BOK FINANCIAL CORP ET AL
Form 10-Q
October 31, 2016

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

FORM 10-Q
(Mark One)
ý QUARTERLY REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934
For the quarterly period ended September 30, 2016
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 CORPORATION
(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 ý 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 ý 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 ý Accelerated filer ¨ Non-accelerated filer ¨

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

Indicate the number of shares outstanding of each of the issuer’s classes of common stock, as of the latest practicable date: 65,910,454 shares of common stock ($.00006 par value) as of September 30, 2016.

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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 $74.3 million or $1.13 per diluted share for the third quarter of 2016, compared to $74.9 million or $1.09 per diluted share for the third quarter of 2015 and $65.8 million or $1.00 per diluted share for the second quarter of 2016.

Highlights of the third quarter of 2016 included:

- Net interest revenue totaled $187.8 million for the third quarter of 2016, compared to $178.6 million for the third quarter of 2015 and $182.6 million for the second quarter of 2016. Net interest revenue increased over the prior year primarily due to growth in average earning assets. Average earning assets were $29.1 billion for the third quarter of 2016 and $27.9 billion for the third quarter of 2015. Net interest margin was 2.64 percent for the third quarter of 2016. Net interest margin was 2.61 percent for the third quarter of 2015 and 2.63 percent for the second quarter of 2016.
- Fees and commissions revenue totaled $185.3 million for the third quarter of 2016, up $20.7 million over the third quarter of 2015. All revenue categories grew over the prior year, led by mortgage banking and brokerage and trading revenue. Fees and commissions revenue increased $1.8 million over the second quarter of 2016. Growth in mortgage banking revenue and deposit service charges and fees was partially offset by decreases in brokerage and trading revenue, transaction card revenue and fiduciary and asset management revenue.
- Changes in the fair value of mortgage servicing rights, net of economic hedges, increased pre-tax net income by $1.2 million in the third quarter of 2016 , decreased pre-tax net income by $4.4 million in the third quarter of 2015 and decreased pre-tax net income by $1.2 million in the second quarter of 2016.
- Operating expenses totaled $262.1 million for the third quarter of 2016, an increase of $37.5 million over the third quarter of 2015. Personnel expense increased $14.1 million primarily due to increased incentive compensation expense, regular compensation costs and higher employee healthcare costs. Non-personnel expense increased $23.4 million largely due to increased mortgage banking expenses, litigation accruals, deposit insurance expense and professional fees and services expense. Operating expenses increased $7.4 million over the previous quarter primarily due to increased litigation accruals and deposit insurance expense.
- The Company recorded a $10.0 million provision for credit losses in the third quarter of 2016. The Company recorded a $20.0 million provision in the second quarter of 2016 and a $7.5 million provision for credit losses in the third quarter of 2015. Gross charge-offs were $8.1 million in the third quarter of 2016, $5.3 million in the third quarter of 2015 and $8.8 million in the second quarter of 2016. Recoveries were $2.0 million in the third quarter of 2016, compared to $3.5 million in the third quarter of 2015 and $1.4 million in the second quarter of 2016.
- The combined allowance for credit losses totaled $256 million or 1.56 percent of outstanding loans at September 30, 2016, compared to $252 million or 1.54 percent of outstanding loans at June 30, 2016. The portion of the combined allowance attributed to the energy portfolio totaled 3.67 percent of outstanding energy loans at September 30, 2016, an increase from 3.58 percent of outstanding energy loans at June 30, 2016.
- Nonperforming assets that are not guaranteed by U.S. government agencies totaled $253 million or 1.55 percent of outstanding loans and repossessed assets (excluding those guaranteed by U.S. government agencies) at September 30, 2016 and $251 million or 1.55 percent of outstanding loans and repossessed assets (excluding those guaranteed by U.S. government agencies) at June 30, 2016. Nonperforming energy loans decreased $25 million during the third quarter.
- Average loans increased by $185 million over the previous quarter due primarily to a $239 million increase in commercial real estate loans, partially offset by a $156 million decrease in commercial loans, primarily due to a paydown of a single energy credit during the quarter. Period-end outstanding loan balances were $16.5 billion at September 30, 2016, a $58 million increase over June 30, 2016.
- Average deposits grew by $297 million over the previous quarter primarily due to growth in demand deposit and interest-bearing transaction account balances, partially offset by a decrease in time deposits. Period-end deposits were $21.1 billion at September 30, 2016, an increase of $336 million over June 30, 2016.

- The Company's common equity Tier 1 ratio was 11.99% at September 30, 2016. In addition, the Company's Tier 1 capital ratio was 11.99%, total capital ratio was 13.65% and leverage ratio was 9.06% at September 30, 2016. The Company's common equity Tier 1 ratio was 11.86% at June 30, 2016. In addition, the Company's Tier 1 capital ratio was 11.86%, total capital ratio was 13.51% and leverage ratio was 9.06% at June 30, 2016.
- The Company paid a regular quarterly cash dividend of $28 million or $0.43 per common share during the third quarter of 2016. On October 25, 2016, the board of directors approved an increase in the regular quarterly cash dividend to $0.44 per common share payable on or about November 28, 2016 to shareholders of record as of November 14, 2016.

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.

Net interest revenue totaled $187.8 million for the third quarter of 2016 compared to $178.6 million for the third quarter of 2015 and $182.6 million for the second quarter of 2016. Net interest margin was 2.64 percent for the third quarter of 2016, 2.61 percent for the third quarter of 2015 and 2.63 percent for the second quarter of 2016.

Tax-equivalent net interest revenue increased $10.4 million over the third quarter of 2015. 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. Tax-equivalent net interest revenue increased $12.5 million primarily due to the growth in average loan balances. Net interest revenue decreased $2.1 million primarily due to the full quarter impact of the issuance of $150 million of 40 year 5.375% fixed rate subordinated debt in the second quarter that replaced $227 million of floating rating subordinated debt at 1.0105% at September 30, 2015. This floating rate debt was a year from maturity and was phased out from having any benefit to regulatory capital. The longer term fixed rate debt will better position us as interest rates rise. The benefit from a mix shift toward floating rate loans and higher short term interest rates was offset by increased borrowing costs.

The tax-equivalent yield on earning assets was 2.93 percent for the third quarter of 2016, up 10 basis points over the third quarter of 2015. Loan yields increased 9 basis points to 3.63% primarily due to the growth in variable rate loans and an increase in short-term interest rates. The yield on interest-bearing cash and cash equivalents increased 23 basis points. The available for sale securities portfolio yield was unchanged compared to the prior year at 2.01 percent. Funding costs were up 12 basis points over the third quarter of 2015. The cost of interest-bearing deposits decreased 2 basis points. The cost of other borrowed funds increased 26 basis points primarily due to an increase in the federal funds rate by the Federal Reserve in the fourth quarter of 2015. The cost of the subordinated debt was up 280 basis points as the existing lower variable rate debt was replaced by higher fixed rate debt. The benefit to net interest margin from earning assets funded by non-interest bearing liabilities was 15 basis points for the third quarter of 2016, up 5 basis points over the third quarter of 2015.

Average earning assets for the third quarter of 2016 increased $1.2 billion or 4 percent over the third quarter of 2015. Average loans, net of allowance for loan losses, increased $1.2 billion due primarily to growth in average commercial real estate and commercial loans. The average balance of trading securities increased $187 million and the average balance of restricted equity securities increased $80 million. The average balance of fair value option securities held as an economic hedge of our mortgage servicing rights decreased $163 million and the average balance of available for sale securities decreased $80 million. The average balance of investment securities decreased compared to the prior year, partially offset by an increase in the average balance of residential mortgage loans held for sale.

Average deposits increased $72 million over the third quarter of 2015. Average demand deposit balances grew by $502 million, partially offset by a $110 million decrease in interest-bearing transaction account balances and a $361 million decrease average time deposits. Average savings account balances also grew over the prior year. Average borrowed funds increased $1.4 billion over the third quarter of 2015, primarily due to increased borrowings from the Federal Home Loan Banks. The average balance of subordinated debentures increased $30 million.

Net interest margin increased 1 basis point over the second quarter of 2016. The yield on average earning assets increased 2 basis points. The loan portfolio yield increased by 5 basis points to 3.63 percent. The yield on the available for sale securities portfolio decreased 3 basis points to 2.01 percent. Funding costs were 0.44 percent, up 3 basis point over the prior quarter. The benefit to net interest margin from earning assets funded by non-interest bearing liabilities increased 2 basis points over the prior quarter.
Average earning assets increased $260 million over the second quarter of 2016. Average loan balances increased $185 million, primarily due to growth in commercial real estate balances. Average trading securities balances increased $129 million and the average balance of residential mortgage loans held for sale was up $45 million, partially offset by a $101 million decrease in the balance of fair value option securities held as an economic hedge of our mortgage servicing rights.
Average deposits increased $297 million compared to the previous quarter. Demand deposit balances increased $335 million and interest-bearing transaction account balances increased $60 million, partially offset by a $100 million decrease in time deposit balances. The average balance of borrowed funds increased $175 million over the second quarter of 2016. Increased borrowings from the Federal Home Loan Banks were partially offset by decreased federal funds sold and repurchase agreement balances.

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 82% of our commercial and commercial real estate loan portfolios are either variable rate or fixed rate that will re-price within one year. These loans are funded primarily by deposit accounts that are either non-interest bearing, or that re-price more slowly than the loans. The result is a balance sheet that would be asset sensitive, which means that assets generally re-price more quickly than liabilities. Among the strategies that we use to manage toward a relatively rate-neutral position, we 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 September 30, 2016 / 2015			Nine Months Ended September 30, 2016 / 2015		
		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	$1,209	$18	$ 1,191	$3,812	$(9)	$ 3,821
Trading securities	2,212	2,213	(1)	2,443	2,285	158
Investment securities:						
Taxable securities	(211)	(126)	(85)	(544)	(421)	(123)
Tax-exempt securities	383	(255)	638	1,156	(725)	1,881
Total investment securities	172	(381)	553	612	(1,146)	1,758
Available for sale securities:						
Taxable securities	(960)	(924)	(36)	1,857	(2,181)	4,038
Tax-exempt securities	71	(162)	233	50	(443)	493
Total available for sale securities	(889)	(1,086)	197	1,907	(2,624)	4,531
Fair value option securities	(949)	(355)	(594)	(621)	(211)	(410)
Restricted equity securities	708	1,245	(537)	3,057	4,429	(1,372)
Residential mortgage loans held for sale	(178)	362	(540)	(811)	(719)	(92)
Loans	14,579	11,157	3,422	36,913	36,580	333
Total tax-equivalent interest revenue	16,864	13,173	3,691	47,312	38,585	8,727
Interest expense:						
Transaction deposits	1,356	(69)	1,425	3,271	(376)	3,647
Savings deposits	3	11	(8)	1	14	(13)
Time deposits	(2,278)	(1,131)	(1,147)	(7,023)	(3,184)	(3,839)
Funds purchased	18	(1)	19	98	19	79
Repurchase agreements	4	(12)	16	—	(63)	63
Other borrowings	5,468	1,701	3,767	16,450	6,737	9,713
Subordinated debentures	1,872	178	1,694	(400)	(883)	483
Total interest expense	6,443	677	5,766	12,397	2,264	10,133
Tax-equivalent net interest revenue	10,421	12,496	(2,075)	34,915	36,321	(1,406)
Change in tax-equivalent adjustment	1,211			3,978		
Net interest revenue	$9,210			$30,937		

[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 $191.3 million for the third quarter of 2016, a $27.9 million increase over the third quarter of 2015 and a $2.5 million increase over the second quarter of 2016. Fees and commissions revenue was up $20.7 million over the third quarter of 2015 and increased $1.8 million over the prior quarter. The change in the fair value of mortgage servicing rights, net of economic hedges, increased other operating revenue by $1.2 million in the third quarter of 2016, decreased other operating revenue by $4.4 million in the third quarter of 2015 and decreased other operating revenue $1.2 million in the second quarter of 2016.

Table 2 – Other Operating Revenue
(In thousands)

	Three Months Ended Sept. 30, 2016	Three Months Ended Sept. 30, 2015	Increase (Decrease)	% Increase (Decrease)	Three Months Ended June 30,	Increase (Decrease)	% Increase (Decrease)
Brokerage and trading revenue	$38,006	$31,582	$6,424	20 %	$39,530	$(1,524)	(4)%
Transaction card revenue	33,933	32,514	1,419	4 %	34,950	(1,017)	(3)%
Fiduciary and asset management revenue	34,073	30,807	3,266	11 %	34,813	(740)	(2)%
Deposit service charges and fees	23,668	23,606	62	— %	22,618	1,050	5 %
Mortgage banking revenue	42,548	33,170	9,378	28 %	38,224	4,324	11 %
Other revenue	13,080	12,978	102	1 %	13,352	(272)	(2)%
Total fees and commissions revenue	185,308	164,657	20,651	13 %	183,487	1,821	1 %
Other gains, net	2,442	1,161	1,281	N/A	1,307	1,135	N/A
Gain on derivatives, net	2,226	1,283	943	N/A	10,766	(8,540)	N/A
Gain (loss) on fair value option securities, net	(3,355)	5,926	(9,281)	N/A	4,279	(7,634)	N/A
Change in fair value of mortgage servicing rights	2,327	(11,757)	14,084	N/A	(16,283)	18,610	N/A
Gain on available for sale securities, net	2,394	2,166	228	N/A	5,326	(2,932)	N/A
Total other operating revenue	$191,342	$163,436	$27,906	17 %	$188,882	$2,460	1 %

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 50 percent of total revenue for the third quarter of 2016, 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 that cause net interest revenue compression such as falling interest rates may also drive growth in our mortgage banking 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, regulatory constraints, increased competition and saturation in our existing markets could affect the rate of future increases.

Brokerage and trading revenue includes revenues from trading, customer hedging, retail brokerage and investment banking. Brokerage and trading revenue increased $6.4 million or 20 percent over the third quarter of 2015.

Trading revenue includes net realized and unrealized gains primarily related to sales of U.S. government securities, residential mortgage-backed securities guaranteed by U.S. government agencies and municipal securities to institutional customers and related derivative instruments. Trading revenue was $12.0 million for the third quarter of 2016, an increase of $337 thousand or 3 percent over the third quarter of 2015. The Company added a new group trading in U.S. government agency residential mortgage-backed securities and related to-be-announced derivatives. The addition of this group added $2.0 million of net interest revenue and $1.9 million of trading revenue during the third quarter and added $426 million to the trading securities portfolio at September 30. This increase was partially offset by lower volumes of U.S. agency residential mortgage-backed securities, brokered certificates of deposit and municipal securities sold to our institutional customers.

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 $13.8 million for the third quarter of 2016, a $4.5 million or 48 percent increase over the third quarter of 2015 primarily due to increased hedging activity by our mortgage banking and energy customers.

Revenue earned from retail brokerage transactions increased $932 thousand or 15 percent over the third quarter of 2015 to $7.0 million. Retail brokerage revenue is primarily based on fees and commissions earned on sales of fixed income securities, annuities, mutual funds and other financial instruments to retail customers. Revenue is primarily based on the volume of customer transactions and applicable commission rate for each product type. The increase in revenue due to transaction volume growth was partially offset by a change in product mix to products that pay a lower commission rate. In addition, volume has shifted from sales of products that pay a one-time transaction fee to accounts that pay us an on-going management fee.

Investment banking revenue, which includes fees earned upon completion of underwriting and financial advisory services and loan syndication fees, totaled $5.3 million for the third quarter of 2016, an increase of $688 thousand or 15 percent over the third quarter of 2015. Investment banking revenue is primarily related to the timing and volume of completed transactions.

Brokerage and trading revenue decreased $1.5 million compared to the second quarter of 2016. Investment banking revenue decreased $1.7 million primarily due to the timing and volume of completed transactions. Trading revenue decreased $307 thousand. Growth from the addition of our new mortgage trading group was offset by lower volumes of U.S. agency mortgage-backed securities and municipal securities to our institutional customers. Customer hedging revenue increased $256 thousand primarily due to increased volumes of contracts with our mortgage banking, partially offset by lower contract volumes with our energy customers. Retail brokerage fees were up $228 thousand over the prior quarter.

Transaction card revenue depends largely on the volume and amount of transactions processed, the number of TransFund automated teller machine (“ATM”) locations and the number of merchants served. Transaction card revenue for the third quarter of 2016 increased $1.4 million or 4 percent over the third quarter of 2015. Revenues from the processing of transactions on behalf of the members of our TransFund electronic funds transfer ("EFT") network totaled $17.8 million, a $1.6 million or 10 percent increase over the prior year. Merchant services fees totaled $11.3 million, a $274 thousand or 2 percent decrease based on decreased transaction activity. Revenue from interchange fees paid by merchants for transactions processed from debit cards issued by the Company totaled $4.9 million, an increase of $71 thousand or 1 percent over the third quarter of 2015.
Excluding the impact of a $1.2 million customer early termination fee in the second quarter of 2016, transaction card revenue increased $165 thousand primarily due to an increase in transaction volumes on our TransFund EFT network, partially offset by a decrease in merchant services fees and revenue from interchange fees compared to the prior

quarter.

Fiduciary and asset management revenue increased $3.3 million or 11 percent over the third quarter of 2015, largely due to decreased fee waivers. We earn fees as administrator to and investment adviser for the Cavanal Hill Funds, a diversified, open-ended investment company established as a business trust under the Investment Company Act of 1940. The Bank is custodian and BOK Financial Securities, Inc. is distributor for the Cavanal Hill Funds. Products of the Cavanal Hill Funds are offered to customers, employee benefit plans, trusts and the general public in the ordinary course of business. We have voluntarily waived administration fees on the Cavanal Hill money market funds in order to maintain positive yields on these funds in the current low short-term interest rate environment. Waived fees totaled $1.6 million for the third quarter of 2016 compared to $3.4 million for the third quarter of 2015 and $1.8 million for the second quarter of 2016. The decrease in fee waivers was related to increased interest rates as a result of the Federal Reserve's federal funds rate increase in the fourth quarter of 2015. The remaining increase is primarily due to growth in assets under management related to the Company's acquisition of Weaver and Tidwell Financial Advisors LTD d/b/a Weaver Wealth Management, a registered investment advisor, in the first quarter of 2016 and changes in market values.

Fiduciary and asset management revenue decreased $740 thousand compared to the second quarter of 2016 primarily due to seasonality of annual assessment of tax preparation fees in the second quarter, partially offset by growth in assets under management.

The fair value of fiduciary assets administered by the Company totaled $41.2 billion at September 30, 2016, $37.8 billion at September 30, 2015 and $39.9 billion at June 30, 2016. Fiduciary assets are assets for which the Company possesses investment discretion on behalf of another or any other similar capacity.

Deposit service charges and fees were $23.7 million for the third quarter of 2016, largely unchanged compared to the third quarter of 2015. Commercial account service charge revenue totaled $11.4 million, up $595 thousand or 6 percent over the prior year. Overdraft fees were $10.6 million for the third quarter of 2016, a decrease of $470 thousand or 4 percent compared to the third quarter of 2015. Service charges on deposit accounts with a standard monthly fee were $1.7 million, a decrease of $68 thousand or 4 percent compared to the third quarter of 2015. Deposit service charges and fees increased $1.1 million over the prior quarter primarily due to a seasonal increase in overdraft fee volumes and increased commercial account service charge revenue.

Mortgage banking revenue increased $9.4 million or 28% over the third quarter of 2015. Mortgage production revenue increased $7.3 million over the prior year. Better gains on sale margins and an increased volume of loans sold was partially offset by a lower volume of mortgage loan commitments. Mortgage servicing revenue was up $2.1 million or 15 percent over the third quarter of 2015. The outstanding principal balance of mortgage loans serviced for others totaled $21.9 billion, an increase of $2.9 billion or 15 percent.

Outstanding mortgage loan commitments at September 30, 2016 decreased $112 million or 15% compared to September 30, 2015. The Company made a strategic decision to exit the correspondent lending channel during the third quarter of 2016 based on careful consideration of continued pressure on margin due to the competitive landscape and regulatory costs. This strategic decision decreased outstanding commitments by $289 million compared to the prior year. Mortgage loan commitments continued to grow in our retail and HomeDirect online channels. The correspondent lending channel represented $4.6 million of the total mortgage loan production revenue of $26.0 million for the third quarter of 2016 and $4.0 million of the total mortgage loan production revenue of $18.7 million for the third quarter of 2015.

Mortgage banking revenue increased $4.3 million over the second quarter of 2016. Mortgage production revenue increased $3.6 million due to growth in the volume of mortgage loans sold and increased gains on sale, partially offset by a decrease in mortgage loan commitments during the quarter. Average primary mortgage interest rates were 14 basis points lower than in the second quarter of 2016. Total mortgage loans originated during the third quarter of 2016 increased $46 million over the previous quarter. Outstanding mortgage loan commitments at September 30, 2016 decreased by $335 million from June 30, 2016. The decrease in commitments related to correspondent lending was $414 million compared to June 30. Mortgage loan commitments from both the retail and HomeDirect channels grew over the prior quarter. The correspondent lending channel represented $3.0 million of total mortgage production revenue of $22.4 million for the second quarter of 2016. Revenue from mortgage loan servicing grew by $760 thousand due to an increase in the volume of loans serviced. The outstanding balance of mortgage loans serviced for others increased $673 million over June 30, 2016.

Table 3 – Mortgage Banking Revenue
(In thousands)

	Three Months Ended Sept. 30, 2016	2015	Increase (Decrease)	% Increase (Decrease)	Three Months Ended June 30,	Increase (Decrease)	% Increase (Decrease)
Net realized gains on mortgage loans sold	$27,142	$18,968	$8,174	43 %	$19,205	$7,937	41 %
Change in net unrealized gains on mortgage loans held for sale	(1,152)	(251)	N/A	N/A	3,221	N/A	N/A
Total mortgage production revenue	25,990	18,717	7,273	39 %	22,426	3,564	16 %
Servicing revenue	16,558	14,453	2,105	15 %	15,798	760	5 %
Total mortgage revenue	$42,548	$33,170	$9,378	28 %	$38,224	$4,324	11 %
Mortgage loans funded for sale	$1,864,583	$1,614,225	$250,358	16 %	$1,818,844	$45,739	3 %
Mortgage loans sold	1,873,709	1,778,099	95,610	5 %	1,742,582	131,127	8 %
Period end outstanding mortgage commitments, net	630,804	742,742	(111,938)	(15)%	965,631	(334,827)	(35)%
Outstanding principal balance of mortgage loans serviced for others	21,851,536	18,928,726	2,922,810	15 %	21,178,387	673,149	3 %
Primary residential mortgage interest rate – period end	3.42 %	3.86 %	(44) bps		3.48 %	(6) bps	
Primary residential mortgage interest rate – average	3.45 %	3.95 %	(50) bps		3.59 %	(14) bps	
Secondary residential mortgage interest rate – period end	2.34 %	2.87 %	(53) bps		2.31 %	3 bps	
Secondary residential mortgage interest rate – average	2.36 %	2.97 %	(61) bps		2.52 %	(16) bps	

Certain percentage increases (decreases) are not meaningful for comparison purposes based on the nature of the item.

Primary rates disclosed in Table 3 above represent rates generally available to borrowers on 30 year conforming mortgage loans. Secondary rates generally represent yields on 30 year residential mortgage-backed securities guaranteed by U.S. government agencies.

Net gains on securities, derivatives and other assets

In the third quarter of 2016, we recognized a $2.4 million net gain from sales of $232 million of available for sale securities. Securities were sold either because they had reached their expected maximum potential or to move into securities that are expected to perform better in the current rate environment. In the third quarter of 2015, we recognized a $2.2 million net gain from sales of $451 million of available for sale securities and in the second quarter of 2016, we recognized a $5.3 million net gain on sales of $326 million of available for sale securities.

We also maintain a portfolio of residential mortgage-backed securities issued by U.S. government agencies, U.S. Treasury securities and interest rate derivative contracts held as an economic hedge of the changes in the fair value of our mortgage servicing rights. The fair value of our mortgage servicing rights fluctuates due to changes in prepayment speeds and other assumptions as more fully described in Note 6 to the Consolidated Financial Statements. As benchmark mortgage rates increase, prepayment speeds slow and the value of our mortgage servicing rights increases. As benchmark mortgage rates fall, prepayment speeds increase and the value of our mortgage servicing rights decreases.

Changes in the fair value of mortgage servicing rights are highly dependent on changes in primary mortgage rates, rates offered to borrowers, and assumptions about servicing revenues, servicing costs and discount rates. Changes in the fair value of residential mortgage-backed securities are highly dependent on changes in secondary mortgage rates, or 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. Additionally, the fair value of mortgage servicing rights is dependent on intermediate-term interest rates that affect the value of custodial funds. Changes in the spread between short-term and long-term interest rates can also cause significant earnings volatility.

