of cash collateral[2]	251,128	—	251,128	—

[1] 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.

[2] See Note 3 for detail of fair value of derivative contracts by contract type. Derivative contracts based on quoted prices in active markets for identical instruments (Level 1) are exchange-traded interest rate and energy derivative contacts, net of cash margin. Derivative contracts in liability positions that were valued using quoted prices in active markets for identical instruments (Level 1) are exchange-traded interest rate and agricultural contracts, fully offset by cash margin.

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 Capital Markets, 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.

The following represents the changes for the three and six months ended June 30, 2020 related to assets measured at fair value on a recurring basis using significant unobservable inputs (in thousands):

	Available for sale - Other debt securities	Residential mortgage loans held for sale
Balance, Mar. 31, 2020	**$ 472**	**$ 9,574**
Transfer to Level 3 from Level 2[1]	**—**	**1,328**
Purchases	**—**	**—**
Proceeds from sales	**—**	**(648)**
Redemptions and distributions	**—**	**—**
Gain (loss) recognized in earnings:		
Mortgage banking revenue	**—**	**(569)**
Other comprehensive income (loss):		
Net change in unrealized gain (loss)	**—**	**—**
Balance, June 30, 2020	**$ 472**	**$ 9,685**

[1] Recurring transfers to Level 3 from Level 2 consist of residential mortgage loans intended for sale to U.S. government agencies that fail to meet conforming standards.

	Available for sale - Other debt securities	Residential mortgage loans held for sale
Balance, December 31, 2019	**$ 472**	**$ 8,313**
Transfer to Level 3 from Level 2[1]	**—**	**3,592**
Purchases	**—**	**—**
Proceeds from sales	**—**	**(1,588)**
Redemptions and distributions	**—**	**—**
Gain (loss) recognized in earnings:		
Mortgage banking revenue	**—**	**(632)**
Other comprehensive income (loss):		
Net change in unrealized gain (loss)	**—**	**—**
Balance, June 30, 2020	**$ 472**	**$ 9,685**

[1] Recurring transfers to Level 3 from Level 2 consist of residential mortgage loans intended for sale to U.S. government agencies that fail to meet conforming standards.

The following represents the changes for the three and six months ended June 30, 2019 related to assets measured at fair value on a recurring basis using significant unobservable inputs (in thousands):

	Available for sale - Other debt securities	Residential mortgage loans held for sale
Balance, Mar. 31, 2019	$ 472	$ 15,776
Transfer to Level 3 from Level 2[1]	—	907
Purchases	—	—
Proceeds from sales	—	(998)
Redemptions and distributions	—	—
Gain (loss) recognized in earnings:		
Mortgage banking revenue	—	388
Other comprehensive income (loss):		
Net change in unrealized gain (loss)	—	—
Balance, June 30, 2019	$ 472	$ 16,073

[1] Recurring transfers to Level 3 from Level 2 consist of residential mortgage loans intended for sale to U.S. government agencies that fail to meet conforming standards.

	Available for sale - Other debt securities		Residential mortgage loans held for sale	
Balance, Dec. 31, 2018	$	472	$	15,207
Transfer to Level 3 from Level 2[1]		—		1,889
Purchases		—		—
Proceeds from sales		—		(1,379)
Redemptions and distributions		—		—
Gain (loss) recognized in earnings				
Mortgage banking revenue		—		356
Other comprehensive income (loss):				
Net change in unrealized gain (loss)		—		—
Balance, June 30, 2019	$	472	$	16,073

[1] Recurring transfers to Level 3 from Level 2 consist of residential mortgage loans intended for sale to U.S. government agencies that fail to meet conforming standards.

A summary of quantitative information about assets measured at fair value on a recurring basis using Significant Unobservable Inputs (Level 3) as of June 30, 2020 follows (in thousands):

	Fair Value	Valuation Technique(s)	Unobservable Input	Range (Weighted Average)
Available for sale securities – Other debt securities	$ 472	Discounted cash flows [1]	Interest rate spread	5.23%-5.23% (5.23%) [3] 94.30%-94.30% (94.30%) [2]
Residential mortgage loans held for sale	9,685	Quoted prices of loans sold in securitization transactions, with a liquidity discount applied	Liquidity discount applied to the market value of mortgage loans qualifying for sale to U.S. government agencies.	90.24%

[1] Discounted cash flows developed using discount rates primarily based on reference to interest rate spreads for comparable securities of similar duration and credit rating as determined by the nationally-recognized rating agencies, adjusted for lack of trading volume.