Table 4 following shows the relationship between changes in the fair value of mortgage servicing rights and the fair value of fair value option residential mortgage-backed securities and interest rate derivative contracts held as an economic hedge. The fair value of mortgage servicing rights increased during the third quarter of 2016 primarily due to changes in short term interest rates. The fair value of securities and interest rate derivative contracts held as an economic hedge decreased primarily due to an increase in interest rate swap rates, partially offset by a decrease in average secondary mortgage rates. The fair value of mortgage servicing rights, net of economic hedges, decreased in the second quarter of 2016, primarily due to a decrease in secondary mortgage and interest rate swap rates. Hedge coverage was increased during the second quarter to improve its effectiveness.

Table 4 - Gain (Loss) on Mortgage Servicing Rights
(In thousands)

	Three Months Ended		
	Sept. 30, 2016	June 30, 2016	Sept. 30, 2015
Gain on mortgage hedge derivative contracts, net	$2,268	$10,766	$1,460
Gain (loss) on fair value option securities, net	(3,355)	4,279	5,926
Gain (loss) on economic hedge of mortgage servicing rights, net	(1,087)	15,045	7,386
Gain (loss) on change in fair value of mortgage servicing rights	2,327	(16,283)	(11,757)
Gain (loss) on changes in fair value of mortgage servicing rights, net of economic hedges	$1,240	$(1,238)	$(4,371)
Net interest revenue on fair value option securities	$861	$1,348	$2,140

Other Operating Expense

Other operating expense for the third quarter of 2016 totaled $262.1 million, a $37.5 million or 17 percent increase over the third quarter of 2015. Personnel expenses increased $14.1 million or 11 percent. Non-personnel expenses increased $23.4 million or 24 percent over the prior year.

Operating expenses increased $7.4 million over the previous quarter. Personnel expense increased $695 thousand. Non-personnel expense increased $6.7 million.

Table 5 -- Other Operating Expense
(In thousands)

	Three Months Ended Sept. 30, 2016	Three Months Ended Sept. 30, 2015	Increase (Decrease)	% Increase (Decrease)	Three Months Ended June 30,	Increase (Decrease)	% Increase (Decrease)
Regular compensation	$83,956	$79,208	$4,748	6 %	$82,441	$1,515	2 %
Incentive compensation:							
Cash-based	36,133	30,462	5,671	19 %	34,894	1,239	4 %
Share-based	1,839	2,885	(1,046)	(36)%	3,701	(1,862)	(50)%
Deferred compensation	1,059	(539)	1,598	N/A	211	848	N/A
Total incentive compensation	39,031	32,808	6,223	19 %	38,806	225	1 %
Employee benefits	20,198	17,046	3,152	18 %	21,243	(1,045)	(5)%
Total personnel expense	143,185	129,062	14,123	11 %	142,490	695	— %
Business promotion	6,839	5,922	917	15 %	6,703	136	2 %
Charitable contributions to BOKF Foundation	—	796	(796)	N/A	—	—	N/A
Professional fees and services	14,038	10,147	3,891	38 %	14,158	(120)	(1)%
Net occupancy and equipment	20,111	18,689	1,422	8 %	19,677	434	2 %
Insurance	9,390	4,864	4,526	93 %	7,129	2,261	32 %
Data processing and communications	33,331	30,708	2,623	9 %	32,802	529	2 %
Printing, postage and supplies	3,790	3,376	414	12 %	3,889	(99)	(3)%
Net losses (gains) and operating expenses of repossessed assets	(926)	267	(1,193)	(447)%	1,588	(2,514)	(158)%
Amortization of intangible assets	1,521	1,089	432	40 %	2,624	(1,103)	(42)%
Mortgage banking costs	16,022	9,107	6,915	76 %	15,809	213	1 %
Other expense	14,819	10,601	4,218	40 %	7,856	6,963	89 %
Total other operating expense	$262,120	$224,628	$37,492	17 %	$254,725	$7,395	3 %
Average number of employees (full-time equivalent)	4,928	4,846	82	2 %	4,893	35	1 %

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

Personnel expense

Regular compensation, which consists of salaries and wages, overtime pay and temporary personnel costs, increased $4.7 million or 6 percent over the third quarter of 2015. The average number of employees increased 2 percent over the prior year. Recent additions have primarily been in mortgage, wealth management and technology. In addition, standard annual merit increases in regular compensation were effective for the majority of our staff on March 1.

Incentive compensation increased $6.2 million or 19 percent over the third quarter of 2015. Cash-based incentive compensation plans are either intended to provide current rewards to employees who generate long-term business opportunities for the Company based on growth in loans, deposits, customer relationships and other measurable metrics or intended to compensate employees with commissions on completed transactions. Total cash-based incentive compensation increased $5.7 million or 19 percent over the third quarter of 2015.

Share-based compensation expense represents expense for equity awards based on grant-date fair value. Non-vested shares generally cliff vest in 3 years and are subject to a two year holding period after vesting. Compensation costs related to certain shares is variable based on changes in the the fair value of BOK Financial common shares. Share-based compensation expense decreased $1.0 million or 36% compared to the prior year, primarily due to the decrease in the vesting probability of certain performance-based share awards.

Employee benefits expense increased $3.2 million or 18 percent over the third quarter of 2015 primarily due to a $2.4 million increase in employee medical costs. Retirement plan costs and payroll taxes also increased over the prior year. Personnel costs increased by $695 thousand over the second quarter of 2016. Regular compensation expense increased $1.5 million. Cash-based incentive compensation was up $1.2 million primarily due to revenue growth. Deferred compensation expense was up $848 thousand over the prior quarter. This additional expense is largely offset by the increase in the fair value of deferred compensation plan assets included in Other revenue. Share-based compensation expense was $1.9 million lower primarily due to the decrease in the vesting probability of certain performance-based share awards. Employee benefits expense was lower compared to the prior quarter primarily due to a $1.5 million seasonal decrease in payroll tax expense, partially offset by a $365 thousand increase in employee medical costs.

Non-personnel operating expenses

Non-personnel operating expenses increased $23.4 million or 24 percent over the third quarter of 2015. Mortgage banking costs increased $6.9 million. Expense related to the effect of actual loan prepayments on the fair value of mortgage servicing rights totaled $11.4 million, a $4.6 million increase over the third quarter of 2015. Actual prepayments increased due to lower mortgage interest rates. Mortgage banking costs for the third quarter of 2015 included a $1.2 million benefit from the reversal of estimated claims based on a favorable resolution of an audit of servicing of certain residential mortgage loans guaranteed by U.S. government agencies.

Deposit insurance expense increased $4.5 million, primarily due to an increase in criticized and classified assets, an input to the deposit insurance assessment, and implementation of a new surcharge for banks over $10 billion in assets. Criticized and classified assets increased compared to the prior year as a result of falling energy prices that began in the fourth quarter of 2015. During the third quarter of 2016, the deposit insurance fund reached a target of 1.15% of insured deposits which triggered a new surcharge for banks with more than $10 billion in assets to bring the deposit insurance fund to 1.35% of insured deposits. This impact was partially offset by a reduction in the base rate.

Other expense increased $4.2 million over the prior year due primarily to a $5.0 million legal settlement accrual concerning the manner in which the Company posted charges to certain consumer and small business deposit accounts. Professional fees and services expense increased $3.9 million primarily due to costs incurred in preparation for the mobank acquisition and increased legal fees. Data processing and communications expense increased $2.6 million due to increased transaction activity. The Company had a net gain on sale of repossessed assets of $1.6 million in the third quarter of 2016 compared to a net loss of $517 thousand in the third quarter of 2015. Operating expenses related to repossessed assets also declined compared to the prior year.

Non-personnel expense increased $6.7 million over the second quarter of 2016 primarily due to the $5.0 million accrual related to a legal settlement during the third quarter. Deposit insurance expense was up $2.3 million primarily due to the new surcharge for banks with more than $10 billion in assets. Expense related to prepayments of residential mortgage loans serviced for others increased $1.6 million over the prior quarter, partially offset by a $1.4 million decrease in mortgage-related accruals. The Company had a net gain on sale of repossessed assets of $1.6 million in the third quarter compared to a net loss of $127 thousand in the second quarter. Operating expenses on repossessed assets also decreased compared to the prior quarter. The $1.1 million decrease in intangible asset amortization expense was due to an adjustment to a consolidated merchant-banking investment during the second quarter.

Income Taxes

The Company's income tax expense from continuing operations was $32.0 million or 29.8% of book taxable income for the third quarter of 2016 compared to $34.1 million or 31.0% of book taxable income for the third quarter of 2015 and $30.5 million or 31.5% of book taxable income for the second quarter of 2016.

The statute of limitations expired on uncertain income tax positions and the Company adjusted its current income tax liability amounts on filed tax returns for 2015 during the third quarter of 2016. These adjustments reduced income tax expense by $2.6 million in the third quarter of 2016 and $2.0 million in the third quarter of 2015. Excluding these adjustments, income tax expense would have been 32.3% of book taxable income for the third quarter of 2016 and 32.8% of book taxable income for the third quarter of 2015.
The Company's effective tax rate is affected by recurring items such as amortization related to its investments in affordable housing investments net of affordable housing tax credits and other tax benefits, bank-owned life insurance and tax-exempt income. The effective tax rate is also affected by items that may occur in any given period but are not consistent from period to period. Accordingly, the comparability of the effective tax rate from period to period may be impacted.

BOK Financial operates in numerous jurisdictions, which requires judgment regarding the allocation of income, expense and earnings under various laws and regulations of each of these taxing jurisdictions. Each jurisdiction may audit our tax returns and may take different positions with respect to these allocations. The reserve for uncertain tax positions was $14 million at both September 30, 2016 and September 30, 2015 and $13 million at June 30, 2016.
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 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.

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 duration. Market rates are generally based on the applicable LIBOR or interest rate swap rates, adjusted for prepayment risk. This method of transfer-pricing funds that support 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 duration and re-pricing 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 re-pricing 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 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 6, net income attributable to our lines of business increased $12.4 million or 20 percent over the third quarter of 2015. Net interest revenue grew by $19.3 million over the prior year. Other operating revenue was up $18.6 million. This revenue growth was partially offset by a $22.5 million increase in operating expense and a $4.4 million increase in net charge-offs primarily due to energy loans.

Table 6 -- Net Income by Line of Business
(In thousands)

	Three Months Ended		Nine Months Ended	
	September 30,		September 30,	
	2016	2015	2016	2015
Commercial Banking	$55,994	$47,657	$145,885	$144,929
Consumer Banking	8,762	6,535	13,104	22,693
Wealth Management	9,108	7,250	26,866	24,672
Subtotal	73,864	61,442	185,855	192,294
Funds Management and other	413	13,449	(3,213)	36,670
Total	$74,277	$74,891	$182,642	$228,964

Commercial Banking

Commercial Banking contributed $56.0 million to consolidated net income in the third quarter of 2016, an increase of $8.3 million or 18% over the third quarter of 2015. Growth in net interest revenue and fees and commissions revenue was partially offset by increased loan charge-offs and higher operating expenses. Commercial Banking net loans charged off were $5.6 million in the third quarter of 2016 compared to a net recovery of $997 thousand in the third quarter of 2015. The increase was primarily related to energy portfolio loans.

Table 7 -- Commercial Banking
(Dollars in thousands)

	Three Months Ended September 30,		Increase (Decrease)	Nine Months Ended September 30,		Increase (Decrease)
	2016	2015		2016	2015	
Net interest revenue from external sources	$123,598	$109,503	$14,095	$358,714	$319,298	$39,416
Net interest expense from internal sources	(15,052)	(13,450)	(1,602)	(44,259)	(38,728)	(5,531)
Total net interest revenue	108,546	96,053	12,493	314,455	280,570	33,885
Net loans charged off (recovered)	5,601	997	4,604	34,024	(7,952)	41,976
Net interest revenue after net loans charged off (recovered)	102,945	95,056	7,889	280,431	288,522	(8,091)
Fees and commissions revenue	47,710	45,133	2,577	144,215	132,609	11,606
Other gains, net	1,932	143	1,789	2,033	387	1,646
Other operating revenue	49,642	45,276	4,366	146,248	132,996	13,252
Personnel expense	28,365	27,354	1,011	82,513	80,736	1,777
Non-personnel expense	25,010	24,606	404	79,526	71,172	8,354
Other operating expense	53,375	51,960	1,415	162,039	151,908	10,131
Net direct contribution	99,212	88,372	10,840	264,640	269,610	(4,970)
Gain on repossessed assets, net	1,486	350	1,136	806	336	470
Corporate expense allocations	9,054	10,723	(1,669)	26,681	32,747	(6,066)
Income before taxes	91,644	77,999	13,645	238,765	237,199	1,566
Federal and state income tax	35,650	30,342	5,308	92,880	92,270	610
Net income	$55,994	$47,657	$8,337	$145,885	$144,929	$956
Average assets	$16,934,587	$16,156,446	$778,141	$16,958,999	$16,229,307	$729,692
Average loans	13,737,081	12,531,113	1,205,968	13,542,719	12,230,278	1,312,441
Average deposits	8,317,341	8,627,281	(309,940)	8,392,558	8,849,091	(456,533)
Average invested capital	1,170,465	1,062,053	108,412	1,161,996	1,028,013	133,983

Net interest revenue increased $12.5 million or 13% over the prior year. Growth in net interest revenue was primarily due to a $1.2 billion or 10% increase in average loan balances and increased yields on commercial loans due to rising short-term interest rates. The impact of decreased average deposit balances was offset by increased yields on deposits sold to the funds management unit related to the increase in short-term interest rates from the Federal Reserve increase in the federal funds rate in the fourth quarter of 2015.

Fees and commissions revenue grew by $2.6 million or 6% over the third quarter of 2015. Brokerage and trading revenue increased $1.5 million primarily due to growth in commercial loan syndication fees and increased hedging activity by our energy customers. Transaction card revenues from our TransFund electronic funds transfer network increased $1.3 million primarily due to increased transaction volumes. Commercial deposit service charge revenue was also up over the prior year, offset by a decrease in other revenue.

Operating expenses increased $1.4 million or 3% over the the third quarter of 2015. Personnel expense increased $1.0 million or 4% primarily due to standard annual merit increases and increased incentive compensation expense. Non-personnel expense increased $404 thousand or 2% primarily due to a $403 thousand increase in intangible asset amortization. Increased business promotion expense related to timing of expenditures was offset by lower professional fees and services expense. Corporate expense allocations decreased $1.7 million compared to the prior year.

The average outstanding balance of loans attributed to Commercial Banking grew by $1.2 billion or 10% over the third quarter of 2015 to $13.7 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 $8.3 billion for the third quarter of 2016, a decrease of $310 million or 4% compared to the third quarter of 2015. See Management's Discussion and Analysis of Financial Condition and Results of Operations – Liquidity and Capital for further discussion of change.

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 and through Home Direct Mortgage, an online origination channel. During the third quarter of 2016. the Company made a strategic decision to exit the correspondent lending channel based on careful consideration of continued pressure on margin due to the competitive landscape and increasing regulatory costs.

Consumer Banking contributed $8.8 million to consolidated net income for the third quarter of 2016, up $2.2 million over the third quarter of 2015. Growth in mortgage banking revenue and net interest revenue was offset by the effect of increased actual prepayments of mortgage loans on mortgage servicing rights and increased personnel costs. Corporate expense allocations were $2.0 million lower than in the prior year.

Changes in the fair value of our mortgage servicing rights, net of economic hedge, resulted in a $758 thousand increase in Consumer Banking net income in the third quarter of 2016 compared to a $2.7 million decrease in Consumer Banking net income in the third quarter of 2015.

Table 8 -- Consumer Banking
(Dollars in thousands)

	Three Months Ended September 30, 2016	2015	Increase (Decrease)	Nine Months Ended September 30, 2016	2015	Increase (Decrease)
Net interest revenue from external sources	$22,098	$21,551	$547	$65,897	$63,993	$1,904
Net interest revenue from internal sources	9,263	7,216	2,047	27,492	20,874	6,618
Total net interest revenue	31,361	28,767	2,594	93,389	84,867	8,522
Net loans charged off	1,157	1,431	(274)	4,177	4,467	(290)
Net interest revenue after net loans charged off	30,204	27,336	2,868	89,212	80,400	8,812
Fees and commissions revenue	64,805	57,504	7,301	181,816	178,899	2,917
Other gains (losses), net	(170)	(155)	(15)	(42)	(667)	625
Other operating revenue	64,635	57,349	7,286	181,774	178,232	3,542
Personnel expense	30,576	26,128	4,448	87,206	78,251	8,955
Non-personnel expense	34,419	24,899	9,520	101,982	77,593	24,389
Total other operating expense	64,995	51,027	13,968	189,188	155,844	33,344
Net direct contribution	29,844	33,658	(3,814)	81,798	102,788	(20,990)
Gain (loss) on financial instruments, net	(1,087)	7,386	(8,473)	30,539	1,809	28,730
Change in fair value of mortgage servicing rights	2,327	(11,758)	14,085	(41,944)	(12,269)	(29,675)
Gain on repossessed assets, net	161	331	(170)	566	888	(322)
Corporate expense allocations	16,905	18,921	(2,016)	49,513	56,075	(6,562)
Income before taxes	14,340	10,696	3,644	21,446	37,141	(15,695)
Federal and state income tax	5,578	4,161	1,417	8,342	14,448	(6,106)
Net income	$8,762	$6,535	$2,227	$13,104	$22,693	$(9,589)
Average assets	$8,827,816	$8,843,926	$(16,110)	$8,763,564	$8,871,423	$(107,859)
Average loans	1,893,431	1,884,635	8,796	1,888,693	1,908,632	(19,939)
Average deposits	6,660,514	6,675,990	(15,476)	6,623,724	6,674,052	(50,328)
Average invested capital	275,358	264,540	10,818	267,123	268,427	(1,304)

Net interest revenue from Consumer Banking activities grew by $2.6 million or 9% over the the third quarter of 2015 primarily due to increased rates on deposit balances sold to the Funds Management unit. Both average deposits and average loan balnaces were largely unchanged compared to the the prior year.

Fees and commissions revenue increased $7.3 million or 13% over the third quarter of 2015, primarily due to a $9.4 million increase in mortgage banking revenue. Mortgage loans funded for sale increased $250 million or 16% over the third quarter of 2015. Revenue from interchange fees paid by merchants for transactions processed from debit cards issued by the Company increased $166 thousand or 3%. Deposit service charges and fees decreased $502 thousand or 4% compared to the prior year. Other revenue decreased $1.7 million compared to the prior year due to change in earnings related to low income housing tax investments attributed to the Consumer Banking segment.

Operating expenses increased $14.0 million or 27% over the third quarter of 2015. Personnel expenses increased $4.4 million or 17%. Regular compensation expense was up $2.0 million primarily due to annual merit increases and growth in mortgage banking headcount. Incentive compensation expense was up $2.0 million over the prior year. Non-personnel expense increased $9.5 million or 38% over the prior year. Mortgage banking expense was up $7.5 million over the prior year. The effect of actual residential mortgage loan prepayments on the fair value of mortgage servicing rights increased expenses by $4.6 million. The third quarter of 2015 also included a $1.2 million benefit from the reversal of estimated claims based on a favorable resolution of an audit of servicing of certain residential mortgage loans guaranteed by U.S. government agencies. Business promotion, professional fees and services and printing, postage and supplies expense all increased over the prior year.

Corporate expense allocations decreased $2.0 million compared to the third quarter of 2015.

Average consumer deposits were largely unchanged compared to the third quarter of 2015. Average time deposit balances decreased $257 million or 19%, offset by a $163 million or 10% increase in demand deposit balances, a $48 million or 1% increase in interest-bearing transaction accounts and a $30 million or 8% increase in savings account balances.

Wealth Management

Wealth Management contributed $9.1 million to consolidated net income in the third quarter of 2016, up $1.9 million or 26% over the third quarter of 2015. Net interest revenue grew over the prior year. Growth in fiduciary and asset management revenue and brokerage and trading revenue was offset by increased operating expense.

Table 9 -- Wealth Management
(Dollars in thousands)

	Three Months Ended September 30, 2016	2015	Increase (Decrease)	Nine Months Ended September 30, 2016	2015	Increase (Decrease)
Net interest revenue from external sources	$9,274	$6,674	$2,600	$21,622	$18,271	$3,351
Net interest revenue from internal sources	7,401	5,834	1,567	22,258	17,400	4,858
Total net interest revenue	16,675	12,508	4,167	43,880	35,671	8,209
Net loans charged off (recovered)	(89)	(190)	101	(479)	(937)	458
Net interest revenue after net loans charged off (recovered)	16,764	12,698	4,066	44,359	36,608	7,751
Fees and commissions revenue	73,331	66,313	7,018	217,519	203,450	14,069
Other gains, net	192	228	(36)	523	650	(127)
Other operating revenue	73,523	66,541	6,982	218,042	204,100	13,942
Personnel expense	48,969	45,316	3,653	142,235	133,923	8,312
Non-personnel expense	15,457	12,040	3,417	44,289	36,190	8,099
Other operating expense	64,426	57,356	7,070	186,524	170,113	16,411
Net direct contribution	25,861	21,883	3,978	75,877	70,595	5,282
Loss on financial instruments, net	(42)	(176)	134	(42)	(204)	162
Corporate expense allocations	10,912	9,841	1,071	31,864	30,011	1,853
Income before taxes	14,907	11,866	3,041	43,971	40,380	3,591
Federal and state income tax	5,799	4,616	1,183	17,105	15,708	1,397
Net income	$9,108	$7,250	$1,858	$26,866	$24,672	$2,194
Average assets	$6,413,735	$5,433,238	$980,497	$5,916,545	$5,401,433	$515,112
Average loans	1,139,396	1,085,496	53,900	1,109,410	1,062,362	47,048
Average deposits	4,913,409	4,490,082	423,327	4,710,893	4,570,420	140,473
Average invested capital	244,291	226,477	17,814	238,917	225,222	13,695

	September 30, 2016	2015	Increase (Decrease)
Fiduciary assets in custody for which BOKF has sole or joint discretionary authority	$14,256,866	$14,027,771	$229,095
Fiduciary assets not in custody for which BOKF has sole or joint discretionary authority	3,800,445	3,325,785	474,660
Non-managed trust assets in custody	23,164,851	20,427,113	2,737,738
Total fiduciary assets	41,222,162	37,780,669	3,441,493
Assets held in safekeeping	28,101,063	23,574,320	4,526,743
Brokerage accounts under BOKF administration	5,950,506	5,646,493	304,013

Assets under management or in custody	$75,273,731	$67,001,482	$8,272,249

Net interest revenue for the third quarter of 2016 increased $4.2 million or 33% over the third quarter of 2015, primarily due to an increase in the size of the U.S. agency mortgage-backed portfolio related to a new trading group that began operations during the third quarter of 2016 and increased rates on deposit balances sold to the Funds Management unit. Average deposit balances grew by $423 million or 9% over the third quarter of 2015. Non-interest bearing demand deposits grew by $173 million or 17% and interest-bearing transaction account balances increased $307 million or 11%, partially offset by a $60 million or 8% decrease in time deposit balances. Average loan balances increased $54 million or 5% over the prior year.

Fees and commissions revenue was up $7.0 million or 11% over the third quarter of 2015. Fiduciary and asset management revenue increased $3.3 million or 11% over the prior year primarily due to decreased fee waivers, the Company's acquisition of Weaver and Tidwell Financial Advisors LTD d/b/a Weaver Wealth Management, a registered investment advisor, in the first quarter of 2016 and changes in market values. Brokerage and trading revenue grew by $3.2 million or 10%. The addition of a new group trading in U.S. government agency residential mortgage-backed securities and related derivatives added $1.9 million of trading revenue during the third quarter and $426 million to the trading securities portfolio at September 30. Growth in retail brokerage revenue was offset by lower investment banking revenue compared to the third quarter of 2015.

Other operating revenue includes fees earned from state and municipal bond and corporate debt underwriting and financial advisory services, primarily in the Oklahoma and Texas markets. In the third quarter of 2016, the Wealth Management division participated in 107 state and municipal bond underwritings that totaled $5.2 billion. As a participant, the Wealth Management division was responsible for facilitating the sale of approximately $708 million of these underwritings. The Wealth Management division also participated in 11 corporate debt underwritings that totaled $4 billion. Our interest in these underwritings was $93 million. In the third quarter of 2015, the Wealth Management division participated in 132 state and municipal bond underwritings that totaled approximately $3.2 billion. Our interest in these underwritings totaled approximately $997 million. The Wealth Management division also participated in three corporate debt underwritings that totaled $1.7 billion. Our interest in these underwritings was $27 million.

Operating expense increased $7.1 million or 12% over the third quarter of 2015. Personnel expenses increased $3.7 million, primarily due to incentive compensation expense and standard merit increases to regular compensation. Non-personnel expense increased $3.4 million, primarily due to a $1.8 million increase in professional fees and services expense.

Corporate expense allocations increased $1.1 million or 11% over the prior year.

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 September 30, 2016, December 31, 2015 and September 30, 2015.

At September 30, 2016, the carrying value of investment (held-to-maturity) securities was $546 million and the fair value was $580 million. Investment securities consist primarily of long-term, fixed rate Oklahoma and Texas municipal bonds, taxable Texas school construction bonds and residential mortgage-backed securities issued by U.S. government agencies. The investment security portfolio is diversified among issuers. The largest obligation of any single issuer is $30 million. Substantially all of these bonds are general obligations of the issuers. Approximately $104 million of the $200 million portfolio of Texas school construction bonds are also guaranteed by the Texas Permanent School Fund Guarantee Program supervised by the State Board of Education for the State of Texas.