[2] Represents fair value as a percentage of par value.

[3] Interest rate yields used to value investment grade taxable securities based on comparable short-term taxable securities which are generally yielding approximately 1 percent.

A summary of quantitative information about assets measured at fair value on a recurring basis using Significant Unobservable Inputs (Level 3) as of December 31, 2019 follows (in thousands):

	Fair Value	Valuation Technique(s)	Unobservable Input	Range (Weighted Average)
Available for sale securities – Other debt securities	$ 472	Discounted cash flows [1]	Interest rate spread	7.08%-7.08% (7.08%) [3] 94.40%-94.40% (94.40%) [2]
Residential mortgage loans held for sale	8,313	Quoted prices of loans sold in securitization transactions, with a liquidity discount applied	Liquidity discount applied to the market value of mortgage loans qualifying for sale to U.S. government agencies.	95.23%

[1] Discounted cash flows developed using discount rates primarily based on reference to interest rate spreads for comparable securities of similar duration and credit rating as determined by the nationally-recognized rating agencies, adjusted for lack of trading volume

[2] Represents fair value as a percentage of par value.

[3] Interest rate yields used to value investment grade taxable securities based on comparable short-term taxable securities which are generally yielding less than 3 percent.

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 June 30, 2020 for which the fair value was adjusted during the six months ended June 30, 2020:

	Carrying Value at June 30, 2020			Fair Value Adjustments for the Three Months Ended June 30, 2020 Recognized in:		Fair Value Adjustments for the Six Months Ended June 30, 2020 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	Net losses and operating expenses of repossessed assets	Gross charge-offs against allowance for loan losses	Net losses (gains) and operating expenses of repossessed assets
Nonaccruing loans	**$ —**	**$ 400**	**$ 32,448**	**$ 13,871**	**$ —**	**$ 29,659**	**$ —**
Real estate and other repossessed assets	**—**	**918**	**400**	**—**	**5**	**—**	**131**

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 June 30, 2019 for which the fair value was adjusted during the six months ended June 30, 2019:

	Carrying Value at June 30, 2019			Fair Value Adjustments for the Three Months Ended June 30, 2019 Recognized in:		Fair Value Adjustments for the Six Months Ended June 30, 2019 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	Net losses and operating expenses of repossessed assets	Gross charge-offs against allowance for loan losses	Net losses and operating expenses of repossessed assets
Nonaccruing loans	$ —	$ —	$ 29,187	$ 11,335	$ —	$ 20,917	$ —
Real estate and other repossessed assets	—	2,642	427	—	86	—	512

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 June 30, 2020 follows (in thousands):

	Fair Value	Valuation Technique (s)	Unobservable Input	Range (Weighted Average)
Nonaccruing loans	$ 32,448	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	0% - 83% (35%)[1]
Real estate and other repossessed assets	400	Appraised value, as adjusted	Marketability adjustments off appraised value[2]	87% - 87% (87%)

[1] Represents fair value as a percentage of the unpaid principal balance.
[2] Marketability adjustments include consideration of estimated costs to sell which is approximately 10% of the fair value.

A summary of quantitative information about Non-recurring Fair Value Measurements based on Significant Unobservable Inputs (Level 3) as of June 30, 2019 follows (in thousands):

	Fair Value	Valuation Technique (s)	Unobservable Input	Range (Weighted Average)
Nonaccruing loans	$ 29,187	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	12% - 76% (47%)[1]
Real estate and other repossessed assets	427	Appraised value, as adjusted	Marketability adjustments off appraised value[2]	75% - 89% (88%)

[1] Represents fair value as a percentage of the unpaid principal balance.
[2] Marketability adjustments include consideration of estimated costs to sell which is approximately 10% of the fair value.