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 $8.7 billion at September 30, 2016, an increase of $67 million over June 30, 2016. Available for sale securities consist primarily of U.S. government agency residential mortgage-backed securities and U.S. government agency commercial mortgage-backed securities. Commercial mortgage-backed securities have prepayment penalties similar to commercial loans. At September 30, 2016, residential mortgage-backed securities represented 65 percent of total available for sale securities.

A primary risk of holding residential mortgage-backed securities comes from extension during periods of rising interest rates or prepayment during periods of falling interest rates. We evaluate this risk through extensive modeling of risk both before making an investment and throughout the life of the security. Our best estimate of the duration of the combined residential mortgage-backed securities portfolio held in investment and available for sale securities at September 30, 2016 is 2.8 years. Management estimates the duration extends to 3.3 years assuming an immediate 200 basis point upward shock. The estimated duration contracts to 2.5 years assuming a 50 basis point decline in the current low rate environment.

Residential mortgage-backed securities also 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. At September 30, 2016, approximately $5.6 billion of the amortized cost of the Company's residential mortgage-backed securities were issued by U.S. government agencies. The fair value of these residential mortgage-backed securities totaled $5.7 billion at September 30, 2016.

We also hold amortized cost of $108 million in residential mortgage-backed securities privately issued by publicly-owned financial institutions, a decrease of $6.9 million from June 30, 2016. The decrease was due to cash payments received during the quarter. The fair value of our portfolio of privately issued residential mortgage-backed securities totaled $122 million at September 30, 2016.

The amortized cost of our portfolio of privately issued residential mortgage-backed securities included $61 million of Jumbo-A residential mortgage loans and $47 million of Alt-A residential mortgage loans. Jumbo-A residential mortgage loans generally meet government underwriting standards, but have loan balances that exceed agency maximums. Alt-A mortgage loans generally do not have sufficient documentation to meet government agency underwriting standards. Approximately 90 percent of our Alt-A mortgage-backed securities represent pools of fixed rate residential mortgage loans. None of the adjustable rate mortgages are payment option adjustable rate mortgages ("ARMs"). Approximately 29 percent of our Jumbo-A residential mortgage-backed securities represent pools of fixed rate residential mortgage loans and none of the adjustable rate mortgages are payment option ARMs.

The aggregate gross amount of unrealized losses on available for sale securities totaled $6.2 million at September 30, 2016, compared to $3.0 million at June 30, 2016. On a quarterly basis, we perform separate evaluations on debt and equity securities to determine if the unrealized losses are temporary as more fully described in Note 2 of the Consolidated Financial Statements. No other-than-temporary impairment charges were recognized in earnings during the third quarter of 2016.

Certain U.S. Treasury securities and residential mortgage-backed securities issued by U.S. government agencies included in fair value option securities on the Consolidated Balance Sheets are held as an economic hedge of changes in the fair value of our mortgage servicing rights. We have elected to carry these securities at fair value with changes in fair value recognized in current period income. These securities are held with the intent that gains or losses will offset changes in the fair value of mortgage servicing rights and related derivative contracts.

BOK Financial is required to hold stock as members of the Federal Reserve system and the Federal Home Loan Banks ("FHLB"). These restricted equity securities are carried at cost as these securities do not have a readily determined fair value because the ownership of these shares is restricted and they lack a market. Federal Reserve Bank stock totaled $36 million and holdings of FHLB stock totaled $297 million at September 30, 2016. Holdings of FHLB stock increased $14 million over June 30, 2016. We are required to hold stock in the FHLB in proportion to our borrowings with the FHLB.

Bank-Owned Life Insurance

We have approximately $310 million of bank-owned life insurance at September 30, 2016. This investment is expected to provide a long-term source of earnings to support existing employee benefit programs. Approximately $283 million is held in separate accounts. Our separate account holdings are invested in diversified portfolios of investment-grade fixed income securities and cash equivalents, including U.S. Treasury and Agency securities, residential mortgage-backed securities, corporate debt, asset-backed and commercial mortgage-backed securities. The portfolios are managed by unaffiliated professional managers within parameters established in the portfolio's investment guidelines. The cash surrender value of certain life insurance policies is further supported by a stable value wrap, which protects against changes in the fair value of the investments. At September 30, 2016, the fair value of investments held in separate accounts was approximately $297 million. As the underlying fair value of the investments held in a separate account at September 30, 2016 exceeded the net book value of the investments, no cash surrender value was supported by the stable value wrap. The stable value wrap is provided by a domestic financial institution. The remaining cash surrender value of $28 million primarily represents the cash surrender value of policies held in general accounts and other amounts due from various insurance companies.

Loans

The aggregate loan portfolio before allowance for loan losses totaled $16 billion at September 30, 2016, an increase of $58 million over June 30, 2016. The outstanding balance of commercial loans decreased by $236 million compared to June 30, 2016. Commercial real estate loan balances were up $212 million. Residential mortgage loans decreased $8.1 million compared to June 30, 2016 and personal loans increased $91 million over June 30, 2016.

Table 10 -- Loans
(In thousands)

	Sept. 30, 2016	June 30, 2016	March 31, 2016	Dec. 31, 2015	Sept. 30, 2015
Commercial:					
Energy	$2,520,804	$2,818,656	$3,029,420	$3,097,328	$2,838,167
Services	2,936,599	2,830,864	2,728,891	2,784,276	2,706,624
Healthcare	2,085,046	2,051,146	1,995,425	1,883,380	1,741,680
Wholesale/retail	1,602,030	1,532,957	1,451,846	1,422,064	1,461,936
Manufacturing	499,486	595,403	600,645	556,729	555,677
Other commercial and industrial	476,198	527,411	482,198	508,754	493,338
Total commercial	10,120,163	10,356,437	10,288,425	10,252,531	9,797,422
Commercial real estate:					
Retail	801,377	795,419	810,522	796,499	769,449
Multifamily	873,773	787,200	733,689	751,085	758,658
Office	752,705	769,112	695,552	637,707	626,151
Industrial	838,021	645,586	564,467	563,169	563,871
Residential construction and land development	159,946	157,576	171,949	160,426	153,510
Other commercial real estate	367,776	427,073	394,328	350,147	363,428
Total commercial real estate	3,793,598	3,581,966	3,370,507	3,259,033	3,235,067
Residential mortgage:					
Permanent mortgage	969,558	969,007	948,405	945,336	937,664
Permanent mortgages guaranteed by U.S. government agencies	190,309	192,732	197,350	196,937	192,712
Home equity	712,926	719,184	723,554	734,620	738,619

Total residential mortgage	1,872,793	1,880,923	1,869,309	1,876,893	1,868,995
Personal	678,232	587,423	494,325	552,697	465,957
Total	$16,464,786	$16,406,749	$16,022,566	$15,941,154	$15,367,441

Commercial

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

Commercial loans totaled $10.1 billion or 61 percent of the loan portfolio at September 30, 2016, a decrease of $236 million over June 30, 2016. Energy loan balances decreased $298 million, manufacturing sector loans decreased $96 million and industrial loans decreased $51 million. Service sector loans grew by $106 million, wholesale/retail sector loans increased by $69 million and healthcare sector loans increased by $34 million.

Table 11 presents the commercial sector of our loan portfolio distributed primarily by collateral location. Loans for which collateral location is less relevant, such as unsecured loans and reserve-based energy loans, are distributed by the borrower's primary operating location. The majority of the collateral securing our commercial loan portfolio is located within our geographical footprint with 33 percent concentrated in the Texas market and 23 percent concentrated in the Oklahoma market. At September 30, 2016, the Other category is primarily composed of California - $295 million or 3 percent of the commercial loan portfolio, Louisiana - $175 million or 2 percent of the commercial loan portfolio, Florida - $117 million or 1% of the commercial loan portfolio, Tennessee - $106 million or 1% of the commercial loan portfolio and Ohio - $102 million or 1% of the commercial loan portfolio. All other states individually represent one percent or less of total commercial loans.

Table 11 -- Commercial Loans by Collateral Location
(In thousands)

	Oklahoma	Texas	New Mexico	Arkansas	Colorado	Arizona	Kansas/Missouri	Other	Total
Energy	$535,942	$1,203,558	$16,511	$5,273	$279,101	$10,150	$91,841	$378,428	$2,520,804
Services	756,403	913,037	225,602	4,343	265,245	196,023	177,379	398,567	2,936,599
Healthcare	285,073	383,657	129,278	97,501	130,387	121,137	217,040	720,973	2,085,046
Wholesale/retail	487,050	566,871	40,167	47,045	65,280	66,227	40,639	288,751	1,602,030
Manufacturing	131,223	150,064	495	5,381	48,805	62,175	45,310	56,033	499,486
Other commercial and industrial	88,713	132,301	3,974	71,882	13,627	25,684	62,832	77,185	476,198
Total commercial loans	$2,284,404	$3,349,488	$416,027	$231,425	$802,445	$481,396	$635,041	$1,919,937	$10,120,163

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 utilized 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 $2.5 billion or 15 percent of total loans at September 30, 2016. Unfunded energy loan commitments increased by $326 million to $2.3 billion at September 30, 2016. Approximately $2.0 billion of energy loans were to oil and gas producers, down $235 million compared to June 30, 2016. The majority of this portfolio is first lien, senior secured, reserve-based lending, which we believe is the lowest risk form of energy lending. The Company has largely avoided higher-risk energy lending areas including second-lien financing, mezzanine debt and subordinated debt. In addition, the Company has no direct exposure to energy company equity or to borrowers with deep-water offshore exposure. Approximately 57 percent of the committed production loans are secured by properties primarily producing oil and 43 percent of the committed production loans are secured by properties primarily producing natural gas. Loans to midstream oil and gas companies totaled $253 million at September 30, 2016, an increase of $6.8 million over June 30, 2016. Loans to borrowers that provide services to the energy industry decreased $64 million from the prior quarter to $198 million at September 30, 2016. Loans to other energy borrowers, including those engaged in wholesale or retail energy sales, totaled $67 million, a $6.0 million decrease compared to the prior quarter.

The services sector of the loan portfolio totaled $2.9 billion or 18 percent of total loans and consists of a large number of loans to a variety of businesses, including governmental, finance and insurance, not-for-profit, educational services and loans to entities providing services for real estate and construction. Service sector loans increased by $106 million compared to June 30, 2016. Service sector loans are generally secured by the assets of the borrower with repayment coming from the cash flows of ongoing operations of the customer’s business.

The healthcare sector of the loan portfolio consists primarily of loans for the development and operation of senior housing and care facilities, including independent living, assisted living and skilled nursing. Healthcare also includes loans to hospitals and other medical service providers.

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 $20 million and with three or more non-affiliated banks as participants. At September 30, 2016, the outstanding principal balance of these loans totaled $3.8 billion. Substantially all of these loans are to borrowers with local market relationships. We serve as the agent lender in approximately 17 percent of our shared national credits, based on dollars committed. We hold shared 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, with larger concentrations in Texas and Oklahoma which represent 30 percent and 12 percent of the total commercial real estate portfolio at September 30, 2016, respectively. 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.

Commercial real estate loans totaled $3.8 billion or 23 percent of the loan portfolio at September 30, 2016. The outstanding balance of commercial real estate loans increased $212 million during the third quarter of 2016. Loans secured by industrial facilities grew by $192 million and loans secured by multifamily residential properties increased $87 million. This growth was partially offset by a $59 million decrease in other commercial real estate loan balances. The commercial real estate loan balance as a percentage of our total loan portfolio has ranged from 18 percent to 23 percent over the past five years.

The commercial real estate sector of our loan portfolio distributed by collateral location follows in Table 12. The Other category is primarily composed of California and Utah which represent $189 million or 5% and $128 million or 3%, respectively. All other states individually represent less than 3% of the total commercial real estate portfolio.

Table 12 -- Commercial Real Estate Loans by Collateral Location
(In thousands)

	Oklahoma	Texas	New Mexico	Arkansas	Colorado	Arizona	Kansas/Missouri	Other	Total
Retail	$89,739	$303,207	$115,024	$6,617	$44,206	$34,007	$ 16,825	$191,752	$801,377
Multifamily	85,547	315,561	12,190	26,040	62,895	74,790	92,571	204,179	873,773
Office	115,226	196,448	51,972	1,638	62,727	54,491	68,971	201,232	752,705
Industrial	83,956	226,431	25,298	70	23,994	26,909	67,949	383,414	838,021
Residential construction and land development	16,747	28,750	19,358	6,214	32,736	5,941	5,043	45,157	159,946
Other real estate	71,616	63,497	15,977	6,118	28,571	42,345	8,679	130,973	367,776
Total commercial real estate loans	$462,831	$1,133,894	$239,819	$46,697	$255,129	$238,483	$ 260,038	$1,156,707	$3,793,598

Residential Mortgage and Personal

Residential mortgage loans provide funds for our customers to purchase or refinance their primary residence or to borrow against the equity in their home. Residential mortgage loans are secured by a first or second-mortgage on the customer’s primary residence. Personal loans consist primarily of loans to wealth management clients secured by the cash surrender value of insurance policies and marketable securities. It also includes direct loans secured by and for the purchase of automobiles, recreational and marine equipment as well as unsecured loans. Residential mortgage 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.

Residential mortgage loans totaled $1.9 billion, largely unchanged compared to June 30, 2016. 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. Collateral for 97 percent of our residential mortgage loan portfolio is located within our geographical footprint.

The majority of our permanent mortgage loan portfolio is composed of various non-conforming mortgage programs to support customer relationships including jumbo mortgage loans, non-builder construction loans and special loan programs for high net worth individuals or certain professionals. Jumbo loans may be fixed or variable rate and are fully amortizing. The size of jumbo loans exceeds maximums set under government sponsored entity standards, but otherwise generally conform to those standards. These loans generally require a minimum FICO score of 720 and a maximum debt-to-income ratio (“DTI”) of 38 percent. Loan-to-value ratios (“LTV”) are tiered from 60 percent to 100 percent, depending on the market. Special mortgage programs include fixed and variable rate fully amortizing loans tailored to the needs of certain healthcare professionals. Variable rate loans are fully indexed at origination and may have fixed rates for three to ten years, then adjust annually thereafter.

At September 30, 2016, $190 million of permanent residential mortgage loans are guaranteed by U.S. government agencies. We have minimal credit exposure on loans guaranteed by the agencies. 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. Permanent residential mortgage loans guaranteed by U.S. government agencies decreased $2.4 million compared to June 30, 2016.

Home equity loans totaled $713 million at September 30, 2016, a decrease of $6.3 million compared to June 30, 2016. Our home equity loan portfolio is primarily composed of first-lien, fully amortizing home equity loans. Home equity loans generally require a minimum FICO score of 700 and a maximum DTI of 40 percent. The maximum loan amount available for our home equity loan products is generally $400 thousand. Revolving loans have a 5 year revolving period followed by a 15 year term of amortizing repayment. Interest-only home equity loans may not be extended for any additional revolving time. All other home equity loans may be extended at management's discretion for an additional 5 year revolving term subject to an update of certain credit information. A summary of our home equity loan portfolio at September 30, 2016 by lien position and amortizing status follows in Table 13.

Table 13 -- Home Equity Loans
(In thousands)

	Revolving	Amortizing	Total
First lien	$ 45,605	$ 422,576	$ 468,181
Junior lien	102,044	142,701	244,745
Total home equity	$ 147,649	$ 565,277	$ 712,926

The distribution of residential mortgage and personal loans at September 30, 2016 is as follows in Table 14. Residential mortgage loans are distributed by collateral location. Personal loans are generally distributed by borrower location.

Table 14 -- Residential Mortgage and Personal Loans by Collateral Location
(In thousands)

	Oklahoma	Texas	New Mexico	Arkansas	Colorado	Arizona	Kansas/Missouri	Other	Total
Residential mortgage:									
Permanent mortgage	$ 186,695	$ 402,807	$ 39,408	$ 14,896	$ 155,399	$ 95,382	$ 46,250	$ 28,721	$ 969,558
Permanent mortgages guaranteed by U.S. government agencies	57,007	23,236	60,328	5,975	7,220	1,749	12,598	22,196	190,309
Home equity	413,581	135,532	105,911	5,507	35,197	8,387	8,437	374	712,926
Total residential mortgage	$ 657,283	$ 561,575	$ 205,647	$ 26,378	$ 197,816	$ 105,518	$ 67,285	$ 51,291	$ 1,872,793
Personal	$ 260,840	$ 274,693	$ 11,237	$ 6,758	$ 44,070	$ 29,607	$ 39,771	$ 11,256	$ 678,232

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 Bank are centrally managed by the Bank of Oklahoma.

Table 15 -- Loans Managed by Primary Geographical Market
(In thousands)

	Sept. 30, 2016	June 30, 2016	March 31, 2016	Dec. 31, 2015	Sept. 30, 2015
Bank of Oklahoma:					
Commercial	$3,545,924	$3,698,215	$3,656,034	$3,782,687	$3,514,391
Commercial real estate	795,806	781,458	747,689	739,829	677,372
Residential mortgage	1,401,166	1,415,766	1,411,409	1,409,114	1,405,235
Personal	271,420	246,229	204,158	255,387	185,463
Total Bank of Oklahoma	6,014,316	6,141,668	6,019,290	6,187,017	5,782,461
Bank of Texas:					
Commercial	3,903,218	3,901,632	3,936,809	3,908,425	3,752,193
Commercial real estate	1,400,709	1,311,408	1,211,978	1,204,202	1,257,741
Residential mortgage	229,345	222,548	217,539	219,126	222,395
Personal	278,167	233,304	210,456	203,496	194,051
Total Bank of Texas	5,811,439	5,668,892	5,576,782	5,535,249	5,426,380
Bank of Albuquerque:					
Commercial	398,147	398,427	402,082	375,839	368,027
Commercial real estate	299,785	322,956	323,059	313,422	312,953
Residential mortgage	110,478	114,226	117,655	120,507	121,232
Personal	11,333	10,569	10,823	11,557	10,477
Total Bank of Albuquerque	819,743	846,178	853,619	821,325	812,689
Bank of Arkansas:					
Commercial	83,544	81,227	79,808	92,359	76,044
Commercial real estate	72,649	69,235	66,674	69,320	82,225
Residential mortgage	6,936	6,874	7,212	8,169	8,063
Personal	6,757	7,025	918	819	4,921
Total Bank of Arkansas	169,886	164,361	154,612	170,667	171,253
Colorado State Bank & Trust:					
Commercial	1,013,314	1,076,620	1,030,348	987,076	1,029,694
Commercial real estate	254,078	237,569	219,078	223,946	229,835
Residential mortgage	59,838	59,425	52,961	53,782	50,138
Personal	42,901	35,064	24,497	23,384	30,683
Total Colorado State Bank & Trust	1,370,131	1,408,678	1,326,884	1,288,188	1,340,350
Bank of Arizona:					
Commercial	680,447	670,814	656,527	606,733	608,235
Commercial real estate	726,542	639,112	605,383	507,523	482,918
Residential mortgage	39,206	38,998	40,338	44,047	41,722
Personal	31,205	24,248	18,372	31,060	17,609

Total Bank of Arizona	1,477,400	1,373,172	1,320,620	1,189,363	1,150,484
Bank of Kansas City:					
Commercial	495,569	529,502	526,817	499,412	448,838
Commercial real estate	244,029	220,228	196,646	200,791	192,023
Residential mortgage	25,824	23,086	22,195	22,148	20,210
Personal	36,449	30,984	25,101	26,994	22,753
Total Bank of Kansas City	801,871	803,800	770,759	749,345	683,824
Total BOK Financial loans	$16,464,786	$16,406,749	$16,022,566	$15,941,154	$15,367,441

Loan Commitments

We enter into certain off-balance sheet arrangements in the normal course of business. These arrangements included unfunded loan commitments which totaled $8.7 billion and standby letters of credit which totaled $500 million at September 30, 2016. 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. Approximately $1.2 million of the outstanding standby letters of credit were issued on behalf of customers whose loans are nonperforming at September 30, 2016.

Table 16 – Off-Balance Sheet Credit Commitments
(In thousands)

	Sept. 30, 2016	June 30, 2016	March 31, 2016	Dec. 31, 2015	Sept. 30, 2015
Loan commitments	$8,697,322	$8,508,606	$8,567,017	$8,455,037	$8,325,540
Standby letters of credit	499,990	491,002	509,902	507,988	479,638
Mortgage loans sold with recourse	139,306	145,403	152,843	155,489	161,897

As more fully described in Note 6 to the Consolidated Financial Statements, we have off-balance sheet commitments related to certain residential mortgage loans originated under community development loan programs that were sold to a U.S. government agency with full recourse. These mortgage loans were underwritten to standards approved by the agencies, including full documentation and originated under programs available only for owner-occupied properties. The Company no longer sells residential mortgage loans with recourse. 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. Substantially all of these loans are to borrowers in our primary markets including $90 million to borrowers in Oklahoma, $15 million to borrowers in Arkansas and $12 million to borrowers in New Mexico.

We also have an off-balance sheet obligation to repurchase residential mortgage loans sold to government sponsored entities through our mortgage banking activities due to standard representations and warranties made under contractual agreements as described further in Note 6 to the Consolidated Financial Statements. For the period from 2010 through the third quarter of 2016 combined, approximately 21 percent of repurchase requests have currently resulted in actual repurchases or indemnification by the Company. The accrual for credit losses related to potential loan repurchases under representations and warranties totaled $3.2 million at September 30, 2016 and $3.3 million at June 30, 2016.

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 options to determine the maximum exposure we are willing to have individually to any customer. Customers may also be required to provide cash margin or other collateral in conjunction with our credit agreements to further limit our credit risk.

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

A deterioration of the credit standing of one or more of the customers or counterparties to these contracts may result in BOK Financial recognizing a loss as the fair value of the affected contracts may no longer move in tandem with the offsetting contracts. This occurs if the credit standing of the customer or counterparty 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 September 30, 2016, the net fair values of derivative contracts, before consideration of cash margin, reported as assets under these programs totaled $658 million compared to $877 million at June 30, 2016. At September 30, 2016, the fair value of our derivative contracts included $536 million for foreign exchange contracts, $52 million related to to-be-announced residential mortgage-backed securities, $49 million for interest rate swaps and $13 million for energy contracts. The aggregate net fair value of derivative contracts, before consideration of cash margin, held under these programs reported as liabilities totaled $654 million at September 30, 2016 and $872 million at June 30, 2016.

At September 30, 2016, total derivative assets were reduced by $10 million of cash collateral received from counterparties and total derivative liabilities were reduced by $83 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 September 30, 2016 follows in Table 17.

Table 17 -- Fair Value of Derivative Contracts
(In thousands)

Customers	$355,348
Banks and other financial institutions	289,162
Exchanges and clearing organizations	3,233
Fair value of customer risk management program asset derivative contracts, net	$647,743

At September 30, 2016, our largest derivative exposure was to a customer for an interest rate derivative contract which totaled $6.5 million. At September 30, 2016, our aggregate gross exposure to internationally active domestic financial institutions was approximately $54 million comprised of $49 million of cash and securities positions and $5.5 million of gross derivative positions. We have no direct exposure to European sovereign debt and our aggregate gross exposure to European financial institutions totaled $9.3 million at September 30, 2016.

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 $26.57 per barrel of oil would decrease the fair value of derivative assets by $8.8 million. An increase in prices equivalent to $74.07 per barrel of oil would increase the fair value of derivative assets by $132 million as current prices move further away from the fixed prices embedded in our existing contracts. Liquidity requirements of this program are also affected by our credit rating. A decrease in our credit rating to below investment grade would increase our obligation to post cash margin on existing contracts by approximately $18 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 September 30, 2016, changes in interest rates would not materially impact regulatory capital or liquidity needed to support this portion of our customer derivative program.

Summary of Loan Loss Experience

We maintain an allowance for loan losses and an accrual for off-balance sheet credit risk. At September 30, 2016, the combined allowance for loan losses and off-balance sheet credit losses totaled $256 million or 1.56 percent of outstanding loans and 116 percent of nonaccruing loans, excluding loans guaranteed by U.S. government agencies. The allowance for loan losses was $245 million and the accrual for off-balance sheet credit losses was $11 million. At June 30, 2016, the combined allowance for credit losses was $252 million or 1.54 percent of outstanding loans and 111 percent of nonaccruing loans, excluding loans guaranteed by U.S. government agencies. The allowance for loan losses was $243 million and the accrual for off-balance sheet credit losses was $9.0 million. The portion of the combined allowance for credit losses attributed to the energy portfolio totaled 3.67 percent of outstanding energy loans at September 30, 2016, an increase from 3.58 percent of outstanding energy loans at June 30, 2016.