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 non-recurring basis as of June 30, 2020 (dollars 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	$ 762,453	$ 762,453	$ 762,453	$ —	$ —
Interest-bearing cash and cash equivalents	485,319	485,319	485,319	—	—
Trading securities:					
U.S. government agency debentures	4,237	4,237	—	4,237	—
Residential agency mortgage-backed securities	1,146,454	1,146,454	—	1,146,454	—
Municipal and other tax-exempt securities	22,710	22,710	—	22,710	—
Asset-backed securities	5	5	—	5	—
Other trading securities	22,699	22,699	—	22,699	—
Total trading securities	1,196,105	1,196,105	—	1,196,105	—
Investment securities:					
Municipal and other tax-exempt securities	84,239	88,623	—	88,623	—
Residential agency mortgage-backed securities	9,812	10,734	—	10,734	—
Other debt securities	175,565	199,769	—	8,048	191,721
Total investment securities	269,616	299,126	—	107,405	191,721
Allowance for credit losses	(1,628)	—	—	—	—
Investment securities, net of allowance	267,988	299,126	—	107,405	191,721
Available for sale securities:					
U.S. Treasury	912	912	912	—	—
Municipal and other tax-exempt securities	31,240	31,240	—	31,240	—
Residential agency mortgage-backed securities	9,147,238	9,147,238	—	9,147,238	—
Residential non-agency mortgage-backed securities	35,250	35,250	—	35,250	—
Commercial agency mortgage-backed securities	3,260,807	3,260,807	—	3,260,807	—
Other debt securities	472	472	—	—	472
Total available for sale securities	12,475,919	12,475,919	912	12,474,535	472
Fair value option securities:					
U.S. Treasury	92,742	92,742	92,742	—	—
Residential agency mortgage-backed securities	629,915	629,915	—	629,915	—
Total fair value option securities	722,657	722,657	92,742	629,915	—
Residential mortgage loans held for sale	319,357	319,357	—	309,672	9,685
Loans:					
Commercial	14,158,510	14,038,257	—	—	14,038,257
Commercial real estate	4,554,144	4,558,274	—	—	4,558,274
Paycheck protection program	2,081,428	2,062,278	—	—	2,062,278
Loans to individuals	3,361,808	3,393,293	—	—	3,393,293
Total loans	24,155,890	24,052,102	—	—	24,052,102
Allowance for loan losses	(435,597)	—	—	—	—
Loans, net of allowance	23,720,293	24,052,102	—	—	24,052,102
Mortgage servicing rights	97,971	97,971	—	—	97,971
Derivative instruments with positive fair value, net of cash collateral	651,553	651,553	66,207	585,346	—
Deposits with no stated maturity	31,539,554	31,539,554	—	—	31,539,554
Time deposits	2,352,760	2,367,446	—	—	2,367,446
Other borrowed funds	4,531,165	4,527,814	—	—	4,527,814
Subordinated debentures	275,973	273,293	—	273,293	—
Derivative instruments with negative fair value, net of cash collateral	610,020	610,020	—	610,020	—

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 non-recurring basis as of December 31, 2019 (dollars 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	$ 735,836	$ 735,836	$ 735,836	$ —	$ —
Interest-bearing cash and cash equivalents	522,985	522,985	522,985	—	—
Trading securities:					
U.S. government agency debentures	44,264	44,264	—	44,264	—
Residential agency mortgage-backed securities	1,504,651	1,504,651	—	1,504,651	—
Municipal and other tax-exempt securities	26,196	26,196	—	26,196	—
Asset-backed securities	14,084	14,084	—	14,084	—
Other trading securities	34,726	34,726	—	34,726	—
Total trading securities	1,623,921	1,623,921	—	1,623,921	—
Investment securities:					
Municipal and other tax-exempt securities	93,653	96,897	—	96,897	—
Residential agency mortgage-backed securities	10,676	11,164	—	11,164	—
Other debt securities	189,089	206,341	—	8,206	198,135
Total investment securities	293,418	314,402	—	116,267	198,135
Available for sale securities:					
U.S. Treasury	1,600	1,600	1,600	—	—
Municipal and other tax-exempt securities	1,861	1,861	—	1,861	—
Residential agency mortgage-backed securities	8,046,096	8,046,096	—	8,046,096	—
Residential non-agency mortgage-backed securities	41,609	41,609	—	41,609	—
Commercial agency mortgage-backed securities	3,178,005	3,178,005	—	3,178,005	—
Other debt securities	472	472	—	—	472
Total available for sale securities	11,269,643	11,269,643	1,600	11,267,571	472
Fair value option securities:					
U.S. Treasury	9,917	9,917	9,917	—	—
Residential agency mortgage-backed securities	1,088,660	1,088,660	—	1,088,660	—
Total fair value option securities	1,098,577	1,098,577	9,917	1,088,660	—
Residential mortgage loans held for sale	182,271	182,271	—	173,958	8,313
Loans:					
Commercial	14,031,650	13,966,221	—	—	13,966,221
Commercial real estate	4,433,783	4,422,717	—	—	4,422,717
Residential mortgage	2,084,172	2,098,093	—	—	2,098,093
Personal	1,201,382	1,202,298	—	—	1,202,298
Total loans	21,750,987	21,689,329	—	—	21,689,329
Allowance for loan losses	(210,759)	—	—	—	—
Loans, net of allowance	21,540,228	21,689,329	—	—	21,689,329
Mortgage servicing rights	201,886	201,886	—	—	201,886
Derivative instruments with positive fair value, net of cash collateral	323,375	323,375	8,944	314,431	—
Deposits with no stated maturity	25,403,319	25,403,319	—	—	25,403,319
Time deposits	2,217,849	2,212,467	—	—	2,212,467
Other borrowed funds	8,345,405	8,315,860	—	—	8,315,860
Subordinated debentures	275,923	284,627	—	284,627	—
Derivative instruments with negative fair value, net of cash collateral	251,128	251,128	—	251,128	—

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

The Company evaluated events from the date of the consolidated financial statements on June 30, 2020 through the issuance of those consolidated financial statements included in this Quarterly Report on Form 10-Q. No events were identified requiring recognition in and/or disclosure in the consolidated financial statements.

Six-Month Financial Summary – Unaudited
Consolidated Daily Average Balances, Average Yields and Rates

(In Thousands, Except Per Share Data)

	Six Months Ended					
	June 30, 2020			June 30, 2019		
	Average Balance	Revenue/ Expense	Yield/ Rate	Average Balance	Revenue/ Expense	Yield/ Rate
Assets						
Interest-bearing cash and cash equivalents	**$ 670,698**	**$ 2,505**	**0.75 %**	$ 536,690	$ 6,829	2.57 %
Trading securities	**1,780,875**	**23,328**	**2.66 %**	1,862,284	34,399	3.74 %
Investment securities	**275,606**	**6,548**	**4.75 %**	335,841	7,483	4.46 %
Available for sale securities	**12,072,293**	**138,086**	**2.39 %**	9,160,887	116,769	2.60 %
Fair value option securities	**1,290,119**	**15,818**	**2.46 %**	747,401	12,740	3.45 %
Restricted equity securities	**351,527**	**7,774**	**4.42 %**	404,673	12,861	6.36 %
Residential mortgage loans held for sale	**209,149**	**3,263**	**3.23 %**	168,702	3,417	4.05 %
Loans	**23,021,258**	**463,344**	**4.05 %**	21,885,894	578,406	5.33 %
Allowance for loan losses	**(308,961)**			(205,811)		
Loans, net of allowance	**22,712,297**	**463,344**	**4.10 %**	21,680,083	578,406	5.38 %
Total earning assets	**39,362,564**	**660,666**	**3.42 %**	34,896,561	772,904	4.48 %
Receivable on unsettled securities sales	**3,836,209**			1,331,669		
Cash and other assets	**4,540,052**			4,033,737		
Total assets	**$ 47,738,825**			$ 40,261,967		
Liabilities and equity						
Interest-bearing deposits:						
Transaction	**$ 17,099,912**	**$ 45,178**	**0.53 %**	$ 12,223,515	$ 60,244	0.99 %
Savings	**610,245**	**210**	**0.07 %**	550,204	333	0.12 %
Time	**2,352,014**	**18,516**	**1.58 %**	2,180,483	20,023	1.85 %
Total interest-bearing deposits	**20,062,171**	**63,904**	**0.64 %**	14,954,202	80,600	1.09 %
Funds purchased and repurchase agreements	**4,816,213**	**12,880**	**0.54 %**	2,050,087	21,060	2.07 %
Other borrowings	**5,034,813**	**31,901**	**1.27 %**	7,107,961	94,154	2.67 %
Subordinated debentures	**275,940**	**7,172**	**5.23 %**	276,245	7,546	5.51 %
Total interest-bearing liabilities	**30,189,137**	**115,857**	**0.77 %**	24,388,495	203,360	1.68 %
Non-interest bearing demand deposits	**10,361,090**			9,935,739		
Due on unsettled securities purchases	**924,377**			638,829		
Other liabilities	**1,274,430**			759,808		
Total equity	**4,989,791**			4,539,096		
Total liabilities and equity	**$ 47,738,825**			$ 40,261,967		
Tax-equivalent Net Interest Revenue		**$ 544,809**	**2.65 %**		$ 569,544	2.80 %
Tax-equivalent Net Interest Revenue to Earning Assets			**2.82 %**			3.30 %
Less tax-equivalent adjustment		**5,345**			6,010	
Net Interest Revenue		**539,464**			563,534	
Provision for credit losses		**229,092**			13,000	
Other operating revenue		**413,012**			329,335	
Other operating expense		**564,011**			564,294	
Income before taxes		**159,373**			315,575	
Federal and state income taxes		**33,103**			67,530	
Net income		**126,270**			248,045	
Net income (loss) attributable to non-controlling interests		**(502)**			(130)	
Net income attributable to BOK Financial Corp. shareholders		**$ 126,772**			$ 248,175	
Earnings Per Average Common Share Equivalent:						
Net income:						
Basic		**$ 1.80**			$ 3.47	
Diluted		**$ 1.80**			$ 3.46	