The provision for credit losses is the amount necessary to maintain the allowance for loan losses and an accrual for off-balance sheet credit risk at an amount determined by management to be appropriate based on its evaluation. The provision includes the combined charge to expense for both the allowance for loan losses and the accrual for off-balance sheet credit risk. All losses incurred from lending activities will ultimately be reflected in charge-offs against the allowance for loan losses following funds advanced against outstanding commitments. After evaluating all credit factors, we recorded a $10.0 million provision for credit losses during the third quarter of 2016, compared to $20.0 million in the second quarter of 2016 and $7.5 million in the third quarter of 2015. The lower provision for credit losses compared to previous quarter reflects continued improvement in credit metric trends over the previous quarter largely driven by energy price stability and decreased rates of newly identified nonaccruing and potential problem loans.

Table 18 -- Summary of Loan Loss Experience
(In thousands)

	Three Months Ended				
	Sept. 30, 2016	June 30, 2016	March 31, 2016	Dec. 31, 2015	Sept. 30, 2015
Allowance for loan losses:					
Beginning balance	$243,259	$233,156	$225,524	$204,116	$201,087
Loans charged off:					
Commercial	(6,266)	(7,355)	(22,126)	(2,182)	(3,497)
Commercial real estate	—	—	—	(900)	—
Residential mortgage	(285)	(345)	(474)	(421)	(446)
Personal	(1,550)	(1,145)	(1,391)	(1,348)	(1,331)
Total	(8,101)	(8,845)	(23,991)	(4,851)	(5,274)
Recoveries of loans previously charged off:					
Commercial	177	223	488	928	759
Commercial real estate	521	282	85	120	1,865
Residential mortgage	650	200	163	137	205
Personal	690	681	783	685	692
Total	2,038	1,386	1,519	1,870	3,521
Net loans recovered (charged off)	(6,063)	(7,459)	(22,472)	(2,981)	(1,753)
Provision for loan losses	7,907	17,562	30,104	24,389	4,782
Ending balance	$245,103	$243,259	$233,156	$225,524	$204,116
Accrual for off-balance sheet credit losses:					
Beginning balance	$9,045	$6,607	$1,711	$3,600	$882
Provision for off-balance sheet credit losses	2,093	2,438	4,896	(1,889)	2,718
Ending balance	$11,138	$9,045	$6,607	$1,711	$3,600
Total combined provision for credit losses	$10,000	$20,000	$35,000	$22,500	$7,500
Allowance for loan losses to loans outstanding at period-end	1.49 %	1.48 %	1.46 %	1.41 %	1.33 %
Net charge-offs (annualized) to average loans	0.15 %	0.18 %	0.56 %	0.08 %	0.05 %
Total provision for credit losses (annualized) to average loans	0.24 %	0.49 %	0.88 %	0.58 %	0.20 %
Recoveries to gross charge-offs	25.16 %	15.67 %	6.33 %	38.55 %	66.76 %
Accrual for off-balance sheet credit losses to off-balance sheet credit commitments	0.12 %	0.10 %	0.07 %	0.02 %	0.04 %
Combined allowance for credit losses to loans outstanding at period-end	1.56 %	1.54 %	1.50 %	1.43 %	1.35 %

Allowance for Loan Losses

The appropriateness of the allowance for loan losses is assessed by management based on an ongoing quarterly evaluation of the probable estimated losses inherent in the portfolio. The allowance consists of specific allowances attributed to certain impaired loans, general allowances based on estimated loss rates by loan class and non-specific allowances based on general economic conditions, concentration in loans with large balances and other relevant factors.

Loans are considered to be impaired when it is probable that we will not collect all amounts due according to the contractual terms of the loan agreement. This includes all nonaccruing loans, all loans modified in troubled debt restructurings and all government guaranteed loans repurchased from GNMA pools. A specific allowance is required when the outstanding principal balance of the loan is not supported by either the discounted cash flows expected to be received from the borrower or the fair value of collateral for collateral dependent loans. At September 30, 2016, impaired loans totaled $412 million, including $43 million with specific allowances of $6.6 million and $369 million with no specific allowances. At June 30, 2016, impaired loans totaled $420 million, including $32 million of impaired loans with specific allowances of $4.3 million and $388 million with no specific allowances.

Risk grading guidelines, recently in the Office of the Comptroller of the Currency ("OCC") Oil and Gas Lending Handbook, heavily weight ability to repay total borrower debt, regardless of collateral position. This change in grading methodology has increased loans especially mentioned, potential problem loans and nonaccrual loans. Because substantially all of our energy portfolio is supported by senior lien positions that, in general, have substantially lower loss exposure, the historical relationship between loan classification and loss exposure may be more difficult to correlate.
The most recently completed energy portfolio redetermination supported that $100 million of impaired energy loans required no allowance for credit losses based on the adequacy of collateral. In addition, $85 million of impaired energy loans are current on all payments due.

General allowances for unimpaired loans are based on an estimated loss rate by loan class. Estimated loss rates for risk-graded loans are either increased or decreased based on changes in risk grading for each loan class. Estimated loss rates for both risk-graded and non-risk graded loans may be further adjusted for inherent risk identified for the given loan class which have not yet been captured in the loss rate.

The aggregate amount of general allowances for all unimpaired loans totaled $210 million at September 30, 2016, a decrease of $1.9 million compared to June 30, 2016, primarily due to a $5.9 million decrease in the general allowance attributed to the commercial loan segment, partially offset by a $3.1 million increase in the general allowance attributed to the commercial real estate loan segment.

Nonspecific allowances are maintained for risks beyond factors specific to a particular portfolio segment or loan class. These factors include trends in the economy in our primary lending areas, concentrations in loans with large balances and other relevant factors. Nonspecific allowances totaled $28 million at September 30, 2016, up from $27 million at June 30, 2016. The nonspecific allowance includes consideration of the indirect impact that low energy prices might have on the broader economies within our geographical footprint that are highly dependent on the energy industry.

An allocation of the allowance for loan losses by portfolio segment is included in Note 4 to the Consolidated Financial Statements.

Our loan monitoring process also identified certain accruing substandard loans that possess more than the normal amount of risk due to deterioration in the financial condition of the borrower or the value of the collateral. Because the borrowers are still performing in accordance with the original terms of the loan agreements, and no loss of principal or interest is anticipated, these loans were not included in nonperforming assets. Known information does, however, cause management concern as to the borrowers’ ability to comply with current repayment terms. These potential problem loans totaled $478 million at September 30, 2016, primarily composed of $361 million of energy loans, $31 million of service sector loans, $27 million of wholesale/retail sector loans, $20 million of manufacturing sector loans, $19 million of healthcare sector loans and $10 million of other commercial and industrial loans. Potential problem loans totaled $501 million at June 30, 2016 including $421 million of potential problem energy loans.

Based on regulatory guidelines, other loans especially mentioned are in compliance with the original terms of the agreement but may have a weakness that deserves management's close attention. Energy loans classified as other loans especially mentioned totaled $147 million or 6 percent of outstanding energy loans at September 30, 2016 and $198 million or 7 percent of outstanding energy loans at June 30, 2016.

We updated our energy loan portfolio stress test at quarter end to estimate how the energy portfolio may respond in a prolonged low-price environment. Stress test assumptions include a starting price of $2.00 per million BTUs for natural gas and $37.50 per barrel of oil, gradually escalating over seven years to a maximum of $3.00 and $55.00, respectively. In this scenario, the energy portfolio exhibits greater stress than we have experienced to date and losses would be expected to exceed our 15 year historical loss rate on energy loans of 7 basis points. The results of the stress test are factored into our expectation that the loan loss provision could range from $70 million to $85 million for 2016. This expectation is based upon current observed conditions.

Net Loans Charged Off

Loans are charged off against the allowance for loan losses when the loan balance or a portion of the loan balance is no longer covered by the paying capacity of the borrower based on an evaluation of available cash resources and collateral value. Internally risk graded loans are evaluated quarterly and charge-offs are taken in the quarter in which the loss is identified. Non-risk graded loans are generally charged off when payments are between 60 days and 180 days past due, depending on loan class. In addition, non-risk graded loans are generally charged-down to collateral value within 60 days of being notified of a borrower's bankruptcy filing, regardless of payment status.

BOK Financial had net loans charged off of $6.1 million in the third quarter of 2016, compared to $7.5 million in the second quarter of 2016 and $1.8 million in the third quarter of 2015. The ratio of net loans charged off to average loans on an annualized basis was 0.15 percent for the third quarter of 2016, compared with 0.18 percent for the second quarter of 2016 and 0.05 percent for the third quarter of 2015.

Net commercial loans charged off totaled $6.1 million in the third quarter of 2016, compared to net loans charged off of $7.1 million in the second quarter of 2016. Charge-offs in both the third and second quarter of 2016 resulted primarily from energy loans. Net commercial real estate loan recoveries were $521 thousand in the third quarter, compared to net recoveries of $282 thousand in the second quarter. Residential mortgage net recoveries were $365 thousand and personal loan net charge-offs were $860 thousand for the third quarter. Personal loan net charge-offs include deposit account overdraft losses.

Nonperforming Assets

Table 19 -- Nonperforming Assets
(In thousands)

	Sept. 30, 2016	June 30, 2016	March 31, 2016	Dec. 31, 2015	Sept. 30, 2015
Nonaccruing loans:					
Commercial	$176,464	$181,989	$174,652	$76,424	$33,798
Commercial real estate	7,350	7,780	9,270	9,001	10,956
Residential mortgage	52,452	57,061	57,577	61,240	44,099
Personal	686	354	331	463	494
Total nonaccruing loans	236,952	247,184	241,830	147,128	89,347
Accruing renegotiated loans guaranteed by U.S. government agencies	80,306	78,806	77,597	74,049	81,598
Real estate and other repossessed assets	31,941	24,054	29,896	30,731	33,116
Total nonperforming assets	$349,199	$350,044	$349,323	$251,908	$204,061
Total nonperforming assets excluding those guaranteed by U.S. government agencies	$253,461	$251,497	$252,176	$155,959	$118,578
Nonaccruing loans by loan portfolio segment and class:					
Commercial:					
Energy	$142,966	$168,145	$159,553	$61,189	$17,880
Services	8,477	9,388	9,512	10,290	10,692
Wholesale / retail	2,453	2,772	3,685	2,919	3,058
Manufacturing	274	293	312	331	352
Healthcare	855	875	1,023	1,072	1,218
Other commercial and industrial	21,439	516	567	623	598
Total commercial	176,464	181,989	174,652	76,424	33,798
Commercial real estate:					
Residential construction and land development	3,739	4,261	4,789	4,409	4,748
Retail	1,249	1,265	1,302	1,319	1,648
Office	882	606	629	651	684
Multifamily	51	65	250	274	185
Industrial	76	76	76	76	76
Other commercial real estate	1,353	1,507	2,224	2,272	3,615
Total commercial real estate	7,350	7,780	9,270	9,001	10,956
Residential mortgage:					
Permanent mortgage	25,956	27,228	27,497	28,984	30,660
Permanent mortgage guaranteed by U.S. government agencies	15,432	19,741	19,550	21,900	3,885
Home equity	11,064	10,092	10,530	10,356	9,554
Total residential mortgage	52,452	57,061	57,577	61,240	44,099
Personal	686	354	331	463	494
Total nonaccruing loans	$236,952	$247,184	$241,830	$147,128	$89,347

	Sept. 30, 2016		June 30, 2016		March 31, 2016		Dec. 31, 2015		Sept. 30, 2015	
Nonaccruing loans as % of outstanding balance for class:										
Commercial:										
Energy	5.67	%	5.97	%	5.27	%	1.98	%	0.63	%
Services	0.29	%	0.33	%	0.35	%	0.37	%	0.40	%
Wholesale / retail	0.15	%	0.18	%	0.25	%	0.21	%	0.21	%
Manufacturing	0.05	%	0.05	%	0.05	%	0.06	%	0.06	%
Healthcare	0.04	%	0.04	%	0.05	%	0.06	%	0.07	%
Other commercial and industrial	4.50	%	0.10	%	0.12	%	0.12	%	0.12	%
Total commercial	1.74	%	1.76	%	1.70	%	0.75	%	0.34	%
Commercial real estate:										
Residential construction and land development	2.34	%	2.70	%	2.79	%	2.75	%	3.09	%
Retail	0.16	%	0.16	%	0.16	%	0.17	%	0.21	%
Office	0.12	%	0.08	%	0.09	%	0.10	%	0.11	%
Multifamily	0.01	%	0.01	%	0.03	%	0.04	%	0.02	%
Industrial	0.01	%	0.01	%	0.01	%	0.01	%	0.01	%
Other commercial real estate	0.37	%	0.35	%	0.56	%	0.65	%	0.99	%
Total commercial real estate	0.19	%	0.22	%	0.28	%	0.28	%	0.34	%
Residential mortgage:										
Permanent mortgage	2.68	%	2.81	%	2.90	%	3.07	%	3.27	%
Permanent mortgage guaranteed by U.S. government agencies	8.11	%	10.24	%	9.91	%	11.12	%	2.02	%
Home equity	1.55	%	1.40	%	1.46	%	1.41	%	1.29	%
Total residential mortgage	2.80	%	3.03	%	3.08	%	3.26	%	2.36	%
Personal	0.10	%	0.06	%	0.07	%	0.08	%	0.11	%
Total nonaccruing loans	1.44	%	1.51	%	1.51	%	0.92	%	0.58	%
Ratios:										
Allowance for loan losses to nonaccruing loans[1]	110.65	%	106.95	%	104.89	%	180.09	%	238.84	%
Accruing loans 90 days or more past due[1]	$3,839		$2,899		$8,019		$1,207		$101	

[1] Excludes residential mortgages guaranteed by agencies of the U.S. Government.

Nonperforming assets totaled $349 million or 2.12 percent of outstanding loans and repossessed assets at September 30, 2016. Nonaccruing loans totaled $237 million, accruing renegotiated residential mortgage loans totaled $80 million and real estate and other repossessed assets totaled $32 million. All accruing renegotiated residential mortgage loans and $15 million of nonaccruing loans are guaranteed by U.S. government agencies. Excluding assets guaranteed by U.S. government agencies, nonperforming assets increased $2.0 million during the third quarter. The Company generally retains nonperforming assets to maximize potential recovery which may cause future nonperforming assets to decrease more slowly.

Loans are generally classified as nonaccruing when it becomes probable that we will not collect the full contractual principal and interest. As more fully discussed in Note 4 to the Consolidated Financial Statements, we may modify loans in troubled debt restructurings. Modifications may include extension of payment terms and rate concessions. We generally do not forgive principal or accrued but unpaid interest. All loans modified in troubled debt restructurings, except for residential mortgage loans guaranteed by U.S. government agencies, are classified as nonaccruing. We may also renew matured nonaccruing loans. All nonaccruing loans, including those renewed or modified in troubled debt restructurings, are charged off when the loan balance is no longer covered by the paying capacity of the borrower based on a quarterly evaluation of available cash resources and collateral value. All nonaccruing loans generally remain on nonaccrual status until full collection of principal and interest in accordance with the original terms, including principal previously charged off, is probable. We generally do not voluntarily modify personal loans to troubled borrowers. Personal loans modified at the direction of bankruptcy court orders are identified as troubled debt restructurings and classified as nonaccruing.

At September 30, 2016, renegotiated loans consist solely of accruing residential mortgage loans guaranteed by U.S. government agencies that have been modified in troubled debt restructurings. See Note 4 to the Consolidated Financial Statements for additional discussion of troubled debt restructurings. Generally, we modify residential mortgage loans primarily by reducing interest rates and extending the number of payments in accordance with U.S. government agency guidelines. Generally, no unpaid principal or interest is forgiven. Interest continues to accrue based on the modified terms of the loan. Modified loans guaranteed by U.S. government agencies under residential mortgage loan programs may be sold once they become eligible according to U.S. government agency guidelines.

A rollforward of nonperforming assets for the three and nine months ended September 30, 2016 follows in Table 20.

Table 20 -- Rollforward of Nonperforming Assets
(In thousands)

	Three Months Ended September 30, 2016			
	Nonaccruing Loans	Renegotiated Loans	Real Estate and Other Repossessed Assets	Total Nonperforming Assets
Balance, June 30, 2016	$247,184	$ 78,806	$ 24,054	$ 350,044
Additions	28,909	12,176	—	41,085
Payments	(10,841)	(409)	—	(11,250)
Charge-offs	(8,101)	—	—	(8,101)
Net gains and write-downs	—	—	1,607	1,607
Foreclosure of nonperforming loans	(15,208)	—	15,208	—
Foreclosure of loans guaranteed by U.S. government agencies	(5,551)	(2,446)	—	(7,997)
Proceeds from sales	—	(7,392)	(8,892)	(16,284)
Net transfers to nonaccruing loans	560	(560)	—	—
Other, net	—	131	(36)	95
Balance, Sept. 30, 2016	$236,952	$ 80,306	$ 31,941	$ 349,199

	Nine Months Ended September 30, 2016			
	Nonaccruing Loans	Renegotiated Loans	Real Estate and Other Repossessed Assets	Total Nonperforming Assets
Balance, Dec. 31, 2015	$147,128	$ 74,049	$ 30,731	$ 251,908
Additions	240,918	35,685	—	276,603
Payments	(77,561)	(1,423)	—	(78,984)
Charge-offs	(40,937)	—	—	(40,937)
Net gains and write-downs	—	—	1,805	1,805
Foreclosure of nonperforming loans	(20,580)	—	20,580	—
Foreclosure of loans guaranteed by U.S. government agencies	(13,912)	(6,870)	—	(20,782)
Proceeds from sales	—	(19,498)	(21,117)	(40,615)
Net transfers to nonaccruing loans	1,941	(1,941)	—	—
Return to accrual status	(45)	—	—	(45)
Other, net	—	304	(58)	246
Balance, Sept. 30, 2016	$236,952	$ 80,306	$ 31,941	$ 349,199

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 minimal. These properties will be conveyed to the agencies once applicable criteria have been met.

Commercial

Nonaccruing commercial loans totaled $176 million or 1.74 percent of total commercial loans at September 30, 2016 and $182 million or 1.76 percent of commercial loans at June 30, 2016. There were $22 million in newly identified nonaccruing commercial loans during the quarter, offset by $7 million in payments and $6.3 million of charge-offs. Newly identified nonaccruing commercial loans were primarily other commercial and industrial loans and energy loans.

Nonaccruing commercial loans at September 30, 2016 were primarily composed of $143 million or 5.67 percent of total energy loans, and $21 million or 4.50 percent of total other commercial and industrial sector loans.

Commercial Real Estate

Nonaccruing commercial real estate loans totaled $7.4 million or 0.19 percent of outstanding commercial real estate loans at September 30, 2016, compared to $7.8 million or 0.22 percent of outstanding commercial real estate loans at June 30, 2016. Newly identified nonaccruing commercial real estate loans of $1.0 million were offset by $1.5 million of cash payments received. There were no charge-offs or foreclosures of nonaccruing commercial real estate loans during the third quarter.

Nonaccruing commercial real estate loans were primarily composed of $3.7 million or 2.34 percent of residential construction and land development loans.

Residential Mortgage and Personal

Nonaccruing residential mortgage loans totaled $52 million or 2.80 percent of outstanding residential mortgage loans at September 30, 2016, compared to $57 million or 3.03 percent of outstanding residential mortgage loans at June 30,

2016. Newly identified nonaccruing residential mortgage loans totaling $4.0 million were offset by $6.3 million of foreclosures, $2.6 million of payments and $285 thousand of loans charged off during the quarter.

Nonaccruing residential mortgage loans primarily consist of non-guaranteed permanent residential mortgage loans which totaled $26 million or 2.68 percent of outstanding non-guaranteed permanent residential mortgage loans at September 30, 2016. Nonaccruing home equity loans totaled $11 million or 1.55 percent of total home equity loans.

Payments of accruing residential mortgage loans and personal loans may be delinquent. The composition of residential mortgage loans and personal loans past due but still accruing is included in the following Table 21. Substantially all non-guaranteed residential loans past due 90 days or more are nonaccruing. Residential mortgage loans 30 to 59 days past due decreased $2.6 million in the third quarter to $5.1 million at September 30, 2016 and residential mortgage loans 60 to 89 days past due increased by $224 thousand. Personal loans past due 30 to 59 days also decreased by $209 thousand compared to June 30, 2016 and personal loans 60 to 89 days increased $90 thousand.

Table 21 -- Residential Mortgage and Personal Loans Past Due
(In thousands)

	September 30, 2016			June 30, 2016		
	90 Days or More	60 to 89 Days	30 to 59 Days	90 Days or More	60 to 89 Days	30 to 59 Days
Residential mortgage:						
Permanent mortgage[1]	$—	$202	$3,547	$—	$124	$5,798
Home equity	—	305	1,526	20	159	1,889
Total residential mortgage	$—	$507	$5,073	20	$283	$7,687
Personal	$13	$148	$191	$—	$58	$400

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

Real Estate and Other Repossessed Assets

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.

Real estate and other repossessed assets totaled $32 million at September 30, 2016, an increase of $7.9 million compared to June 30, 2016. The distribution of real estate and other repossessed assets attributed by geographical market is included in Table 22 following.

Table 22 -- Real Estate and Other Repossessed Assets by Collateral Location
(In thousands)

	Oklahoma	Texas	Colorado	Arkansas	New Mexico	Arizona	Kansas/ Missouri	Other	Total
1-4 family residential properties	$ 4,181	$559	$ —	$ 625	$ 1,733	$ 2,539	$ 626	$ 69	$ 10,332
Developed commercial real estate properties	64	—	2,637	—	590	198	1,296	—	4,785
Undeveloped land	225	1,309	—	—	—	306	—	—	1,840
Residential land development properties	38	—	210	—	—	685	2	—	935
Oil and gas properties	—	14,042					—	—	14,042
Other	3	4	—	—	—	—	—	—	7
Total real estate and other repossessed assets	$ 4,511	$ 15,914	$ 2,847	$ 625	$ 2,323	$ 3,728	$ 1,924	$ 69	$ 31,941

Undeveloped land is primarily zoned for commercial development. Developed commercial real estate properties are primarily completed with no additional construction necessary for sale.

Liquidity and Capital

Subsidiary Bank

Deposits and borrowed funds are the primary sources of liquidity for BOKF, NA, the wholly owned subsidiary bank of BOK Financial. Based on the average balances for the third quarter of 2016, approximately 64 percent of our funding was provided by deposit accounts, 21 percent from borrowed funds, 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.

Deposit accounts represent our largest funding source. 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 our Perfect Banking sales and customer service program, free checking, online bill paying services, mobile banking services, an extensive network of branch locations and ATMs and a 24-hour Express Bank call center. Commercial deposit growth is supported by offering treasury management and lockbox services. We also acquire brokered deposits when the cost of funds is advantageous to other funding sources.

Table 23 - Average Deposits by Line of Business
(In thousands)

	Three Months Ended				
	Sept. 30, 2016	June 30, 2016	March 31, 2016	Dec. 31, 2015	Sept. 30, 2015
Commercial Banking	$8,317,341	$8,403,408	$8,457,750	$8,549,240	$8,627,281
Consumer Banking	6,660,514	6,634,362	6,575,893	6,652,104	6,675,990
Wealth Management	4,913,409	4,521,031	4,696,013	4,583,474	4,490,082
Subtotal	19,891,264	19,558,801	19,729,656	19,784,818	19,793,353
Funds Management and other	873,750	908,931	896,965	920,632	899,795
Total	$20,765,014	$20,467,732	$20,626,621	$20,705,450	$20,693,148

Average deposits for the third quarter of 2016 totaled $20.8 billion and represented approximately 64 percent of total liabilities and capital, up from $20.5 billion and 64 percent of total liabilities and capital for the second quarter of 2016. Average deposits increased $297 million from the second quarter of 2016. Average demand deposits increased by $335 million and average interest-bearing transaction accounts increased by $60 million, partially offset by a $100 million decrease in average time deposit balances.

Average Commercial Banking deposit balances decreased $86 million compared to the second quarter of 2016, primarily due to a $102 million decrease in energy customer balances and a $62 million decrease in other commercial and industrial balances, partially offset by a $45 million increase in small business customer balances and a $21 million increase in commercial real estate customer balances. Commercial customers continue to retain large cash reserves primarily due to low yields available on other high quality investment alternatives and 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. If economic activity were to improve significantly or if short-term interest rates were to increase, deposits may decline as customers deploy funds into projects or shift demand deposits into money market instruments.

Average Consumer Banking deposit balances increased $26 million. Demand deposit balances increased by $66 million and interest-bearing transaction deposits increased by $1.4 million, partially offset by a $38 million decrease in time deposit balances. Growth in Consumer Banking deposits includes escrow funds associated with mortgage loan servicing. These deposits tend to grow throughout the year and are largely disbursed near year end.

Average Wealth Management deposits increased $392 million compared to the second quarter of 2016 primarily due to a $346 million increase in interest-bearing transaction account balances and an $84 million increase in demand deposits, partially offset by a $39 million decrease in time deposit balances. Growth in Wealth Management deposits include funds being held temporarily in anticipation of money market reforms.

Average time deposits for the third quarter of 2016 included $519 million of brokered deposits, an increase of $94 million over the second quarter of 2016. Average interest-bearing transaction accounts for the third quarter included $678 million of brokered deposits, an increase of $115 million over the second quarter of 2016. Changes in average brokered deposits largely affect Funds Management and Other.

The distribution of our period end deposit account balances among principal markets follows in Table 24.