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 Financial Summary – Unaudited
Consolidated Daily Average Balances, Average Yields and Rates

(In Thousands, Except Per Share Data)	Three Months Ended					
	June 30, 2020			March 31, 2020		
	Average Balance	Revenue/ Expense	Yield/ Rate	Average Balance	Revenue/ Expense	Yield/ Rate
Assets						
Interest-bearing cash and cash equivalents	**$ 619,737**	**$ 112**	**0.07 %**	$ 721,659	$ 2,393	1.33 %
Trading securities	**1,871,647**	**11,473**	**2.46 %**	1,690,104	11,855	2.89 %
Investment securities, net of allowance	**268,947**	**3,210**	**4.77 %**	282,265	3,338	4.73 %
Available for sale securities	**12,480,065**	**68,358**	**2.29 %**	11,664,521	69,728	2.48 %
Fair value option securities	**786,757**	**4,110**	**2.00 %**	1,793,480	11,708	2.67 %
Restricted equity securities	**273,922**	**1,880**	**2.75 %**	429,133	5,894	5.49 %
Residential mortgage loans held for sale	**288,588**	**2,140**	**3.10 %**	129,708	1,123	3.50 %
Loans	**24,099,492**	**217,731**	**3.63 %**	21,943,023	245,613	4.50 %
Allowance for loan losses	**(367,583)**			(250,338)		
Loans, net of allowance	**23,731,909**	**217,731**	**3.69 %**	21,692,685	245,613	4.55 %
Total earning assets	**40,321,572**	**309,014**	**3.12 %**	38,403,555	351,652	3.73 %
Receivable on unsettled securities sales	**4,626,307**			3,046,111		
Cash and other assets	**4,809,152**			4,270,952		
Total assets	**$ 49,757,031**			$ 45,720,618		
Liabilities and equity						
Interest-bearing deposits:						
Transaction	**$ 18,040,170**	**$ 9,321**	**0.21 %**	$ 16,159,654	$ 35,857	0.89 %
Savings	**656,669**	**84**	**0.05 %**	563,821	126	0.09 %
Time	**2,464,793**	**8,340**	**1.36 %**	2,239,234	10,176	1.83 %
Total interest-bearing deposits	**21,161,632**	**17,745**	**0.34 %**	18,962,709	46,159	0.98 %
Funds purchased and repurchase agreements	**5,816,484**	**2,042**	**0.14 %**	3,815,941	10,838	1.14 %
Other borrowings	**3,527,303**	**4,954**	**0.56 %**	6,542,325	26,947	1.66 %
Subordinated debentures	**275,949**	**3,539**	**5.16 %**	275,932	3,633	5.30 %
Total interest-bearing liabilities	**30,781,368**	**28,280**	**0.37 %**	29,596,907	87,577	1.19 %
Non-interest bearing demand deposits	**11,489,322**			9,232,859		
Due on unsettled securities purchases	**887,973**			960,780		
Other liabilities	**1,526,754**			1,022,106		
Total equity	**5,071,614**			4,907,966		
Total liabilities and equity	**$ 49,757,031**			$ 45,720,618		
Tax-equivalent Net Interest Revenue		**$ 280,734**	**2.75 %**		$ 264,075	2.54 %
Tax-equivalent Net Interest Revenue to Earning Assets			**2.83 %**			2.80 %
Less tax-equivalent adjustment		**2,630**			2,715	
Net Interest Revenue		**278,104**			261,360	
Provision for credit losses		**135,321**			93,771	
Other operating revenue		**232,693**			180,319	
Other operating expense		**295,387**			268,624	
Income before taxes		**80,089**			79,284	
Federal and state income taxes		**15,803**			17,300	
Net income		**64,286**			61,984	
Net income (loss) attributable to non-controlling interests		**(407)**			(95)	
Net income attributable to BOK Financial Corp. shareholders		**$ 64,693**			$ 62,079	
Earnings Per Average Common Share Equivalent:						
Basic		**$ 0.92**			$ 0.88	
Diluted		**$ 0.92**			$ 0.88	

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.