Table 24 -- Period End Deposits by Principal Market Area
(In thousands)

	Sept. 30, 2016	June 30, 2016	Mar. 31,2016	Dec. 31, 2015	Sept. 30, 2015
Bank of Oklahoma:					
Demand	$4,158,273	$4,020,181	$3,813,128	$4,133,520	$3,834,145
Interest-bearing:					
Transaction	5,701,983	5,741,302	5,706,067	5,971,819	5,783,258
Savings	242,959	247,984	246,122	226,733	225,580
Time	1,091,464	1,167,271	1,198,022	1,202,274	1,253,137
Total interest-bearing	7,036,406	7,156,557	7,150,211	7,400,826	7,261,975
Total Bank of Oklahoma	11,194,679	11,176,738	10,963,339	11,534,346	11,096,120
Bank of Texas:					
Demand	2,734,981	2,677,253	2,571,883	2,627,764	2,689,493
Interest-bearing:					
Transaction	2,240,040	2,035,634	2,106,905	2,132,099	1,996,223
Savings	84,642	83,862	83,263	77,902	74,674
Time	528,380	516,231	530,657	549,740	554,106
Total interest-bearing	2,853,062	2,635,727	2,720,825	2,759,741	2,625,003
Total Bank of Texas	5,588,043	5,312,980	5,292,708	5,387,505	5,314,496
Bank of Albuquerque:					
Demand	584,681	530,853	557,200	487,286	520,785
Interest-bearing:					
Transaction	555,326	573,690	560,684	563,723	529,862
Savings	54,480	49,200	47,187	43,672	41,380
Time	244,706	250,068	259,630	267,821	281,426
Total interest-bearing	854,512	872,958	867,501	875,216	852,668
Total Bank of Albuquerque	1,439,193	1,403,811	1,424,701	1,362,502	1,373,453
Bank of Arkansas:					
Demand	32,203	30,607	31,318	27,252	25,397
Interest-bearing:					
Transaction	313,480	278,335	265,803	202,857	290,728
Savings	2,051	1,853	1,929	1,747	1,573
Time	17,534	18,911	21,035	24,983	26,203
Total interest-bearing	333,065	299,099	288,767	229,587	318,504
Total Bank of Arkansas	365,268	329,706	320,085	256,839	343,901

	Sept. 30, 2016	June 30, 2016	Mar. 31,2016	Dec. 31, 2015	Sept. 30, 2015
Colorado State Bank & Trust:					
Demand	517,063	528,124	413,506	497,318	430,675
Interest-bearing:					
Transaction	623,055	625,240	610,077	616,697	655,206
Savings	31,613	31,509	33,108	31,927	31,398
Time	247,667	254,164	271,475	296,224	320,279
Total interest-bearing	902,335	910,913	914,660	944,848	1,006,883
Total Colorado State Bank & Trust	1,419,398	1,439,037	1,328,166	1,442,166	1,437,558
Bank of Arizona:					
Demand	418,718	396,837	341,828	326,324	306,425
Interest-bearing:					
Transaction	303,750	302,297	313,825	358,556	293,319
Savings	2,959	3,198	3,277	2,893	4,121
Time	27,935	28,681	29,053	29,498	26,750
Total interest-bearing	334,644	334,176	346,155	390,947	324,190
Total Bank of Arizona	753,362	731,013	687,983	717,271	630,615
Bank of Kansas City:					
Demand	235,445	240,754	221,812	197,424	234,847
Interest-bearing:					
Transaction	86,526	112,371	146,405	153,203	150,253
Savings	1,645	1,656	1,619	1,378	1,570
Time	11,945	11,735	31,502	35,524	36,630
Total interest-bearing	100,116	125,762	179,526	190,105	188,453
Total Bank of Kansas City	335,561	366,516	401,338	387,529	423,300
Total BOK Financial deposits	$21,095,504	$20,759,801	$20,418,320	$21,088,158	$20,619,443

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 $44 million at September 30, 2016. Securities repurchase agreements generally mature within 90 days and are secured by certain available for sale securities. Federal Home Loan Bank borrowings are generally short term and are secured by a blanket pledge of eligible collateral (generally unencumbered U.S. Treasury and agency mortgage-backed securities, 1-4 family residential mortgage loans, multifamily and other qualifying commercial real estate loans). Amounts borrowed from the Federal Home Loan Bank of Topeka averaged $6.3 billion during the quarter, compared to $6.0 billion in the second quarter of 2016.

At September 30, 2016, the estimated unused credit available to BOKF, NA from collateralized sources was approximately $4.3 billion.

A summary of other borrowings for BOK Financial on a consolidated basis follows in Table 25.

Table 25 -- Borrowed Funds
(In thousands)

		Three Months Ended September 30, 2016				Three Months Ended June 30, 2016		
	Sept. 30, 2016	Average Balance During the Quarter	Rate	Maximum Outstanding At Any Month End During the Quarter	June 30, 2016	Average Balance During the Quarter	Rate	Maximum Outstanding At Any Month End During the Quarter
Funds purchased	$109,031	$68,280	0.19%	$ 109,031	$56,780	$70,682	0.19%	$ 70,264
Repurchase agreements	504,573	522,822	0.04%	547,335	472,683	611,264	0.05%	663,538
Other borrowings:								
Federal Home Loan Bank advances	6,500,000	6,309,783	0.55%	6,500,000	5,800,000	6,046,154	0.55%	6,400,000
GNMA repurchase liability	16,624	14,560	4.67%	16,624	12,769	12,210	4.81%	12,769
Other	16,819	18,026	2.40%	18,067	17,967	17,664	2.44%	17,967
Total other borrowings	6,533,443	6,342,369	0.57%		5,830,736	6,076,028	0.57%	
Subordinated debentures	144,631	255,890	3.84%	371,827	371,812	232,795	1.52%	371,812
Total Borrowed Funds	$7,291,678	$7,189,361	0.64%		$6,732,011	$6,990,769	0.55%	

In 2007, BOKF, NA issued $250 million of subordinated debt due May 15, 2017 to fund the Worth National Bank and First United Bank acquisitions and fund continued asset growth. Interest on this debt was based on a fixed rate of 5.75 percent through May 14, 2012 which then converted to a floating rate of three-month LIBOR plus 0.69 percent. The $227 million of this subordinated debt that remained outstanding was called during the third quarter of 2016.
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.

Parent Company

On June 27, 2016, the parent company completed the issuance and sale of $150 million of subordinated debt that will mature on June 30, 2056. Interest on this debt bears interest at the rate of 5.375%, payable quarterly. On June 30, 2021, the parent company will have the option to redeem the debt at the principal amount plus accrued interest, subject to regulatory approval.

At September 30, 2016, cash and interest-bearing cash and cash equivalents held by the parent company totaled $336 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 September 30, 2016, based upon the most restrictive limitations as well as management's internal capital policy, the bank could declare up to $172 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 September 30, 2016 was $3.4 billion, an increase of $30 million over June 30, 2016. Net income less cash dividends paid increased equity $46 million during the third quarter of 2016. Accumulated other comprehensive income decreased $22 million primarily related to the change in unrealized gains on available for sale securities due to changes in interest rates. Capital is managed to maximize long-term value to the shareholders. Factors considered in managing capital include projections of future earnings, asset growth and acquisition strategies, and regulatory and debt covenant requirements. Capital management may include subordinated debt issuance, share repurchase and stock and cash dividends.

On October 27, 2015, 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 September 30, 2016, a cumulative total of 2,179,243 shares have been repurchased under this authorization. No shares were repurchased in the third quarter of 2016.

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.
Effective January 1, 2015 for BOK Financial, regulatory capital rules establish a 7 percent threshold for the common equity Tier 1 ratio consisting of a minimum level plus capital conservation buffer. The Company has elected to exclude unrealized gains and losses from available for sale securities from its calculation of Tier 1 capital, consistent with the treatment under previous capital rules.

A summary of minimum capital requirements, including capital conservation buffer follows in Table 26. 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.

The capital ratios for BOK Financial on a consolidated basis are presented in Table 26.

Table 26 -- Capital Ratios

	Minimum Capital Requirement[1]	Capital Conservation Buffer[2]	Minimum Capital Requirement Including Capital Conservation Buffer	Sept. 30, 2016	June 30, 2016	Sept. 30, 2015
Risk-based capital:						
Common equity Tier 1	4.50 %	2.50 %	7.00 %	11.99 %	11.86 %	12.78 %
Tier 1 capital	6.00 %	2.50 %	8.50 %	11.99 %	11.86 %	12.78 %
Total capital	8.00 %	2.50 %	10.50 %	13.65 %	13.51 %	13.89 %
Tier 1 Leverage	4.00 %	N/A	4.00 %	9.06 %	9.06 %	9.55 %
Average total equity to average assets				10.39 %	10.46 %	11.05 %
Tangible common equity ratio				9.19 %	9.33 %	9.78 %

[1] Effective January 1, 2015
[2] Effective January 1, 2016

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

Table 27 -- Non-GAAP Measure
(Dollars in thousands)

	Sept. 30, 2016	June 30, 2016	March 31, 2016	Dec. 31, 2015	Sept. 30, 2015

Tangible common equity ratio:					
Total shareholders' equity	$3,398,311	$3,368,833	$3,321,555	$3,230,556	$3,377,226
Less: Goodwill and intangible assets, net	424,716	426,111	428,733	429,370	430,460
Tangible common equity	2,973,595	2,942,722	2,892,822	2,801,186	2,946,766
Total assets	32,779,231	31,970,450	31,413,945	31,476,128	30,566,905
Less: Goodwill and intangible assets, net	424,716	426,111	428,733	429,370	430,460
Tangible assets	$32,354,515	$31,544,339	$30,985,212	$31,046,758	$30,136,445
Tangible common equity ratio	9.19 %	9.33 %	9.34 %	9.02 %	9.78 %

On October 20, 2016, BOK Financial published the results of its annual capital stress test. In accordance with the Dodd-Frank Act, the Federal Reserve must publish regulations that require bank holding companies with $10 billion to $50 billion in assets to perform annual capital stress tests. The Dodd-Frank Act Stress Test ("DFAST") is a forward-looking exercise under which the Company and its banking subsidiary estimate the impact of a hypothetical severely adverse macroeconomic scenario provided by the Board of Governors of the Federal Reserve System and the Office of the Comptroller of the Currency on its financial condition and regulatory capital ratios over a nine-quarter time horizon. Under the scenario provided by the regulatory agencies, all capital ratio measures remain above minimum regulatory thresholds. Additional information concerning the annual stress test may be found on the Company's Investor Relations page at www.bokf.com under the "Presentations" tab. The results of subsequent capital stress tests may alter the Company's future capital management plans.

Off-Balance Sheet Arrangements

See Note 7 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 guidelines 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. The internal policy limit for net interest revenue variation is a maximum decline of 5 percent to an up or down 200 basis point change over twelve months. These guidelines also set maximum levels for short-term borrowings, short-term assets, public funds and brokered deposits and establish minimum levels for unpledged assets, among other things. Compliance with these internal guidelines is reviewed monthly. The Asset/Liabilty Committee is also responsible for monitoring market risk limits for mortgage banking production and mortgage servicing assets inclusive of economic hedge benefits. Each of these desks must limit projected exposure from a 50 basis point change in interest rates.

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, net income and economic value of equity. A simulation model is used to estimate the effect of changes in interest rates on the Company's performance across multiple interest rate scenarios. While the current internal policy limit for net interest revenue variation is a maximum decline of 5 percent due to a 200 basis point change over twelve months, the results of a 200 basis point decrease in interest rates in the current low-rate environment are not meaningful. We report the effect of a 50 basis point decrease in the interim.

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 DDA and other core deposit balances resulting from a significant increase in short-term market interest rates and the overall interest rate environment is likely to be material. The simulation incorporates assumptions regarding the effects of such changes based on a combination of historical analysis and expected behavior. The impact of planned growth and new business activities is factored into the simulation model. The effects of changes in interest rates on the value of mortgage servicing rights are excluded from Table 28 due to the extreme volatility over such a large rate range and our active risk management approach for that asset. The effects of interest rate changes on the value of mortgage servicing rights are presented in Note 6 to the Consolidated Financial Statements.

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 re-pricing characteristics, future cash flows and customer behavior. These assumptions are inherently uncertain and, as a result, the model cannot precisely estimate net interest revenue, net income or economic value of equity or precisely predict the impact of higher or lower interest rates on net interest revenue, net income or economic value of equity. 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.

Table 28 -- Interest Rate Sensitivity
(Dollars in thousands)

	200 bp Increase		50 bp Decrease	
	September 30,		September 30,	
	2016	2015	2016	2015
Anticipated impact over the next twelve months on net interest revenue	$551	$(5,325)	$(25,147)	$(20,047)
	0.07 %	(0.70)%	(3.22)%	(2.62)%

Trading Activities

BOK Financial enters into trading activities both as an intermediary for customers and for its own account. As an intermediary, BOK Financial will take positions in securities, generally residential mortgage-backed securities, government agency securities and municipal bonds. These securities are purchased for resale to customers, which include individuals, corporations, foundations and financial institutions. On a limited basis, BOK Financial may also take trading positions in U.S. Treasury securities, residential mortgage-backed securities and municipal bonds to enhance returns on its securities portfolios. Both of these activities involve interest rate 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 manage 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, over the counter derivatives or cash markets may be used to reduce the risk associated with some trading programs.

Management uses a Value at Risk ("VaR") methodology to measure market risk due to changes in interest rates inherent in its trading activities. VaR is calculated based upon historical simulations over the past five years using a variance/covariance matrix of interest rate changes, a 10 business day holding period and a 99 percent confidence interval. It represents an amount of market loss that is likely to be exceeded in only one out of every 100 two-week periods. Trading positions are managed within guidelines approved by the Board of Directors. These guidelines limit the VaR to $7.3 million. There were no instances of VaR being exceeded during the nine months ended September 30, 2016 and 2015. At September 30, 2016, there were no trading positions for the purposes of enhancing returns on the Company's securities portfolio.

The average, high and low VaR amounts for the three and nine months ended September 30, 2016 and September 30, 2015 are as follows in Table 29.

Table 29 -- Trading Value at Risk (VaR)
(In thousands)

	Three Months Ended Sept. 30,		Nine Months Ended September 30,	
	2016	2015	2016	2015
Average	$2,551	$1,799	$2,280	$1,635
High	4,321	2,680	4,321	2,680
Low	1,152	1,048	775	782

The Company expanded its trading activities during the third quarter through the initial operation of a team that deals in specified pools of mortgage loans that have been placed into U.S. government agency issued securities and related derivative instruments. These instruments are generally customized to meet requirements of specific customers. This team also serves as a market maker that provides liquidity as both a buyer and seller of to-be-announced derivative instruments. Each of these expanded activities must fall within the VaR guidelines mentioned above.

The Company also bears interest rate risk by originating residential mortgages held for sale (RMHFS). A variety of methods are used to manage the interest rate 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. Interest rate risk from RMHFS is mitigated through forward sale contracts.

Management uses a pre-tax income sensitivity methodology to measure market risk from RMHFS. Pre-tax income sensitivity is calculated using a + / - 50 basis point change in interest rates, a 30 day average fall out rate, and a projected fall out-rate that is statistically modeled and recalibrated using such factors as loan product type, seasonality, region, originator, channel, rate lock terms, rate change scenario and various borrower characteristics. The Company monitors the effectiveness of this model through back-testing, updating the data and regular validations. Trading positions are managed within guidelines approved by the Board of Directors. These guidelines limit the pre-tax income sensitivity to $7 million. There were no instances of pre-tax income sensitivity exceeding the $7 million limit during the three and nine months ended September 30, 2016 and 2015.
The average, high and low pre-tax income sensitivity amounts for the three and nine months ended September 30, 2016 and September 30, 2015 are as follows.

Table 30 -- RMHFS Interest Rate Sensitivity
(In thousands)

	Three Months Ended Sept. 30,		Nine Months Ended September 30,	
	2016	2015	2016	2015
Average	$827	$2,814	$2,179	$2,615
High	2,563	5,422	6,858	6,590
Low	17	86	12	68

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, the financial services industry and the economy in general. Words such as "anticipates," "believes," "estimates," "expects," "forecasts," "plans," "projects," "will," "intends," var 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 BOK Financial's acquisitions and other 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 that BOK Financial has not independently verified. These statements are not guarantees of future performance and involve certain risks, uncertainties and assumptions that 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 expressed, implied, or forecasted in such forward-looking statements. Internal and external factors that might cause such a difference include, but are not limited to changes in commodity prices, interest rates and interest rate relationships, 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.

Consolidated Statements of Earnings (Unaudited)

(In thousands, except share and per share data)	Three Months Ended September 30,		Nine Months Ended September 30,	
Interest revenue	2016	2015	2016	2015
Loans	$146,840	$132,985	$427,512	$392,878
Residential mortgage loans held for sale	3,615	3,793	9,823	10,634
Trading securities	2,996	669	4,136	1,618
Taxable securities	3,000	3,211	9,244	9,788
Tax-exempt securities	1,132	1,274	3,492	3,933
Total investment securities	4,132	4,485	12,736	13,721
Taxable securities	42,513	43,473	130,790	128,933
Tax-exempt securities	529	535	1,591	1,718
Total available for sale securities	43,042	44,008	132,381	130,651
Fair value option securities	1,531	2,480	6,182	6,803
Restricted equity securities	4,510	3,802	12,684	9,627
Interest-bearing cash and cash equivalents	2,651	1,442	7,926	4,114
Total interest revenue	209,317	193,664	613,380	570,046
Interest expense				
Deposits	9,812	10,731	30,351	34,102
Borrowed funds	9,191	3,701	25,943	9,395
Subordinated debentures	2,468	596	4,056	4,456
Total interest expense	21,471	15,028	60,350	47,953
Net interest revenue	187,846	178,636	553,030	522,093
Provision for credit losses	10,000	7,500	65,000	11,500
Net interest revenue after provision for credit losses	177,846	171,136	488,030	510,593
Other operating revenue				
Brokerage and trading revenue	38,006	31,582	109,877	99,301
Transaction card revenue	33,933	32,514	101,237	96,302
Fiduciary and asset management revenue	34,073	30,807	100,942	94,988
Deposit service charges and fees	23,668	23,606	68,828	67,618
Mortgage banking revenue	42,548	33,170	115,202	109,336
Other revenue	13,080	12,978	38,336	35,650
Total fees and commissions	185,308	164,657	534,422	503,195
Other gains, net	2,442	1,161	5,309	3,373
Gain on derivatives, net	2,226	1,283	20,130	1,162
Gain (loss) on fair value option securities, net	(3,355)	5,926	10,367	443
Change in fair value of mortgage servicing rights	2,327	(11,757)	(41,944)	(12,269)
Gain on available for sale securities, net	2,394	2,166	11,684	9,926
Total other-than-temporary impairment losses	—	—	—	(781)
Portion of loss recognized in other comprehensive income	—	—	—	689
Net impairment losses recognized in earnings	—	—	—	(92)
Total other operating revenue	191,342	163,436	539,968	505,738
Other operating expense				
Personnel	143,185	129,062	421,518	390,305
Business promotion	6,839	5,922	19,238	19,435
Charitable contributions to BOKF Foundation	—	796	—	796
Professional fees and services	14,038	10,147	39,955	29,766
Net occupancy and equipment	20,111	18,689	58,554	56,660

Insurance	9,390	4,864	23,784	14,960
Data processing and communications	33,331	30,708	98,150	91,135
Printing, postage and supplies	3,790	3,376	11,586	10,390
Net losses (gains) and operating expenses of repossessed assets	(926)	267	1,732	1,103
Amortization of intangible assets	1,521	1,089	5,304	3,269
Mortgage banking costs	16,022	9,107	44,210	27,501
Other expense	14,819	10,601	37,714	26,686
Total other operating expense	262,120	224,628	761,745	672,006
Net income before taxes	107,068	109,944	266,253	344,325
Federal and state income taxes	31,956	34,128	83,881	113,142
Net income	75,112	75,816	182,372	231,183
Net income (loss) attributable to non-controlling interests	835	925	(270)	2,219
Net income attributable to BOK Financial Corporation shareholders	$74,277	$74,891	$182,642	$228,964
Earnings per share:				
Basic	$1.13	$1.09	$2.77	$3.33
Diluted	$1.13	$1.09	$2.76	$3.32
Average shares used in computation:				
Basic	65,085,392	67,668,076	65,208,774	68,004,508
Diluted	65,157,841	67,762,483	65,263,566	68,104,017
Dividends declared per share	$0.43	$0.42	$1.29	$1.26

See accompanying notes to consolidated financial statements.

Consolidated Statements of Comprehensive Income (Unaudited)
(In thousands, except share and per share data)

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2016	2015	2016	2015
Net income	$75,112	$75,816	$182,372	$231,183
Other comprehensive income (loss) before income taxes:				
Net change in unrealized gain (loss)	(33,458)	57,892	133,108	57,763
Reclassification adjustments included in earnings:				
Interest revenue, Investment securities, Taxable securities	—	(105)	(112)	(418)
Interest expense, Subordinated debentures	—	—	—	121
Net impairment losses recognized in earnings	—	—	—	92
Gain on available for sale securities, net	(2,394)	(2,166)	(11,684)	(9,926)
Other comprehensive income (loss) before income taxes	(35,852)	55,621	121,312	47,632
Federal and state income taxes	(13,947)	21,637	47,172	18,529
Other comprehensive income (loss), net of income taxes	(21,905)	33,984	74,140	29,103
Comprehensive income	53,207	109,800	256,512	260,286
Comprehensive income (loss) attributable to non-controlling interests	835	925	(270)	2,219
Comprehensive income attributable to BOK Financial Corp. shareholders	$52,372	$108,875	$256,782	$258,067

See accompanying notes to consolidated financial statements.

Consolidated Balance Sheets
(In thousands, except share data)

	Sept. 30, 2016 (Unaudited)	Dec. 31, 2015 (Footnote 1)	Sept. 30, 2015 (Unaudited)
Assets			
Cash and due from banks	$535,916	$573,699	$489,268
Interest-bearing cash and cash equivalents	2,080,978	2,069,900	1,830,105
Trading securities	546,615	122,404	181,131
Investment securities (fair value: September 30, 2016 – $580,310; December 31, 2015 – $629,159 ; September 30, 2015 – $643,091)	546,457	597,836	612,384
Available for sale securities	8,862,283	9,042,733	8,801,089
Fair value option securities	222,409	444,217	427,760
Restricted equity securities	333,391	273,684	263,587
Residential mortgage loans held for sale	447,592	308,439	357,414
Loans	16,464,786	15,941,154	15,367,441
Allowance for loan losses	(245,103)	(225,524)	(204,116)
Loans, net of allowance	16,219,683	15,715,630	15,163,325
Premises and equipment, net	318,196	306,490	294,669
Receivables	650,368	163,480	151,451
Goodwill	382,739	385,461	385,461
Intangible assets, net	41,977	43,909	44,999
Mortgage servicing rights	203,621	218,605	200,049
Real estate and other repossessed assets, net of allowance (September 30, 2016 – $9,524; December 31, 2015 – $12,622; September 30, 2015 – $12,874)	31,941	30,731	33,116
Derivative contracts, net	655,078	586,270	726,159
Cash surrender value of bank-owned life insurance	310,211	303,335	300,981
Receivable on unsettled securities sales	19,642	40,193	30,009
Other assets	370,134	249,112	273,948
Total assets	$32,779,231	$31,476,128	$30,566,905
Liabilities and Equity			
Liabilities:			
Noninterest-bearing demand deposits	$8,681,364	$8,296,888	$8,041,767
Interest-bearing deposits:			
Transaction	9,824,160	9,998,954	9,698,849
Savings	420,349	386,252	380,296
Time	2,169,631	2,406,064	2,498,531
Total deposits	21,095,504	21,088,158	20,619,443
Funds purchased	109,031	491,192	62,297
Repurchase agreements	504,573	722,444	555,677
Other borrowings	6,533,443	4,837,879	4,635,150
Subordinated debentures	144,631	226,350	226,314
Accrued interest, taxes and expense	191,276	119,584	158,048
Derivative contracts, net	573,987	581,701	636,115
Due on unsettled securities purchases	677	16,897	98,351
Other liabilities	193,698	124,284	159,348

Total liabilities	29,346,820	28,208,489	27,150,743
Shareholders' equity:			
Common stock ($.00006 par value; 2,500,000,000 shares authorized; shares issued and outstanding: September 30, 2016 – 74,866,429; December 31, 2015 – 74,530,364; September 30, 2015 – 74,461,234)	4	4	4
Capital surplus	995,680	982,009	973,824
Retained earnings	2,801,931	2,704,121	2,673,292
Treasury stock (shares at cost: September 30, 2016 – 8,955,975; December 31, 2015 – 8,636,332; September 30, 2015 – 6,748,203)	(495,031)	(477,165)	(355,670)
Accumulated other comprehensive income	95,727	21,587	85,776
Total shareholders' equity	3,398,311	3,230,556	3,377,226
Non-controlling interests	34,100	37,083	38,936
Total equity	3,432,411	3,267,639	3,416,162
Total liabilities and equity	$32,779,231	$31,476,128	$30,566,905

See accompanying notes to consolidated financial statements.

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

	Common Stock		Capital Surplus	Retained Earnings	Treasury Stock		Accumulated Other Comprehensive Income	Total Shareholders' Equity	Non-Controlling Interests	Total Equity
	Shares	Amount			Shares	Amount				
Balance, Dec. 31, 2014	74,004	$4	$954,644	$2,530,837	4,890	$(239,979)	$56,673	$3,302,179	$34,027	$3,336,206
Net income (loss)	—	—	—	228,964	—	—	—	228,964	2,219	231,183
Other comprehensive income	—	—	—	—	—	—	29,103	29,103	—	29,103
Repurchase of common stock	—	—	—	—	1,760	(109,760)	—	(109,760)	—	(109,760)
Issuance of shares for equity compensation	457	—	10,728	—	98	(5,931)	—	4,797	—	4,797
Tax effect from equity compensation, net	—	—	645	—	—	—	—	645	—	645
Share-based compensation	—	—	7,807	—	—	—	—	7,807	—	7,807
Cash dividends on common stock	—	—	—	(86,509)	—	—	—	(86,509)	—	(86,509)
Sale of non-controlling interest	—	—	—	—	—	—	—	—	5,500	5,500
Capital calls and distributions, net	—	—	—	—	—	—	—	—	(2,810)	(2,810)
Balance, Sept. 30, 2015	74,461	$4	$973,824	$2,673,292	6,748	$(355,670)	$85,776	$3,377,226	$38,936	$3,416,162
Balance, Dec. 31, 2015	74,530	$4	$982,009	$2,704,121	8,636	$(477,165)	$21,587	$3,230,556	$37,083	$3,267,639
Net income (loss)	—	—	—	182,642	—	—	—	182,642	(270)	182,372
Other comprehensive income	—	—	—	—	—	—	74,140	74,140	—	74,140
Repurchase of common stock	—	—	—	—	305	(17,771)	—	(17,771)	—	(17,771)

Issuance of shares for equity compensation	336	—	5,513	—	15	(95)	—	5,418	—	5,418
Tax effect from equity compensation, net	—	—	589	—	—	—	—	589	—	589
Share-based compensation	—	—	7,569	—	—	—	—	7,569	—	7,569
Cash dividends on common stock	—	—	—	(84,832)	—	—	—	(84,832)	—	(84,832)
Capital calls and distributions, net	—	—	—	—	—	—	—	—	(2,713)	(2,713)
Balance, Sept. 30, 2016	74,866	$4	$995,680	$2,801,931	8,956	$(495,031)	$95,727	$3,398,311	$34,100	$3,432,411

See accompanying notes to consolidated financial statements.

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

	Nine Months Ended September 30,	
	2016	2015
Cash Flows From Operating Activities:		
Net income	$182,372	$231,183
Adjustments to reconcile net income to net cash provided by (used in) operating activities:		
Provision for credit losses	65,000	11,500
Change in fair value of mortgage servicing rights	41,944	12,269
Net unrealized gains from derivative contracts	(9,755)	(974)
Tax effect from equity compensation, net	(589)	(645)
Share-based compensation	7,569	7,807
Depreciation and amortization	64,543	50,088
Net amortization of securities discounts and premiums	31,373	42,757
Net realized gains on financial instruments and other net gains	(13,663)	(12,601)
Net gain on mortgage loans held for sale	(61,775)	(60,075)
Mortgage loans originated for sale	(4,927,442)	(5,007,471)
Proceeds from sale of mortgage loans held for sale	4,855,682	5,022,109
Capitalized mortgage servicing rights	(56,345)	(62,375)
Charitable contributions to BOKF Foundation	—	796
Change in trading and fair value option securities	(204,030)	(110,857)
Change in receivables	(483,836)	8,455
Change in other assets	(17,931)	(15,368)
Change in accrued interest, taxes and expense	27,780	14,447
Change in other liabilities	7,262	40,670
Net cash provided by (used in) operating activities	(491,841)	171,715
Cash Flows From Investing Activities:		
Proceeds from maturities or redemptions of investment securities	65,104	53,795
Proceeds from maturities or redemptions of available for sale securities	1,120,917	1,307,177
Purchases of investment securities	(18,599)	(19,037)
Purchases of available for sale securities	(1,860,287)	(2,271,374)
Proceeds from sales of available for sale securities	1,027,379	1,164,425
Change in amount receivable on unsettled securities transactions	20,551	44,250
Loans originated, net of principal collected	(551,351)	(1,121,100)
Net payments on derivative asset contracts	(79,512)	(291,949)
Acquisitions, net of cash acquired	(7,700)	(18,098)
Proceeds from disposition of assets	131,761	131,824
Purchases of assets	(159,263)	(203,546)
Net cash used in investing activities	(311,000)	(1,223,633)
Cash Flows From Financing Activities:		
Net change in demand deposits, transaction deposits and savings accounts	243,779	(411,231)
Net change in time deposits	(236,433)	(110,185)
Net change in other borrowed funds	1,015,822	1,786,438
Repayment of subordinated debentures	(226,550)	(121,810)
Issuance of subordinated debentures	145,331	—
Net proceeds on derivative liability contracts	76,144	277,872
Net change in derivative margin accounts	(129,141)	(148,119)
Change in amount due on unsettled security transactions	(16,220)	(192,189)

Issuance of common and treasury stock, net	5,418	4,797
Tax effect from equity compensation, net	589	645
Sale of non-controlling interests	—	5,500
Repurchase of common stock	(17,771)	(109,760)
Dividends paid	(84,832)	(86,509)
Net cash provided by financing activities	776,136	895,449
Net decrease in cash and cash equivalents	(26,705)	(156,469)
Cash and cash equivalents at beginning of period	2,643,599	2,475,842
Cash and cash equivalents at end of period	$2,616,894	$2,319,373

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

	Nine Months Ended September 30,	
	2016	2015
Supplemental Cash Flow Information:		
Cash paid for interest	$61,522	$50,066
Cash paid for taxes	$43,096	$78,115
Net loans and bank premises transferred to repossessed real estate and other assets	$20,580	$9,558
Residential mortgage loans guaranteed by U.S. government agencies that became eligible for repurchase during the period	$79,710	$86,242
Conveyance of other real estate owned guaranteed by U.S. government agencies	$50,855	$93,157

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., The Milestone Group, Inc. and Cavanal Hill Investment Management Inc. Operating divisions of the Bank include Bank of Albuquerque, Bank of Arizona, Bank of Arkansas, Bank of Oklahoma, Bank of Texas, Colorado State Bank and Trust, Bank of Kansas City, 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 2015 Form 10-K filed with the Securities and Exchange Commission, which contains audited financial statements. Amounts presented as of December 31, 2015 have been derived from the audited financial statements included in BOK Financial's 2015 Form 10-K but does not include all of the information and footnotes required by generally accepted accounting principles for complete financial statements. Operating results for the nine-month period ended September 30, 2016 are not necessarily indicative of the results that may be expected for the year ending December 31, 2016.

Newly Adopted and Pending Accounting Policies

Financial Accounting Standards Board ("FASB")

FASB Accounting Standards Update No. 2014-09, Revenue from Contracts with Customers ("ASU 2014-09")

On May 28, 2014, the FASB issued ASU 2014-09 to clarify the principles for recognizing revenue by providing a more robust framework that will give greater consistency and comparability in revenue recognition practices. In the new framework, an entity recognizes revenue in an amount that reflects the consideration to which the entity expects to be entitled in exchange for goods or services. The new model requires the identification of performance obligations included in contracts with customers, a determination of the transaction price and an allocation of the price to those performance obligations. The entity recognizes revenue when performance obligations are satisfied. ASU 2014-09 is effective for the Company for annual reporting periods beginning after December 15, 2017, including interim periods within that reporting period. The Company is evaluating the impact the adoption of ASU 2014-09 will have on the Company's financial statements.

FASB Accounting Standards Update No. 2016-08, Revenue from Contracts with Customers (Topic 606): Principal versus Agent Considerations (Reporting Revenue Gross versus Net) ("ASU 2016-08")

On March 17, 2016, the FASB Issued ASU 2016-08 to amend the principal versus agent implementation guidance in ASU 2014-09. The ASU clarifies that an entity should evaluate whether it is the principal or the agent for each specified good or service promised in a contract with a customer. ASU 2016-08 is effective for the Company for annual reporting periods beginning after December 15, 2017, including interim periods within that reporting period. The Company is evaluating the impact the adoption of ASU 2016-08 will have on the Company's financial statements along with ASU 2014-09.

FASB Accounting Standards Update No. 2016-10, Revenue from Contracts with Customers (Topic 606): Identifying Performance Obligations and Licensing ("ASU 2016-10")

On April 14, 2016, the FASB issued ASU 2016-10 which amends certain sections of ASU 2014-09 related to identifying performance obligations and licensing implementation. ASU 2016-10 is effective for the Company for annual reporting periods beginning after December 15, 2017, including interim periods within that reporting period. The Company is evaluating the impact the adoption of ASU 2016-10 will have on the Company's financial statements along with ASU 2014-09.

FASB Accounting Standards Update No. 2016-12, Revenue from Contracts with Customers (Topic 606): Narrow-Scope Improvements and Practical Expedients ("ASU 2016-12")

On May 9, 2016, the FASB issued ASU 2016-12, which amends certain aspects of the Board's new revenue standard, ASU 2014-09. The amendments clarify information regarding collectibility, presentation of sales tax and other similar taxes collected from customers, noncash consideration, contract modifications and completed contracts at transition, and transition disclosures. ASU 2016-12 is effective for the Company for annual reporting periods beginning after December 15, 2017, including interim periods within that reporting period. The Company is evaluating the impact the adoption of ASU 2016-12 will have on the Company's financial statements along with ASU 2014-09.

FASB Accounting Standards Update No. 2014-16, Derivatives and Hedging (Topic 815): Determining Whether the Host Contract in a Hybrid Financial Instrument Issued in the Form of a Share is More Akin to Debt or to Equity ("ASU 2014-16")

On November 3, 2014, the FASB issued ASU 2014-16 to eliminate the use of different methods and reduce diversity under GAAP in the accounting for hybrid financial instruments issued in the form of a share. For hybrid financial instruments issued in the form of a share, an entity should determine the nature of the host contract by considering all stated and implied substantive terms and features of the hybrid financial instrument. The entity should determine the nature of the host contract by considering the economic characteristics and risks of the entire hybrid financial instrument, including the embedded derivative feature that is being evaluated for separate accounting from the host contract. For public business entities, the ASU was effective for annual periods beginning after December 15, 2015, and interim periods within those annual periods. Adoption of ASU 2014-16 did not have a material impact on the Company's consolidated financial statements.

FASB Accounting Standards Update No. 2015-02, Consolidation (Topic 810): Amendments to the Consolidation Analysis ("ASU 2015-02")

On February 18, 2015, the FASB issued ASU 2015-02 to address concerns that current U.S. GAAP may require a reporting entity to consolidate another legal entity where the reporting entity's contractual rights do not give it the ability to act primarily on its own behalf, the reporting entity does not hold a majority of the legal entity's voting rights, or the reporting entity is not exposed to a majority of the legal entity's economic benefits or obligations. The amendments affect limited partnerships and similar legal entities, the evaluation of fees paid to a decision maker or a service provider as a variable interest, the effect of fee arrangements and related parties on the primary beneficiary determination, and certain investment funds. The ASU was effective for periods beginning after December 15, 2015 for public companies. Adoption of ASU 2015-02 did not have a material impact on the Company's consolidated financial statements.

FASB Accounting Standards Update No. 2015-07, Fair Value Measurements (Topic 820): Disclosures for Investments in Certain Entities That Calculate Net Asset Value per Share (or Its Equivalent) ("ASU 2015-07")

On May 1, 2015, the FASB issued ASU 2015-07 to gain consistency within the categorization of the fair value hierarchy. The update removes the requirement to categorize within the fair value hierarchy all investments for which fair value is measured using the net asset value per share practical expedient. It also removes the requirement to make certain disclosures for all investments that are eligible to be measured at fair value using the net asset value per share practical expedient. The ASU was effective for the Company for interim and annual periods beginning after December 15, 2015 and should be applied retrospectively to all periods presented. Adoption of ASU 2015-07 did not have a material impact on the Company's consolidated financial statements.

FASB Accounting Standards Update No. 2016-01, Financial Instruments - Overall (Subtopic 825-10): Recognition and Measurement of Financial Assets and Financial Liabilities ("ASU 2016-01")

On January 5, 2016, the FASB issued ASU 2016-01 over the recognition and measurement of financial assets and liabilities. The update requires equity investments, in general, to be measured at fair value with changes in fair value recognized in earnings. It also eliminates the requirement to disclose the methods and significant assumptions used to estimate the fair value for financial instruments measured at amortized cost, requires entities to use the exit price notion when measuring fair value, requires an entity to present separately in other comprehensive income the portion of the total change in fair value of a liability resulting from a change in the instrument-specific credit risk when the fair value option has been elected, requires separate presentation of financial assets and liabilities by measurement category and form on the balance sheet or accompanying notes, clarifies that an entity should evaluate the need for a valuation allowance on a deferred tax asset related to available-for-sale securities in combination with the entity's other deferred tax assets, and simplifies the impairment assessment of equity investments without readily determinable fair values. The ASU is effective for the Company for interim and annual periods beginning after December 15, 2017. Upon adoption, unrealized gains and losses from equity securities will be reclassified from other comprehensive income to retained earnings. At September 30, 2016, the Company had $3.3 million of unrealized gains included in accumulated other comprehensive income.

FASB Accounting Standards Update No. 2016-02, Leases (Topic 842) ("ASU 2016-02")

On February 25, 2016, the FASB issued ASU 2016-02 to increase transparency and comparability by recognizing lease assets and liabilities on the balance and disclosing key information about leasing arrangements. The final guidance requires lessees to put most leases on their balance sheets and may affect the presentation and timing of expense recognition, eliminates the current real estate-specific provisions, modifies the classification criteria and the accounting for sales-type and direct financing leases for lessors. The ASU is effective for the Company for fiscal years beginning after December 15, 2018, and interim periods within those fiscal years. Early application of the amendments is permitted. The Company is evaluating the impact the adoption of ASU 2016-02 will have on the Company's financial statements.

FASB Accounting Standards Update No. 2016-05, Derivatives and Hedging (Topic 815): Effect of Derivative Contract Novations on Existing Hedge Accounting Relationships ("ASU 2016-05")

On March 10, 2016, the FASB issued ASU 2016-05 which clarifies that "a change in the counterparty to a derivative instrument that has been designated as the hedging instrument in an existing hedging relationship would not, in and of itself, be considered a termination of the derivative instrument" or "a change in a critical term of the hedging relationship." If all other hedge accounting criteria in ASC 815 are met, a hedging relationship where the hedging derivative instrument is novated would not be discontinued or need to be redesignated. The ASU is effective for fiscal years beginning after December 15, 2016, including interim periods within those fiscal years. An entity would apply the guidance prospectively unless modified retrospective transition is elected. Early adoption is permitted. Adoption of ASU 2016-05 is not expected to have a material impact on the Company's financial statements.

FASB Accounting Standards Update No. 2016-07, Investments - Equity Method and Joint Ventures ("ASU 2016-07")

On March 15, 2016, the FASB issued ASU 2016-07 to simplify the equity method of accounting by eliminating the requirement to retrospectively apply the equity method to an investment that subsequently qualifies for such accounting as result of an increase in the level of ownership interest or degree of influence. The ASU also requires that unrealized holding gains or losses in accumulated other comprehensive income related to an available for sale security that becomes eligible for the equity method be recognized in earnings as of the date the investment qualifies for the equity method. The ASU is effective for all entities for fiscal years beginning after December 15, 2016, including interim periods within those fiscal years. Early adoption is permitted. Adoption of ASU 2016-07 is not expected to have a material impact on the Company's financial statements.

FASB Accounting Standards Update No. 2016-09, Compensation - Stock Compensation (Topic 718): Improvements to Employee Share-Based Payment Accounting ("ASU 2016-09")

On March 30, 2016, the FASB issued ASU 2016-09 to simplify multiple aspects of accounting for employee share-based payment transactions including accounting income taxes, forfeitures, and statutory tax withholding requirements. The ASU is effective for annual reporting periods beginning after December 15, 2016, including interim periods within those annual reporting periods. Implementation of ASU 2016-09 will add volatility to tax expense as stock prices change; however, we expect the impact to be insignificant.

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

On June 16, 2016, the FASB issued ASU 2016-13 in order to provide more timely recording of credit losses on loans and other financial instruments. The ASU adds an impairment model (known as the current expected credit loss ("CECL") model) that is based on expected credit losses rather than incurred credit losses. It requires an organization to measure all expected credit losses for financial assets carried at amortized cost at the reporting date based on historical experience, current conditions, and reasonable and supportable forecasts. ASU 2016-13 is effective for the Company for annual reporting periods beginning after December 15, 2019, including interim periods within those fiscal years. Early adoption is permitted for annual reporting periods beginning after December 15, 2018. ASU 2016-13 will be applied through a cumulative-effect adjustment to retained earnings as of the beginning of the first reporting period in which the guidance is effective. The Company is evaluating the impact the adoption of ASU 2016-13 will have on the Company's financial statements.

FASB Accounting Standards Update No. 2016-15, Statement of Cash Flows (Topic 230): Classification of Certain Cash Receipts and Cash Payments ("ASU 2016-15")

On August 26, 2016, the FASB issued ASU 2016-15, which amends guidance in ASC 230 on the classification of certain cash receipts and payments in the statement of cash flows, in order to reduce inconsistent application. The amendments address eight cash flow issues including debt repayment and extinguishment costs, settlement of zero-coupon debt instruments, contingent consideration payments following a business combination, proceeds from the settlement of insurance claims and corporate-owned life insurance policies, distributions received from equity method investees, beneficial interests in securitization transactions and separately identifiable cash flows. ASU 2016-15 is effective for the Company for annual reporting periods beginning after December 15, 2017, including interim periods within those fiscal years. Entities must apply the guidance retrospectively to all periods presented but may apply it prospectively from the earliest date practicable if retrospective application would be impracticable. Adoption of ASU 2016-15 is not expected to have a material impact on the Company's financial statements.

(2) Securities

Trading Securities

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

	September 30, 2016		December 31, 2015		September 30, 2015	
	Fair Value	Net Unrealized Gain (Loss)	Fair Value	Net Unrealized Gain (Loss)	Fair Value	Net Unrealized Gain (Loss)
U.S. government agency debentures	$15,705	$ (7)	$61,295	$ (71)	$42,431	$ (38)
U.S. government agency residential mortgage-backed securities	464,749	876	10,989	17	30,973	195
Municipal and other tax-exempt securities	54,856	(100)	31,901	210	84,261	421
Other trading securities	11,305	14	18,219	(16)	23,466	28
Total trading securities	$546,615	$ 783	$122,404	$ 140	$181,131	$ 606

Investment Securities

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

	September 30, 2016				
	Amortized	Carrying	Fair	Gross Unrealized[1]	
	Cost	Value	Value	Gain	Loss
Municipal and other tax-exempt	$323,225	$323,225	$327,788	$4,745	$(182)
U.S. government agency residential mortgage-backed securities – Other	22,166	22,166	23,452	1,286	—
Other debt securities	201,066	201,066	229,070	28,014	(10)
Total investment securities	$546,457	$546,457	$580,310	$34,045	$(192)

[1] Gross unrealized gains and losses are not recognized in Accumulated Other Comprehensive Income "AOCI" in the Consolidated Balance Sheets.

	December 31, 2015				
	Amortized	Carrying	Fair	Gross Unrealized[1]	
	Cost	Value	Value	Gain	Loss
Municipal and other tax-exempt	$365,258	$365,258	$368,910	$3,935	$(283)
U.S. government agency residential mortgage-backed securities – Other	26,721	26,833	27,874	1,063	(22)
Other debt securities	205,745	205,745	232,375	26,689	(59)
Total investment securities	$597,724	$597,836	$629,159	$31,687	$(364)

[1] Gross unrealized gains and losses are not recognized in AOCI in the Consolidated Balance Sheets.

	September 30, 2015				
	Amortized	Carrying	Fair	Gross Unrealized[1]	
	Cost	Value	Value	Gain	Loss
Municipal and other tax-exempt	$379,980	$379,980	$384,310	$4,461	$(131)
U.S. government agency residential mortgage-backed securities – Other	28,456	28,653	30,080	1,427	—
Other debt securities	203,751	203,751	228,701	25,063	(113)

Total investment securities	$612,187	$612,384	$643,091	$30,951	$(244)

[1] Gross unrealized gains and losses are not recognized in AOCI in the Consolidated Balance Sheets.

The amortized cost and fair values of investment securities at September 30, 2016, 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[2]
Municipal and other tax-exempt:						
Carrying value	$87,330	$195,763	$8,778	$31,354	$323,225	2.76
Fair value	87,331	196,864	9,023	34,570	327,788	
Nominal yield[1]	1.42 %	2.01 %	3.20 %	6.08 %	2.28 %	
Other debt securities:						
Carrying value	15,047	42,314	125,955	17,750	201,066	6.84
Fair value	15,191	45,802	148,422	19,655	229,070	
Nominal yield	3.49 %	5.03 %	5.88 %	4.86 %	5.43 %	
Total fixed maturity securities:						
Carrying value	$102,377	$238,077	$134,733	$49,104	$524,291	4.32
Fair value	102,522	242,666	157,445	54,225	556,858	
Nominal yield	1.72 %	2.54 %	5.70 %	5.64 %	3.48 %	
Residential mortgage-backed securities:						
Carrying value					$22,166	[3]
Fair value					23,452	
Nominal yield[4]					2.75 %	
Total investment securities:						
Carrying value					$546,457	
Fair value					580,310	
Nominal yield					3.46 %	

[1] Calculated on a taxable equivalent basis using a 39 percent effective tax rate.

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

[3] The average expected lives of residential mortgage-backed securities were 4.3 years based upon current prepayment assumptions.

[4] The nominal yield on residential mortgage-backed securities is based upon prepayment assumptions at the purchase date. Actual yields earned may differ significantly based upon actual prepayments. See Quarterly Financial Summary - Unaudited for current yields on the investment securities portfolio.

Available for Sale Securities

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

	September 30, 2016				
	Amortized	Fair	Gross Unrealized[1]		
	Cost	Value	Gain	Loss	OTTI[2]
U.S. Treasury	$1,000	$1,002	$2	$—	$—
Municipal and other tax-exempt	41,943	42,092	602	(453)	—
Residential mortgage-backed securities:					
U. S. government agencies:					
FNMA	3,035,041	3,101,136	67,859	(1,764)	—
FHLMC	1,611,887	1,641,178	29,640	(349)	—
GNMA	924,176	926,358	3,530	(1,348)	—
Other	—	—	—	—	—
Total U.S. government agencies	5,571,104	5,668,672	101,029	(3,461)	—
Private issue:					
Alt-A loans	47,039	54,065	7,230	—	(204)
Jumbo-A loans	61,377	67,538	6,187	(26)	—
Total private issue	108,416	121,603	13,417	(26)	(204)
Total residential mortgage-backed securities	5,679,520	5,790,275	114,446	(3,487)	(204)
Commercial mortgage-backed securities guaranteed by U.S. government agencies	2,942,988	2,986,495	45,329	(1,822)	—
Other debt securities	4,400	4,151	—	(249)	—
Perpetual preferred stock	15,562	19,578	4,016	—	—
Equity securities and mutual funds	17,337	18,690	1,370	(17)	—
Total available for sale securities	$8,702,750	$8,862,283	$165,765	$(6,028)	$(204)

[1] Gross unrealized gain/loss recognized in AOCI in the consolidated balance sheet.

[2] Amounts represent unrealized loss that remains in AOCI after an other-than-temporary credit loss has been recognized in income.

	December 31, 2015				
	Amortized	Fair	Gross Unrealized[1]		
	Cost	Value	Gain	Loss	OTTI[2]
U.S. Treasury	$1,000	$995	$—	$(5)	$—
Municipal and other tax-exempt	56,681	56,817	873	(737)	—
Residential mortgage-backed securities:					
U. S. government agencies:					
FNMA	3,156,214	3,187,215	41,502	(10,501)	—
FHLMC	1,940,915	1,949,335	14,727	(6,307)	—
GNMA	763,967	761,801	2,385	(4,551)	—
Other	—	—	—	—	—
Total U.S. government agencies	5,861,096	5,898,351	58,614	(21,359)	—
Private issue:					
Alt-A loans	56,387	62,574	6,574	—	(387)
Jumbo-A loans	71,724	76,544	5,260	—	(440)
Total private issue	128,111	139,118	11,834	—	(827)
Total residential mortgage-backed securities	5,989,207	6,037,469	70,448	(21,359)	(827)
Commercial mortgage-backed securities guaranteed by U.S. government agencies	2,919,044	2,905,796	5,396	(18,644)	—
Other debt securities	4,400	4,151	—	(249)	—
Perpetual preferred stock	17,171	19,672	2,501	—	—
Equity securities and mutual funds	17,121	17,833	752	(40)	—
Total available for sale securities	$9,004,624	$9,042,733	$79,970	$(41,034)	$(827)

[1] Gross unrealized gain/loss recognized in AOCI in the consolidated balance sheet.
[2] Amounts represent unrealized loss that remains in AOCI after an other-than-temporary credit loss has been recognized in income.