Three Months Ended								
December 31, 2019			September 30, 2019			June 30, 2019		
Average Balance	Revenue /Expense	Yield / Rate	Average Balance	Revenue / Expense	Yield / Rate	Average Balance	Revenue / Expense	Yield / Rate
$ 573,203	$ 2,335	1.62 %	$ 500,823	$ 3,050	2.42 %	$ 535,491	$ 3,432	2.57 %
1,672,426	13,015	3.19 %	1,696,568	14,546	3.49 %	1,757,335	15,609	3.59 %
298,567	3,500	4.69 %	308,090	3,434	4.46 %	328,482	3,621	4.41 %
11,333,524	69,692	2.52 %	10,747,439	67,640	2.60 %	9,435,668	59,888	2.63 %
1,521,528	9,488	2.62 %	1,553,879	10,708	2.79 %	898,772	7,503	3.34 %
479,687	6,441	5.37 %	476,781	7,558	6.34 %	413,812	6,516	6.30 %
203,535	1,797	3.55 %	203,319	1,891	3.73 %	192,102	1,754	3.65 %
22,236,000	266,315	4.75 %	22,412,918	289,316	5.12 %	22,004,405	295,978	5.39 %
(205,417)			(201,714)			(205,532)		
22,030,583	266,315	4.80 %	22,211,204	289,316	5.17 %	21,798,873	295,978	5.45 %
38,113,053	372,583	3.93 %	37,698,103	398,143	4.25 %	35,360,535	394,301	4.51 %
1,973,604			1,742,794			1,437,462		
4,126,697			4,139,451			4,046,780		
$ 44,213,354			$ 43,580,348			$ 40,844,777		
$ 14,685,385	$ 36,897	1.00 %	$ 13,131,542	$ 35,713	1.08 %	$ 12,512,282	$ 32,540	1.04 %
554,605	154	0.11 %	557,122	190	0.14 %	558,738	173	0.12 %
2,247,717	10,970	1.94 %	2,251,800	11,014	1.94 %	2,207,391	10,470	1.90 %
17,487,707	48,021	1.09 %	15,940,464	46,917	1.17 %	15,278,411	43,183	1.13 %
4,120,610	16,212	1.56 %	3,106,163	15,731	2.01 %	2,066,950	10,704	2.08 %
6,247,194	31,621	2.01 %	8,125,023	49,650	2.42 %	7,175,617	47,700	2.67 %
275,916	3,754	5.40 %	275,900	3,813	5.48 %	275,887	3,801	5.53 %
28,131,427	99,608	1.40 %	27,447,550	116,111	1.68 %	24,796,865	105,388	1.70 %
9,612,533			9,759,710			9,883,965		
784,174			745,893			821,688		
837,732			847,195			744,216		
4,847,488			4,780,000			4,598,043		
$ 44,213,354			$ 43,580,348			$ 40,844,777		
	$ 272,975	2.53 %		$ 282,032	2.57 %		$ 288,913	2.81 %
		2.88 %			3.01 %			3.30 %
	2,726			2,936			3,481	
	270,249			279,096			285,432	
	19,000			12,000			5,000	
	178,585			186,450			172,065	
	288,795			279,292			277,137	
	141,039			174,254			175,360	
	30,257			32,396			37,580	
	110,782			141,858			137,780	
	430			(373)			217	
	$ 110,352			$ 142,231			$ 137,563	
	$ 1.56			$ 2.00			$ 1.93	
	$ 1.56			$ 2.00			$ 1.93	

Quarterly Earnings Trends – Unaudited
(In thousands, except share and per share data)