	September 30, 2015				
	Amortized	Fair	Gross Unrealized[1]		
	Cost	Value	Gain	Loss	OTTI[2]
U.S. Treasury	$1,000	$1,003	$3	$—	$—
Municipal and other tax-exempt	57,610	57,960	1,065	(715)	—
Residential mortgage-backed securities:					
U. S. government agencies:					
FNMA	3,115,810	3,185,097	69,757	(470)	—
FHLMC	1,853,379	1,885,201	32,646	(824)	—
GNMA	741,212	744,647	4,557	(1,122)	—
Other	3,922	4,182	260	—	—
Total U.S. government agencies	5,714,323	5,819,127	107,220	(2,416)	—
Private issue:					
Alt-A loans	58,801	64,700	6,519	—	(620)
Jumbo-A loans	75,258	80,982	6,121	—	(397)
Total private issue	134,059	145,682	12,640	—	(1,017)
Total residential mortgage-backed securities	5,848,382	5,964,809	119,860	(2,416)	(1,017)
Commercial mortgage-backed securities guaranteed by U.S. government agencies	2,708,931	2,735,787	28,889	(2,033)	—
Other debt securities	4,400	4,150	—	(250)	—
Perpetual preferred stock	17,171	19,163	2,030	(38)	—
Equity securities and mutual funds	18,711	18,217	950	(1,444)	—

Total available for sale securities	$8,656,205	$8,801,089	$152,797	$(6,896)	$(1,017)

[1] Gross unrealized gain/loss recognized in AOCI in the consolidated balance sheet.

[2] Amounts represent unrealized loss that remains in AOCI after an other-than-temporary credit loss has been recognized in income.

The amortized cost and fair values of available for sale securities at September 30, 2016, 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[5]
U.S. Treasuries:						
Amortized cost	$—	$1,000	$—	$—	$1,000	1.29
Fair value	—	1,002	—	—	1,002	
Nominal yield	— %	0.87 %	— %	— %	0.87 %	
Municipal and other tax-exempt:						
Amortized cost	$9,089	$13,593	$2,092	$17,169	$41,943	8.14
Fair value	9,190	13,858	2,109	16,935	42,092	
Nominal yield[1]	4.97 %	3.85 %	3.46 %	2.36 %[6]	3.46 %	
Commercial mortgage-backed securities:						
Amortized cost	$—	$931,761	$1,817,166	$194,061	$2,942,988	6.82
Fair value	—	942,994	1,848,462	195,039	2,986,495	
Nominal yield	— %	1.74 %	1.84 %	1.54 %	1.79 %	
Other debt securities:						
Amortized cost	$—	$—	$—	$4,400	$4,400	30.91
Fair value	—	—	—	4,151	4,151	
Nominal yield	— %	— %	— %	1.71 %[6]	1.71 %	
Total fixed maturity securities:						
Amortized cost	$9,089	$946,354	$1,819,258	$215,630	$2,990,331	6.87
Fair value	9,190	957,854	1,850,571	216,125	3,033,740	
Nominal yield	4.97 %	1.77 %	1.85 %	1.61 %	1.81 %	
Residential mortgage-backed securities:						
Amortized cost					$5,679,520	[2]
Fair value					5,790,275	
Nominal yield[4]					1.87 %	
Equity securities and mutual funds:						
Amortized cost					$32,899	[3]
Fair value					38,268	
Nominal yield					— %	
Total available-for-sale securities:						
Amortized cost					$8,702,750	
Fair value					8,862,283	
Nominal yield					1.84 %	

1 Calculated on a taxable equivalent basis using a 39 percent effective tax rate.

2 The average expected lives of mortgage-backed securities were 3.4 years years based upon current prepayment assumptions.

3 Primarily common stock and preferred stock of corporate issuers with no stated maturity.

4 The nominal yield on mortgage-backed securities is based upon prepayment assumptions at the purchase date. Actual yields earned may differ significantly based upon actual prepayments. See Quarterly Financial Summary — Unaudited following for current yields on available for sale securities portfolio.

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

6 Nominal yield on municipal and other tax-exempt securities and other debt securities with contractual maturity dates over ten years are based on variable rates which generally are reset within 35 days.

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

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2016	2015	2016	2015
Proceeds	$232,239	$450,765	$1,027,379	$1,164,425
Gross realized gains	2,415	3,803	11,705	13,543
Gross realized losses	(21)	(1,637)	(21)	(3,617)
Related federal and state income tax expense	931	843	4,545	3,861

A summary of investment and available for sale securities that have been pledged as collateral for repurchase agreements, public trust funds on deposit and for other purposes, as required by law was as follows (in thousands):

	Sept. 30,2016	Dec. 31, 2016	Sept. 30,2015
Investment:			
Carrying value	$301,754	$231,033	$ 50,380
Fair value	307,264	234,382	52,249
Available for sale:			
Amortized cost	7,098,721	6,831,743	6,225,689
Fair value	7,213,520	6,849,524	6,318,330

The secured parties do not have the right to sell or re-pledge these securities.

Temporarily Impaired Securities as of September 30, 2016
(in thousands):

	Number of Securities	Less Than 12 Months		12 Months or Longer		Total	
		Fair Value	Unrealized Loss	Fair Value	Unrealized Loss	Fair Value	Unrealized Loss
Investment:							
Municipal and other tax-exempt	75	$100,624	$ 106	$4,359	$ 76	$104,983	$ 182
U.S. government agency residential mortgage-backed securities – Other	—	—	—	—	—	—	—
Other debt securities	3	444	6	856	4	1,300	10
Total investment securities	78	$101,068	$ 112	$5,215	$ 80	$106,283	$ 192

	Number of Securities	Less Than 12 Months		12 Months or Longer		Total	
		Fair Value	Unrealized Loss	Fair Value	Unrealized Loss	Fair Value	Unrealized Loss
Available for sale:							
Municipal and other tax-exempt	20	$2,210	$ 3	$6,396	$ 450	$8,606	$ 453
Residential mortgage-backed securities:							
U. S. government agencies:							
FNMA	14	365,201	1,712	14,229	52	379,430	1,764
FHLMC	6	122,713	91	20,306	258	143,019	349
GNMA	16	230,043	1,157	212,705	191	442,748	1,348
Total U.S. government agencies	36	717,957	2,960	247,240	501	965,197	3,461
Private issue[1]:							
Alt-A loans	5	8,231	141	7,773	63	16,004	204
Jumbo-A loans	1	6,583	26	—	—	6,583	26
Total private issue	6	14,814	167	7,773	63	22,587	230
Total residential mortgage-backed securities	42	732,771	3,127	255,013	564	987,784	3,691
Commercial mortgage-backed securities guaranteed by U.S. government agencies	33	372,805	1,656	60,851	166	433,656	1,822
Other debt securities	2	—	—	4,151	249	4,151	249
Perpetual preferred stocks	—	—	—	—	—	—	—
Equity securities and mutual funds	33	86	—	886	17	972	17
Total available for sale securities	130	$1,107,872	$ 4,786	$327,297	$ 1,446	$1,435,169	$ 6,232

[1] Includes securities for which an unrealized loss remains in AOCI after an other-than-temporary credit loss has been recognized in income.

Temporarily Impaired Securities as of December 31, 2015
(In thousands)

	Number of Securities	Less Than 12 Months		12 Months or Longer		Total	
		Fair Value	Unrealized Loss	Fair Value	Unrealized Loss	Fair Value	Unrealized Loss
Investment:							
Municipal and other tax-exempt	73	$127,319	$ 207	$13,380	$ 77	$140,699	$ 284
U.S. government agency residential mortgage-backed securities – Other	1	5,533	22	—	—	5,533	22
Other debt securities	11	1,082	41	1,715	18	2,797	59
Total investment securities	85	$133,934	$ 270	$15,095	$ 95	$149,029	$ 365

	Number of Securities	Less Than 12 Months		12 Months or Longer		Total	
		Fair Value	Unrealized Loss	Fair Value	Unrealized Loss	Fair Value	Unrealized Loss
Available for sale:							
U.S. Treasury	1	$995	$ 5	$—	$ —	$995	$ 5
Municipal and other tax-exempt	20	$9,909	$ 27	$11,664	$ 710	$21,573	$ 737
Residential mortgage-backed securities:							
U. S. government agencies:							
FNMA	55	1,188,022	10,262	18,236	239	1,206,258	10,501
FHLMC	40	726,713	4,827	77,545	1,480	804,258	6,307
GNMA	15	364,919	1,951	102,109	2,600	467,028	4,551
Total U.S. government agencies	110	2,279,654	17,040	197,890	4,319	2,477,544	21,359
Private issue[1]:							
Alt-A loans	4	—	—	9,264	387	9,264	387
Jumbo-A loans	8	—	—	8,482	440	8,482	440
Total private issue	12	—	—	17,746	827	17,746	827
Total residential mortgage-backed securities	122	2,279,654	17,040	215,636	5,146	2,495,290	22,186
Commercial mortgage-backed securities guaranteed by U.S. government agencies	213	1,582,469	11,419	484,258	7,225	2,066,727	18,644
Other debt securities	2	—	—	4,151	249	4,151	249
Perpetual preferred stocks	—	—	—	—	—	—	—
Equity securities and mutual funds	61	782	5	991	35	1,773	40
Total available for sale securities	419	$3,873,809	$ 28,496	$716,700	$ 13,365	$4,590,509	$ 41,861

[1] Includes securities for which an unrealized loss remains in AOCI after an other-than-temporary credit loss has been recognized in income.

Temporarily Impaired Securities as of September 30, 2015
(In thousands)

	Number of Securities	Less Than 12 Months		12 Months or Longer		Total	
		Fair Value	Unrealized Loss	Fair Value	Unrealized Loss	Fair Value	Unrealized Loss
Investment:							
Municipal and other tax-exempt	15	$6,250	$ 81	$13,438	$ 50	$19,688	$ 131
U.S. government agency residential mortgage-backed securities – Other	—	—	—	—	—	—	—
Other debt securities	17	1,283	64	4,577	49	5,860	113
Total investment securities	32	$7,533	$ 145	$18,015	$ 99	$25,548	$ 244

	Number of Securities	Less Than 12 Months		12 Months or Longer		Total	
		Fair Value	Unrealized Loss	Fair Value	Unrealized Loss	Fair Value	Unrealized Loss
Available for sale:							
Municipal and other tax-exempt[1]	18	$7,868	$ 485	$3,800	$ 230	$11,668	$ 715
Residential mortgage-backed securities:							
U. S. government agencies:							
FNMA	6	155,747	470	—	—	155,747	470
FHLMC	4	71,930	503	26,848	321	98,778	824
GNMA	4	54,701	562	54,701	560	109,402	1,122
Total U.S. government agencies	14	282,378	1,535	81,549	881	363,927	2,416
Private issue[1]:							
Alt-A loans	4	2,857	186	6,667	434	9,524	620
Jumbo-A loans	8	5,380	236	3,681	161	9,061	397
Total private issue	12	8,237	422	10,348	595	18,585	1,017
Total residential mortgage-backed securities	26	290,615	1,957	91,897	1,476	382,512	3,433
Commercial mortgage-backed securities guaranteed by U.S. government agencies	31	327,790	1,488	223,007	545	550,797	2,033
Other debt securities	2	—	—	4,149	250	4,149	250
Perpetual preferred stocks	1	1,912	38	—	—	1,912	38
Equity securities and mutual funds	37	4,031	1,432	526	12	4,557	1,444
Total available for sale securities	115	$632,216	$ 5,400	$323,379	$ 2,513	$955,595	$ 7,913

1 Includes securities for which an unrealized loss remains in AOCI after an other-than-temporary credit loss has been recognized in income.

On a quarterly basis, the Company performs separate evaluations of impaired debt and equity investments and available for sale securities to determine if the unrealized losses are temporary.

For debt securities, management determines whether it intends to sell or if it is more-likely-than-not that it will be required to sell impaired securities. This determination considers current and forecasted liquidity requirements, regulatory and capital requirements and securities portfolio management. Based on this evaluation as of September 30, 2016, the Company does not intend to sell any impaired available for sale securities before fair value recovers to the current amortized cost and it is more-likely-than-not that the Company will not be required to sell impaired securities before fair value recovers, which may be maturity.

Impairment of debt securities rated investment grade by all nationally-recognized rating agencies is considered temporary unless specific contrary information is identified. None of the debt securities rated investment grade were considered to be other-than-temporarily impaired at September 30, 2016.

At September 30, 2016, the composition of the Company's investment and available for sale securities portfolios by the lowest current credit rating assigned by any of the three nationally-recognized rating agencies is as follows (in thousands):

	AAA - AA		A - BBB		Below Investment Grade		Not Rated		Total	
	Carrying Value	Fair Value	Carrying Value	Fair Value	Carrying Value	Fair Value	Carrying Value	Fair Value	Carrying Value	Fair Value
Investment:										
Municipal and other tax-exempt	$207,881	$209,210	$5,094	$5,160	$ —	$ —	$110,250	$113,418	$323,225	$327,788
U.S. government agency residential mortgage-backed securities [1]	—	—	—	—	—	—	22,166	23,452	22,166	23,452
Other debt securities	140,184	164,118	—	—	—	—	60,882	64,952	201,066	229,070
Total investment securities	$348,065	$373,328	$5,094	$5,160	$ —	$ —	$193,298	$201,822	$546,457	$580,310

	AAA - AA		A - BBB		Below Investment Grade		Not Rated		Total	
	Amortized Cost	Fair Value	Amortized Cost	Fair Value	Amortized Cost	Fair Value	Amortized Cost	Fair Value	Amortized Cost	Fair Value
Available for Sale:										
U.S. Treasury	$—	$—	$—	$—	$—	$—	$1,000	$1,002	$1,000	$1,002
Municipal and other tax-exempt	23,837	24,290	5,675	5,316	—	—	12,431	12,486	41,943	42,092
U.S. government agency residential mortgage-backed securities [1]	—	—	—	—	—	—	5,571,104	5,668,672	5,571,104	5,668,672
Privately issued residential mortgage-backed securities	—	—	—	—	108,416	121,603	—	—	108,416	121,603
Commercial mortgage-backed securities guaranteed by U.S. government agencies	—	—	—	—	—	—	2,942,988	2,986,495	2,942,988	2,986,495
Other debt securities	4,400	4,151	—	—	—	—	—	—	4,400	4,151
Perpetual preferred stock	—	—	4,796	5,505	10,766	14,073	—	—	15,562	19,578

Equity securities and mutual funds	4	591	—	—	—	—	17,333	18,099	17,337	18,690
Total available for sale securities	$28,241	$29,032	$10,471	$10,821	$119,182	$135,676	$8,544,856	$8,686,754	$8,702,750	$8,862,283

[1] U.S. government and government sponsored enterprises are not rated by the nationally-recognized rating agencies as these securities are guaranteed by agencies of the U.S. government or government-sponsored enterprises.

At September 30, 2016, the entire portfolio of privately issued residential mortgage-backed securities was rated below investment grade by the nationally-recognized rating agencies. The gross unrealized loss on these securities totaled $230 thousand. Impairment of securities rated below investment grade was evaluated based on projections of estimated cash flows from individual loans underlying each security using current and anticipated unemployment and default rates, changes in housing prices and estimated liquidation costs at foreclosure. Each factor is considered in the evaluation.

The primary assumptions used in this evaluation were:

	September 30, 2016	Dec. 31, 2015	September 30, 2015
Unemployment rate	Moving down to 4.7 percent over the next 12 months and remain at 4.7 percent thereafter.	Decreasing to 4.8 percent over the next 12 months and remain at 4.8 percent thereafter.	Moving down to 5.1 percent over the next 12 months and remain at 5.1 percent thereafter.
Housing price appreciation/depreciation	Starting with current depreciated housing prices based on information derived from the FHFA[1], appreciating 3.5 percent over the next 12 months, then flat for the following 12 months and then appreciating at 2 percent per year thereafter.	Starting with current depreciated housing prices based on information derived from the FHFA[1], appreciating 3.5 percent over the next 12 months, then flat for the following 12 months and then appreciating at 2 percent per year thereafter.	Starting with current depreciated housing prices based on information derived from the FHFA[1], appreciating 3.2 percent over the next 12 months, then flat for the following 12 months and then appreciating at 2 percent per year thereafter.
Estimated liquidation costs	Reflect actual historical liquidations costs observed on Jumbo and Alt-A residential mortgage loans in securities owned by the Company.	Reflect actual historical liquidations costs observed on Jumbo and Alt-A residential mortgage loans in securities owned by the Company.	Reflect actual historical liquidations costs observed on Jumbo and Alt-A residential mortgage loans in securities owned by the Company.
Discount rates	Estimated cash flows were discounted at rates that range from 2.00 percent to 6.25 percent based on our current expected yields.	Estimated cash flows were discounted at rates that range from 2.00 percent to 6.25 percent based on our current expected yields.	Estimated cash flows were discounted at rates that range from 2.00 percent to 6.25 percent based on our current expected yields.

[1] Federal Housing Finance Agency

Credit loss impairment is recorded as a charge to earnings. Additional impairment based on the difference between the total unrealized loss and the estimated credit loss on these securities is charged against other comprehensive income, net of deferred taxes. No credit loss impairments were recognized in earnings on privately issued residential mortgage-backed securities during the three months ended September 30, 2016.

A distribution of the amortized cost (after recognition of the other-than-temporary impairment), fair value and credit loss impairments recognized on our privately issued residential mortgage-backed securities is as follows (in thousands, except for number of securities):

				Credit Losses Recognized Three months ended September 30, 2016		Life-to-date	
	Number of Securities	Amortized Cost	Fair Value	Number of Securities	Amount	Number of Securities	Amount
Alt-A	14	$ 47,039	$ 54,065	—	$ —	14	$ 36,284

Jumbo-A	30	61,377	67,538	—	29	18,220
Total	44	$ 108,416	$ 121,603	— $	— 43	$ 54,504

Impaired equity securities, including perpetual preferred stocks, are evaluated based on management's ability and intent to hold the securities until fair value recovers over periods not to exceed three years. The assessment of the ability and intent to hold these securities focuses on the liquidity needs, asset/liability management objectives and securities portfolio objectives. Factors considered when assessing recovery include forecasts of general economic conditions and specific performance of the issuer, analyst ratings and credit spreads for preferred stocks which have debt-like characteristics. The Company has evaluated the near-term prospects of the investments in relation to the severity and duration of the impairment and based on that evaluation has the ability and intent to hold these investments until a recovery in fair value. Accordingly, all impairment of equity securities was considered temporary at September 30, 2016.

The following is a tabular roll forward of the amount of credit-related OTTI recognized on available for sale debt securities in earnings (in thousands):

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2016	2015	2016	2015
Balance of credit-related OTTI recognized on available for sale debt securities, beginning of period	$54,504	$54,439	$54,504	$54,347
Additions for credit-related OTTI not previously recognized	—	—	—	—
Additions for increases in credit-related OTTI previously recognized when there is no intent to sell and no requirement to sell before recovery of amortized cost	—	—	—	92
Reductions for change in intent to hold before recovery	—	—	—	—
Sales	—	—	—	—
Balance of credit-related OTTI recognized on available for sale debt securities, end of period	$54,504	$54,439	$54,504	$54,439

Additions above exclude other-than-temporary impairment recorded due to change in intent to hold before recovery.

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 U.S. Treasury securities, residential mortgage-backed securities issued by U.S. government agencies and derivative contracts are held as an economic hedge of the mortgage servicing rights.

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

	Sept. 30,2016		Dec. 31, 2015		Sept. 30, 2015	
	Fair Value	Net Unrealized Gain (Loss)	Fair Value	Net Unrealized Gain (Loss)	Fair Value	Net Unrealized Gain (Loss)
U.S. Treasury	$222,409	$ (2,397)	$—	$ —	$—	$ —
U.S. government agency residential mortgage-backed securities	$—	$ —	$444,217	$ (2,060)	$427,760	$ 2,067
Total	$222,409	$ (2,397)	$444,217	$ (2,060)	$427,760	$ 2,067

Restricted Equity Securities

Restricted equity securities primarily include stock we are required to hold as members of the Federal Reserve system and the Federal Home Loan Banks. Restricted equity securities are carried at cost as these securities do not have a readily determined fair value because ownership of these shares are restricted and lacks a market. A summary of restricted equity securities follows (in thousands):

	Sept. 30,2016	Dec. 31, 2015	Sept. 30,2015
Federal Reserve stock	$36,283	$36,148	$35,148
Federal Home Loan Bank stock	296,907	237,365	228,268
Other	201	171	171
Total	$333,391	$273,684	$263,587

(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.

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. As of September 30, 2016, a decrease in BOK Financial's credit rating to below investment grade would increase our obligation to post cash margin on existing contracts by approximately $18 million.

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, and foreign exchange rates, or to take positions in derivative contracts. Customers may also manage interest rate risk through interest rate swaps used by borrowers to modify interest rate terms of their loans or to-be-announced securities used by mortgage banking customers to hedge their loan production. 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.

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 and as an economic hedge of trading securities. As of September 30, 2016, derivative contracts under the internal risk management programs were primarily used as part of the economic hedges of the change in the fair value of the mortgage servicing rights and trading securities.

As discussed in Note 6, 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 6 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 September 30, 2016 (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						
To-be-announced residential mortgage-backed securities	$20,078,974	$90,999	$ (38,678)	$52,321	$—	$52,321
Interest rate swaps	1,323,045	49,279	—	49,279	(794)	48,485
Energy contracts	729,202	41,775	(28,464)	13,311	(288)	13,023
Agricultural contracts	53,002	3,950	(1,571)	2,379	(1,076)	1,303
Foreign exchange contracts	550,828	536,264	—	536,264	(7,577)	528,687
Equity option contracts	103,464	4,654	—	4,654	(730)	3,924
Total customer risk management programs	22,838,515	726,921	(68,713)	658,208	(10,465)	647,743
Internal risk management programs	2,298,038	7,335	—	7,335	—	7,335
Total derivative contracts	$25,136,553	$734,256	$ (68,713)	$665,543	$(10,465)	$655,078

	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						
To-be-announced residential mortgage-backed securities	$19,776,883	$86,812	$ (38,678)	$48,134	$(39,042)	$9,092
Interest rate swaps	1,323,045	49,518	—	49,518	(34,457)	15,061
Energy contracts	695,835	40,888	(28,464)	12,424	(3,857)	8,567
Agricultural contracts	52,997	3,943	(1,571)	2,372	—	2,372
Foreign exchange contracts	550,943	536,660	—	536,660	(5,396)	531,264
Equity option contracts	103,464	4,654	—	4,654	—	4,654
Total customer risk management programs	22,503,167	722,475	(68,713)	653,762	(82,752)	571,010
Interest risk management programs	1,485,691	2,977	—	2,977	—	2,977
Total derivative contracts	$23,988,858	$725,452	$ (68,713)	$656,739	$(82,752)	$573,987

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, 2015 (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						
To-be-announced residential mortgage-backed securities	$14,583,052	$43,270	$ (28,305)	$14,965	$—	$14,965
Interest rate swaps	1,332,044	31,744	—	31,744	(1,424)	30,320
Energy contracts	470,613	83,045	(22,970)	60,075	(18,606)	41,469
Agricultural contracts	61,662	2,591	(1,158)	1,433	—	1,433
Foreign exchange contracts	546,572	498,830	—	498,830	(4,140)	494,690
Equity option contracts	137,278	3,780	—	3,780	(470)	3,310
Total customer risk management programs	17,131,221	663,260	(52,433)	610,827	(24,640)	586,187
Interest risk management programs	22,000	83	—	83	—	83
Total derivative contracts	$17,153,221	$663,343	$ (52,433)	$610,910	$(24,640)	$586,270

	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						
To-be-announced residential mortgage-backed securities	$14,168,927	$40,141	$ (28,305)	$11,836	$(1,308)	$10,528
Interest rate swaps	1,332,044	31,928	—	31,928	(20,530)	11,398
Energy contracts	463,703	81,869	(22,970)	58,899	—	58,899
Agricultural contracts	61,657	2,579	(1,158)	1,421	(1,248)	173
Foreign exchange contracts	546,405	498,574	—	498,574	(1,951)	496,623
Equity option contracts	137,278	3,780	—	3,780	—	3,780
Total customer risk management programs	16,710,014	658,871	(52,433)	606,438	(25,037)	581,401
Interest risk management programs	75,000	300	—	300	—	300
Total derivative contracts	$16,785,014	$659,171	$ (52,433)	$606,738	$(25,037)	$581,701

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 September 30, 2015 (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						
To-be-announced residential mortgage-backed securities	$16,093,704	$136,435	$ (50,845)	$85,590	$—	$85,590
Interest rate swaps	1,345,779	42,636	—	42,636	—	42,636
Energy contracts	560,997	89,948	(28,535)	61,413	(23,089)	38,324
Agricultural contracts	101,321	8,064	(4,053)	4,011	(1,558)	2,453
Foreign exchange contracts	618,991	557,313	—	557,313	(3,985)	553,328
Equity option contracts	143,452	3,784	—	3,784	(470)	3,314
Total customer risk management programs	18,864,244	838,180	(83,433)	754,747	(29,102)	725,645
Interest risk management programs	47,000	514	—	514	—	514
Total derivative contracts	$18,911,244	$838,694	$ (83,433)	$755,261	$(29,102)	$726,159

	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						
To-be-announced residential mortgage-backed securities	$16,050,271	$133,543	$ (50,845)	$82,698	$(82,225)	$473
Interest rate swaps	1,345,779	42,901	—	42,901	(26,723)	16,178
Energy contracts	551,989	85,856	(28,535)	57,321	—	57,321
Agricultural contracts	101,325	8,045	(4,053)	3,992	—	3,992
Foreign exchange contracts	618,770	556,890	—	556,890	(2,619)	554,271
Equity option contracts	143,452	3,784	—	3,784	—	3,784
Total customer risk management programs	18,811,586	831,019	(83,433)	747,586	(111,567)	636,019
Interest risk management programs	7,500	96	—	96	—	96
Total derivative contracts	$18,819,086	$831,115	$ (83,433)	$747,682	$(111,567)	$636,115

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			
	September 30, 2016		September 30, 2015	
	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	$11,584	$ —	$7,914	$ —
Interest rate swaps	710	—	411	—
Energy contracts	1,222	—	771	—
Agricultural contracts	25	—	44	—
Foreign exchange contracts	218	—	152	—
Equity option contracts	—	—	—	—
Total customer risk management programs	13,759	—	9,292	—
Interest risk management programs	(1,608)	2,226	(199)	1,283
Total derivative contracts	$12,151	$ 2,226	$9,093	$ 1,283

	Nine Months Ended			
	September 30, 2016		September 30, 2015	
	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	$28,886	$ —	$25,942	$ —
Interest rate swaps	1,758	—	1,495	—
Energy contracts	4,667	—	3,138	—
Agricultural contracts	86	—	86	—
Foreign exchange contracts	730	—	618	—
Equity option contracts	—	—	—	—
Total customer risk management programs	36,127	—	31,279	—
Interest risk management programs	(1,617)	20,130	(199)	1,162
Total derivative contracts	$34,510	$ 20,130	$31,080	$ 1,162

Net interest revenue was not significantly impacted by the settlement of amounts receivable or payable on interest rate swaps for the nine months ended September 30, 2016 and 2015, respectively.