	Three Months Ended				
	June 30, 2020	**Mar. 31, 2020**	**Dec. 31, 2019**	**Sept. 30, 2019**	**June 30, 2019**
Interest revenue	**$ 306,384**	$ 348,937	$ 369,857	$ 395,207	$ 390,820
Interest expense	**28,280**	87,577	99,608	116,111	105,388
Net interest revenue	**278,104**	261,360	270,249	279,096	285,432
Provision for credit losses	135,321	93,771	19,000	12,000	5,000
Net interest revenue after provision for credit losses	**142,783**	167,589	251,249	267,096	280,432
Other operating revenue					
Brokerage and trading revenue	**62,022**	50,779	43,843	43,840	40,526
Transaction card revenue	**22,940**	21,881	22,548	22,015	21,915
Fiduciary and asset management revenue	**41,257**	44,458	45,021	43,621	45,025
Deposit service charges and fees	**22,046**	26,130	27,331	28,837	28,074
Mortgage banking revenue	**53,936**	37,167	25,396	30,180	28,131
Other revenue	**11,479**	12,309	15,283	17,626	12,437
Total fees and commissions	**213,680**	192,724	179,422	186,119	176,108
Other gains (losses), net	**6,768**	(10,741)	(1,649)	4,544	3,480
Gain (loss) on derivatives, net	**21,885**	18,420	(4,644)	3,778	11,150
Gain (loss) on fair value option securities, net	**(14,459)**	68,393	(8,328)	4,597	9,853
Change in fair value of mortgage servicing rights	**(761)**	(88,480)	9,297	(12,593)	(29,555)
Gain on available for sale securities, net	**5,580**	3	4,487	5	1,029
Total other operating revenue	**232,693**	180,319	178,585	186,450	172,065
Other operating expense					
Personnel	**176,235**	156,181	168,422	162,573	160,342
Business promotion	**1,935**	6,215	8,787	8,859	10,142
Charitable contributions to BOKF Foundation	**3,000**	—	2,000	—	1,000
Professional fees and services	**12,161**	12,948	13,408	12,312	13,002
Net occupancy and equipment	**30,675**	26,061	26,316	27,558	26,880
Insurance	**5,156**	4,980	5,393	4,220	6,454
Data processing and communications	**32,942**	32,743	31,884	31,915	29,735
Printing, postage and supplies	**3,502**	4,272	3,700	3,825	4,107
Net losses and operating expenses of repossessed assets	**1,766**	1,531	2,403	1,728	580
Amortization of intangible assets	**5,190**	5,094	5,225	5,064	5,138
Mortgage banking costs	**15,598**	10,545	14,259	14,975	11,545
Other expense	**7,227**	8,054	6,998	6,263	8,212
Total other operating expense	**295,387**	268,624	288,795	279,292	277,137
Net income before taxes	**80,089**	79,284	141,039	174,254	175,360
Federal and state income taxes	**15,803**	17,300	30,257	32,396	37,580
Net income	**64,286**	61,984	110,782	141,858	137,780
Net income (loss) attributable to non-controlling interests	**(407)**	(95)	430	(373)	217
Net income attributable to BOK Financial Corporation shareholders	**$ 64,693**	$ 62,079	$ 110,352	$ 142,231	$ 137,563
Earnings per share:					
Basic	**$0.92**	$0.88	$1.56	$2.00	$1.93
Diluted	**$0.92**	$0.88	$1.56	$2.00	$1.93
Average shares used in computation:					
Basic	**69,876,043**	70,123,685	70,295,899	70,596,307	70,887,063
Diluted	**69,877,467**	70,130,166	70,309,644	70,609,924	70,902,033

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

The following risk factor supplements the "Risk Factors" section in Item 1A of our 2019 Form 10-K.

Our business, financial condition, liquidity and results of operations have been, and will likely continue to be, adversely affected by the COVID-19 pandemic.

The Coronavirus Disease 2019 ("COVID-19") pandemic has created economic and financial disruptions that have adversely affected, and are likely to continue to adversely affect, BOKF's business, financial condition, liquidity and results of operations. The extent to which the COVID-19 pandemic will continue to negatively affect our business, financial condition, liquidity and results of operations will depend on future developments, which are highly uncertain and cannot be predicted, including the scope and duration of the pandemic, the continued effectiveness of our business continuity plan, the direct and indirect impact of the pandemic on our employees, customers, clients, counterparties and service providers, as well as other market participants, and the effectiveness of actions taken by governmental authorities and other third parties in response to the pandemic.

The spread of the COVID-19 virus and the resulting "stay at home" orders, travel restrictions, and closed schools and work places caused severe disruptions in the U.S. economy, which has in turn disrupted the business activities and operations of our customers, as well as our business and operations. The COVID-19 outbreak was first reported in Wuhan, Hubei Province, China in December 2019, and has resulted in millions of confirmed cases identified around the world, many in the U.S. As a result of the pandemic, many businesses were shut down or continue to be shut down, supply chains were interrupted, slowed, or rendered inoperable, and many individuals have become ill, quarantined, or otherwise unable to work and/or travel due to health reasons or governmental restrictions.

Specific to our operations, we face the following risks:

- The pandemic, combined with pre-existing factors, including, but not limited to, international trade disputes, inflation risks, and oil price volatility, could further destabilize the financial markets and markets in which the Company operates. The resulting impacts on consumers, including the sudden increase in the unemployment rate, could cause changes in consumer and business spending, borrowing needs, and saving habits, which will likely affect the demand for loans and other products or services the Company offers, as well as the creditworthiness of potential and current borrowers.

- Governmental mandates forced shutdowns of many of our customers' and vendors' facilities. While some have reopened, others may extend for indefinite periods. This may cause customers, third-party service providers, and counterparties to be unable to meet existing payment or other obligations to the Company.

- The COVID-19 virus may have an adverse effect on customer deposits, the ability of our borrowers to satisfy their obligations, the demand for our loans or other products and services, or on financial markets, real estate markets, or economic growth, which could adversely affect our liquidity, financial condition and results of operations.

- The Federal Reserve reduced the target federal funds rate to 0.00% to 0.25% on March 15, 2020 and announced a $700 billion quantitative easing program in response to the economic downturn caused by COVID-19. These reductions, especially if prolonged, could adversely affect our net interest income and margins, the value of mortgage servicing rights, and our profitability.

- Widespread outbreaks of the COVID-19 virus in our primary geographies could adversely affect our workforce resulting in serious health issues and absenteeism. Social distancing measures enacted for working employees such as working from home, working in different locations, and working different shifts could further disrupt the workforce and normal internal control environment. This could lead to the inability to adequately meet customer needs, maintain adequate financial controls and cybersecurity controls, and meet regulatory deadlines.

- The determination of the appropriate level of allowance for credit losses involves a high degree of subjectivity and requires management to make significant estimates of current expected credit losses. The COVID-19 pandemic and the unprecedented governmental response could make these subjective judgments even more difficult. The economic impact of the pandemic and government responses may have an adverse effect on current and forward prices for oil and natural gas, which could result in significant credit losses. The value of real estate and other collateral securing loans may also be adversely affected.

As a result of the preceding and other risks, if the COVID-19 virus continues to spread and the response to contain the pandemic is unsuccessful, the Company could experience a material adverse effect on its business, financial condition, and results of operations. These adverse impacts could lead to a material impairment of goodwill and other intangible assets assigned to our reporting units.

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 June 30, 2020.

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
April 1 to April 30, 2020	—	$ —	—	3,691,287
May 1 to May 31, 2020	—	$ —	—	3,691,287
June 1 to June 30, 2020	—	$ —	—	3,691,287
Total	—		—	

[1] On April 30, 2019, the Company's board of directors authorized the Company to repurchase up to five million shares of the Company's common stock. As of June 30, 2020, the Company had repurchased 1,308,713 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 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 Financial Officer Pursuant to Section 302 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.

Items 1A, 3, 4 and 5 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: August 4, 2020

/s/ Steven E. Nell
Steven E. Nell
Executive Vice President and
Chief Financial Officer

/s/ John C. Morrow
John C. Morrow
Senior Vice President and
Chief Accounting Officer

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Section 2: EX-31.1 (EXHIBIT 31.1)

Exhibit 31.1

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

I, Steven G. Bradshaw, 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: August 4, 2020

/s/ Steven G. Bradshaw
Steven G. Bradshaw
President
Chief Executive Officer
BOK Financial Corporation

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Section 3: EX-31.2 (EXHIBIT 31.2)

Exhibit 31.2

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

I, Steven E. Nell, 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: August 4, 2020

/s/ Steven E. Nell

Steven E. Nell
Executive Vice President
Chief Financial Officer
BOK Financial Corporation

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Section 4: EX-32 (EXHIBIT 32)

Exhibit 32

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 June 30, 2020 as filed with the Securities and Exchange Commission on the date hereof (the “Report”), we, Steven G. Bradshaw and Steven E. Nell, 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.

August 4, 2020

/s/ Steven G. Bradshaw

Steven G. Bradshaw
President
Chief Executive Officer
BOK Financial Corporation

/s/ Steven E. Nell

Steven E. Nell
Executive Vice President
Chief Financial Officer
BOK Financial Corporation

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