(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. 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.

Loans to borrowers experiencing financial difficulties may be modified in troubled debt restructurings ("TDRs"). 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.

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.

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 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.

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. Guaranteed loans are considered impaired because we do not expect to receive all principal and interest based on the loan's contractual terms. The principal balance continues to be guaranteed; however, interest accrues at a curtailed rate as specified in the programs. The carrying value of these loans is reduced based on an estimate of the expected cash flows discounted at the original note rate plus a liquidity spread.

Guaranteed loans may be modified in 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):

	September 30, 2016				December 31, 2015			
	Fixed Rate	Variable Rate	Non-accrual	Total	Fixed Rate	Variable Rate	Non-accrual	Total
Commercial	$1,991,423	$7,952,276	$176,464	$10,120,163	$1,850,548	$8,325,559	$76,424	$10,252,531
Commercial real estate	565,429	3,220,819	7,350	3,793,598	627,678	2,622,354	9,001	3,259,033
Residential mortgage	1,572,288	248,053	52,452	1,872,793	1,598,992	216,661	61,240	1,876,893
Personal	104,408	573,138	686	678,232	91,816	460,418	463	552,697
Total	$4,233,548	$11,994,286	$236,952	$16,464,786	$4,169,034	$11,624,992	$147,128	$15,941,154
Accruing loans past due (90 days)[1]				$3,839				$1,207

	September 30, 2015			
	Fixed Rate	Variable Rate	Non-accrual	Total
Commercial	$1,854,163	$7,909,461	$ 33,798	$9,797,422
Commercial real estate	588,604	2,635,507	10,956	3,235,067
Residential mortgage	1,624,759	200,136	44,100	1,868,995
Personal	100,615	364,848	494	465,957
Total	$4,168,141	$11,109,952	$ 89,348	$15,367,441
Accruing loans past due (90 days)[1]				$101

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

At September 30, 2016, $5.3 billion or 32 percent of our total loan portfolio is to businesses and individuals attributed to the Texas market and $3.7 billion or 22 percent of the total loan portfolio is to businesses and individuals attributed to the Oklahoma market. These geographic concentrations subject the loan portfolio to the general economic conditions within these areas.

Commercial

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

At September 30, 2016, commercial loans attributed to the Texas market totaled $3.3 billion or 33 percent of the commercial loan portfolio segment and commercial loans attributed to the Oklahoma market totaled $2.3 billion or 23 percent of the commercial loan portfolio segment.

The commercial loan portfolio segment is further divided into loan classes. The energy loan class totaled $2.5 billion or 15 percent of total loans at September 30, 2016, including $2.0 billion of outstanding loans to energy producers. Approximately 57 percent of committed production loans are secured by properties primarily producing oil and 43 percent are secured by properties producing natural gas. The services loan class totaled $2.9 billion or 18 percent of total loans at September 30, 2016. Approximately $1.3 billion of loans in the services category consist of loans with individual balances of less than $10 million. Businesses included in the services class include governmental, finance and insurance, not-for-profit, educational services and loans to entities providing services for real estate and construction. The healthcare loan class totaled $2.1 billion or 13 percent of total loans at September 30, 2016. The healthcare loan class consists primarily of loans for the development and operation of senior housing and care facilities, including independent living, assisted living and skill nursing. Healthcare also includes loans to hospitals and other medical service providers.

Commercial Real Estate

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

At September 30, 2016, 30 percent of commercial real estate loans are secured by properties primarily located in the Dallas and Houston areas of Texas. An additional 12 percent of commercial real estate loans are secured by properties located primarily in the Tulsa and Oklahoma City metropolitan areas of Oklahoma.

Residential Mortgage and Personal

Residential mortgage loans provide funds for our customers to purchase or refinance their primary residence or to borrow against the equity in their home. Residential mortgage loans are secured by a first or second mortgage on the customer’s primary residence. Personal loans consist primarily of loans 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. Residential mortgage 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. Residential mortgage loans retained in the Company’s portfolio are primarily composed of various mortgage programs to support customer relationships including jumbo mortgage loans, non-builder construction loans and special loan programs for high net worth individuals and certain professionals. Jumbo loans may be fixed or variable rate and are fully amortizing. Jumbo loans generally conform to government sponsored entity standards, except that the loan size exceeds maximums required under these standards. These loans generally require a minimum FICO score of 720 and a maximum debt-to-income ratio (“DTI”) of 38 percent. Loan-to-value (“LTV”) ratios are tiered from 60 percent to 100 percent, depending on the market. Special mortgage programs include fixed and variable fully amortizing loans tailored to the needs of certain healthcare professionals. Variable rate loans are fully indexed at origination and may have fixed rates for three to ten years, then adjust annually thereafter.

At September 30, 2016, residential mortgage loans included $190 million of loans guaranteed by U.S. government agencies previously sold into GNMA mortgage pools. These loans either have been repurchased or are eligible to be repurchased by the Company when certain defined delinquency criteria are met. Although payments on these loans generally are past due more than 90 days, interest continues to accrue based on the government guarantee.

Home equity loans totaled $713 million at September 30, 2016. Approximately, 66 percent of the home equity loan portfolio is comprised of first lien loans and 34 percent of the home equity portfolio is comprised of junior lien loans. Junior lien loans are distributed 58 percent to amortizing term loans and 42 percent to revolving lines of credit. Home equity loans generally require a minimum FICO score of 700 and a maximum DTI of 40 percent. The maximum loan amount available for our home equity loan products is generally $400 thousand. Revolving loans have a 5 year revolving period followed by a 15 year term of amortizing repayments. Interest-only home equity loans may not be extended for any additional revolving time. All other home equity loans may be extended at management's discretion for an additional 5 year revolving term, subject to an update of certain credit information.

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 September 30, 2016, outstanding commitments totaled $8.7 billion. Because some commitments are expected to expire before being drawn upon, the total commitment amounts do not necessarily represent future cash requirements. BOK Financial uses the same credit policies in making commitments as it does loans.

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

Standby letters of credit are conditional commitments issued to guarantee the performance of a customer to a third party. Because the credit risk involved in issuing standby letters of credit is essentially the same as that involved in extending loan commitments, BOK Financial uses the same credit policies in evaluating the creditworthiness of the customer. Additionally, BOK Financial uses the same evaluation process in obtaining collateral on standby letters of credit as it does for loan commitments. The term of these standby letters of credit is defined in each commitment and typically corresponds with the underlying loan commitment. At September 30, 2016, outstanding standby letters of credit totaled $500 million. Commercial letters of credit are used to facilitate customer trade transactions with the drafts being drawn when the underlying transaction is consummated. At September 30, 2016, outstanding commercial letters of credit totaled $5.2 million.

Allowances for Credit Losses

BOK Financial maintains an allowance for loan losses and an accrual for off-balance sheet credit risk. 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. As discussed in greater detail in Note 6, the Company also has separate accruals for off-balance sheet credit risk related to residential mortgage loans previously sold with full or partial recourse and for residential mortgage loans sold to government sponsored agencies under standard representations and warranties.

The appropriateness of the allowance for loan losses and accrual for off-balance sheet credit losses (collectively "allowance for credit losses") is assessed by management based on an on-going quarterly evaluation of the probable estimated losses inherent in the portfolio, including probable losses on both outstanding loans and unused commitments.

The allowance for loan losses consists of specific allowances attributed to impaired loans that have not yet been charged down to amounts we expect to recover, general allowances for unimpaired loans based on estimated loss rates by loan class and nonspecific allowances based on general economic conditions, risk concentration and related factors. There have been no material changes in the approach or techniques utilized in developing the allowance for loan losses and the accrual for off-balance sheet credit losses for the three and nine months ended September 30, 2016.

Loans are considered to be impaired when it becomes probable that BOK Financial will be unable to collect all amounts due according to the contractual terms of the loan agreements. Internally risk graded loans are evaluated individually for impairment. Substantially all commercial and commercial real estate loans and certain residential mortgage and consumer loans are risk graded based on evaluation of the borrowers' ability to repay. Certain commercial loans and most residential mortgage and consumer loans are small balance, homogeneous pools of loans that are not risk graded. Non-risk graded loans are identified as impaired based on performance status. Generally, non-risk graded loans 90 days or more past due or modified in a TDR or in bankruptcy are considered to be impaired.

Specific allowances for impaired loans are measured 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. Collateral value of real property is generally based on third party appraisals that conform to Uniform Standards of Professional Appraisal Practice, less estimated selling costs. Appraised values are on an "as-is" basis and are generally not adjusted by the Company. Updated appraisals are obtained at least annually or more frequently if market conditions indicate collateral values have declined. Collateral value of mineral rights is generally determined by our internal staff of engineers based on projected cash flows under current market conditions. Collateral values and available cash resources that support impaired loans are evaluated quarterly. Historical statistics may be used as a practical way to estimate impairment in limited situations, such as when a collateral dependent loan is identified as impaired at the end of a reporting period, until an updated appraisal of collateral value is received or a full assessment of future cash flows is completed. Estimates of future cash flows and collateral values require significant judgments and may be volatile.

General allowances for unimpaired loans are based on estimated loss rates by loan class. The gross loss rate for each loan class is determined by the greater of the current gross loss rate based on the most recent twelve months or a ten-year gross loss rate. Recoveries are not directly considered in the estimation of loss rates. Recoveries generally do not follow predictable patterns and are not received until well after the charge-off date as a result of protracted legal actions. For risk graded loans, gross loss rates are adjusted for changes in risk grading. For each loan class, the current weighted average risk grade is compared to the long-term average risk grade. This comparison determines whether credit risk in each loan class is increasing or decreasing. Loss rates are adjusted upward or downward in proportion to changes in average risk grading. General allowances for unimpaired loans also consider inherent risks identified for each loan class. Inherent risks consider loss rates that most appropriately represent the current credit cycle and other factors attributable to specific loan classes which have not yet been represented in the gross loss rates or risk grading. These factors include changes in commodity prices or engineering imprecision, which may affect the value of reserves that secure our energy loan portfolio, construction risk that may affect commercial real estate loans, changes in regulations and public policy that may disproportionately impact health care loans and changes in loan products.

Nonspecific allowances are maintained for risks beyond factors specific to a particular loan or loan class. These factors include trends in the economy of our primary lending areas, concentrations in large balance loans and other relevant factors.

An accrual for off-balance sheet credit losses is included in Other liabilities in the Consolidated Balance Sheets. The appropriateness of this accrual is determined in the same manner as the allowance for loan losses.

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 for the three months ended September 30, 2016 is summarized as follows (in thousands):

	Commercial	Commercial Real Estate	Residential Mortgage	Personal	Nonspecific Allowance	Total
Allowance for loan losses:						
Beginning balance	$ 145,139	$ 46,745	$ 18,690	$ 6,001	$ 26,684	$ 243,259
Provision for loan losses	2,420	2,551	(466)	1,900	1,502	7,907
Loans charged off	(6,266)	—	(285)	(1,550)	—	(8,101)
Recoveries	177	521	650	690	—	2,038
Ending balance	$ 141,470	$ 49,817	$ 18,589	$ 7,041	$ 28,186	$ 245,103
Allowance for off-balance sheet credit losses:						
Beginning balance	$ 8,752	$ 203	$ 62	$ 28	$ —	$ 9,045
Provision for off-balance sheet credit losses	2,170	(53)	(7)	(17)	—	2,093
Ending balance	$ 10,922	$ 150	$ 55	$ 11	$ —	$ 11,138
Total provision for credit losses	$ 4,590	$ 2,498	$ (473)	$ 1,883	$ 1,502	$ 10,000

The activity in the allowance for loan losses and the allowance for off-balance sheet credit losses related to loan commitments and standby letters of credit for the nine months ended September 30, 2016 is summarized as follows (in thousands):

	Commercial	Commercial Real Estate	Residential Mortgage	Personal	Nonspecific Allowance	Total
Allowance for loan losses:						
Beginning balance	$ 130,334	$ 41,391	$ 19,509	$ 4,164	$ 30,126	$ 225,524
Provision for loan losses	45,995	7,538	(829)	4,809	(1,940)	55,573
Loans charged off	(35,747)	—	(1,104)	(4,086)	—	(40,937)
Recoveries	888	888	1,013	2,154	—	4,943
Ending balance	$ 141,470	$ 49,817	$ 18,589	$ 7,041	$ 28,186	$ 245,103
Allowance for off-balance sheet credit losses:						
Beginning balance	$ 1,506	$ 153	$ 30	$ 22	$ —	$ 1,711
Provision for off-balance sheet credit losses	9,416	(3)	25	(11)	—	9,427
Ending balance	$ 10,922	$ 150	$ 55	$ 11	$ —	$ 11,138
Total provision for credit losses	$ 55,411	$ 7,535	$ (804)	$ 4,798	$ (1,940)	$ 65,000

The activity in the allowance for loan losses and the allowance for off-balance sheet credit losses related to loan commitments and standby letters of credit for the three months ended September 30, 2015 is summarized as follows (in thousands):

	Commercial	Commercial Real Estate	Residential Mortgage	Personal	Nonspecific Allowance	Total
Allowance for loan losses:						
Beginning balance	$ 107,037	$ 39,744	$ 21,449	$ 3,955	$ 28,902	$ 201,087
Provision for loan losses	4,694	180	(349)	1,413	(1,156)	4,782
Loans charged off	(3,497)	—	(446)	(1,331)	—	(5,274)
Recoveries	759	1,865	205	692	—	3,521
Ending balance	$ 108,993	$ 41,789	$ 20,859	$ 4,729	$ 27,746	$ 204,116
Allowance for off-balance sheet credit losses:						
Beginning balance	$ 595	$ 242	$ 26	$ 19	$ —	$ 882
Provision for off-balance sheet credit losses	1,873	847	(2)	—	—	2,718
Ending balance	$ 2,468	$ 1,089	$ 24	$ 19	$ —	$ 3,600
Total provision for credit losses	$ 6,567	$ 1,027	$ (351)	$ 1,413	$ (1,156)	$ 7,500

The activity in the allowance for loan losses and the allowance for off-balance sheet credit losses related to loan commitments and standby letters of credit for the nine months ended September 30, 2015 is summarized as follows (in thousands):

	Commercial	Commercial Real Estate	Residential Mortgage	Personal	Nonspecific Allowance	Total
Allowance for loan losses:						
Beginning balance	$ 90,875	$ 42,445	$ 23,458	$ 4,233	$ 28,045	$ 189,056
Provision for loan losses	20,869	(11,571)	(1,938)	2,069	(299)	9,130
Loans charged off	(4,552)	(44)	(1,784)	(3,940)	—	(10,320)
Recoveries	1,801	10,959	1,123	2,367	—	16,250
Ending balance	$ 108,993	$ 41,789	$ 20,859	$ 4,729	$ 27,746	$ 204,116
Allowance for off-balance sheet credit losses:						
Beginning balance	$ 475	$ 707	$ 28	$ 20	$ —	$ 1,230
Provision for off-balance sheet credit losses	1,993	382	(4)	(1)	—	2,370
Ending balance	$ 2,468	$ 1,089	$ 24	$ 19	$ —	$ 3,600
Total provision for credit losses	$ 22,862	$ (11,189)	$ (1,942)	$ 2,068	$ (299)	$ 11,500

The allowance for loan losses and recorded investment of the related loans by portfolio segment for each impairment measurement method at September 30, 2016 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	$ 9,943,699	$ 134,968	$ 176,464	$ 6,502	$ 10,120,163	$ 141,470
Commercial real estate	3,786,248	49,817	7,350	—	3,793,598	49,817
Residential mortgage	1,820,341	18,527	52,452	62	1,872,793	18,589
Personal	677,546	7,041	686	—	678,232	7,041
Total	16,227,834	210,353	236,952	6,564	16,464,786	216,917
Nonspecific allowance	—	—	—	—	—	28,186
Total	$ 16,227,834	$ 210,353	$ 236,952	$ 6,564	$ 16,464,786	$ 245,103

The allowance for loan losses and recorded investment of the related loans by portfolio segment for each impairment measurement method at December 31, 2015 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	$ 10,176,107	$ 114,027	$ 76,424	$ 16,307	$ 10,252,531	$ 130,334
Commercial real estate	3,250,032	41,373	9,001	18	3,259,033	41,391
Residential mortgage	1,815,653	19,441	61,240	68	1,876,893	19,509
Personal	552,234	4,164	463	—	552,697	4,164
Total	15,794,026	179,005	147,128	16,393	15,941,154	195,398

Nonspecific allowance	—	—	—	—	—	30,126
Total	$15,794,026	$179,005	$147,128	$16,393	$15,941,154	$225,524

The allowance for loan losses and recorded investment of the related loans by portfolio segment for each impairment measurement method at September 30, 2015 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	$9,763,624	$ 104,157	$33,798	$ 4,836	$9,797,422	$ 108,993
Commercial real estate	3,224,111	41,771	10,956	18	3,235,067	41,789
Residential mortgage	1,824,896	20,762	44,099	97	1,868,995	20,859
Personal	465,463	4,729	494	—	465,957	4,729
Total	15,278,094	171,419	89,347	4,951	15,367,441	176,370
Nonspecific allowance	—	—	—	—	—	27,746
Total	$15,278,094	$ 171,419	$89,347	$ 4,951	$15,367,441	$ 204,116

Credit Quality Indicators

The Company utilizes loan class and risk grading as primary credit quality indicators. Substantially all commercial and commercial real estate loans and certain residential mortgage and consumer loans are risk graded based on a quarterly evaluation of the borrowers' ability to repay the loans. Certain commercial loans and most residential mortgage and consumer loans are small, homogeneous pools that are not risk graded.

The allowance for loan losses and recorded investment of the related loans by portfolio segment for risk graded and non-risk graded loans at September 30, 2016 is as follows (in thousands):

	Internally Risk Graded		Non-Graded		Total	
	Recorded Investment	Related Allowance	Recorded Investment	Related Allowance	Recorded Investment	Related Allowance
Commercial	$10,093,884	$ 140,552	$26,279	$ 918	$10,120,163	$ 141,470
Commercial real estate	3,793,598	49,817	—	—	3,793,598	49,817
Residential mortgage	206,430	3,028	1,666,363	15,561	1,872,793	18,589
Personal	586,869	4,182	91,363	2,859	678,232	7,041
Total	14,680,781	197,579	1,784,005	19,338	16,464,786	216,917
Nonspecific allowance	—	—	—	—	—	28,186
Total	$14,680,781	$ 197,579	$1,784,005	$ 19,338	$16,464,786	$ 245,103

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, 2015 is as follows (in thousands):

	Internally Risk Graded		Non-Graded		Total	
	Recorded Investment	Related Allowance	Recorded Investment	Related Allowance	Recorded Investment	Related Allowance
Commercial	$10,227,303	$ 129,426	$25,228	$ 908	$10,252,531	$ 130,334
Commercial real estate	3,259,033	41,391	—	—	3,259,033	41,391
Residential mortgage	196,701	2,883	1,680,192	16,626	1,876,893	19,509
Personal	467,955	1,390	84,742	2,774	552,697	4,164
Total	14,150,992	175,090	1,790,162	20,308	15,941,154	195,398
Nonspecific allowance	—	—	—	—	—	30,126
Total	$14,150,992	$ 175,090	$1,790,162	$ 20,308	$15,941,154	$225,524

The allowance for loan losses and recorded investment of the related loans by portfolio segment for risk graded and non-risk graded loans at September 30, 2015 is as follows (in thousands):

	Internally Risk Graded		Non-Graded		Total	
	Recorded Investment	Related Allowance	Recorded Investment	Related Allowance	Recorded Investment	Related Allowance
Commercial	$9,771,003	$ 108,101	$26,419	$ 892	$9,797,422	$ 108,993
Commercial real estate	3,235,067	41,789	—	—	3,235,067	41,789
Residential mortgage	190,361	2,938	1,678,634	17,921	1,868,995	20,859
Personal	380,376	1,790	85,581	2,939	465,957	4,729
Total	13,576,807	154,618	1,790,634	21,752	15,367,441	176,370
Nonspecific allowance	—	—	—	—	—	27,746
Total	$13,576,807	$ 154,618	$1,790,634	$ 21,752	$15,367,441	$204,116

Loans are considered to be performing if they 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.” Performing loans also include 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 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.

The risk grading process identified certain loans that have a well-defined weakness (e.g. 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 were not placed in nonaccruing status.

Nonaccruing loans represent loans for which full collection of principal and interest is uncertain. This is substantially the same criteria used to determine whether a loan is impaired and includes certain loans considered “substandard” and all loans considered “doubtful” by regulatory guidelines.

The following table summarizes the Company's loan portfolio at September 30, 2016 by the risk grade categories (in thousands):

	Internally Risk Graded Performing				Non-Graded		
	Pass	Other Loans Especially Mentioned	Accruing Substandard	Nonaccrual	Performing	Nonaccrual	Total
Commercial:							
Energy	$ 1,869,598	$ 147,153	$ 361,087	$ 142,966	$—	$ —	$ 2,520,804
Services	2,882,065	14,861	31,196	8,477	—	—	2,936,599
Wholesale/retail	1,557,067	15,337	27,173	2,453	—	—	1,602,030
Manufacturing	470,702	8,774	19,736	274	—	—	499,486
Healthcare	2,022,757	42,224	19,210	855	—	—	2,085,046
Other commercial and industrial	415,769	2,478	10,302	21,370	26,210	69	476,198
Total commercial	9,217,958	230,827	468,704	176,395	26,210	69	10,120,163
Commercial real estate:							
Residential construction and land development	155,737	—	470	3,739	—	—	159,946
Retail	794,920	4,802	406	1,249	—	—	801,377
Office	750,924	899	—	882	—	—	752,705
Multifamily	868,501	—	5,221	51	—	—	873,773
Industrial	837,945	—	—	76	—	—	838,021
Other commercial real estate	366,416	—	7	1,353	—	—	367,776
Total commercial real estate	3,774,443	5,701	6,104	7,350	—	—	3,793,598
Residential mortgage:							
Permanent mortgage	200,590	1,192	2,134	2,514	739,686	23,442	969,558
Permanent mortgages guaranteed by U.S. government agencies	—	—	—	—	174,877	15,432	190,309
Home equity	—	—	—	—	701,862	11,064	712,926
Total residential mortgage	200,590	1,192	2,134	2,514	1,616,425	49,938	1,872,793
Personal	585,287	228	923	431	91,108	255	678,232
Total	$ 13,778,278	$ 237,948	$ 477,865	$ 186,690	$ 1,733,743	$ 50,262	$ 16,464,786

The following table summarizes the Company's loan portfolio at December 31, 2015 by the risk grade categories (in thousands):

	Internally Risk Graded Performing				Non-Graded		
	Pass	Other Loans Especially Mentioned	Accruing Substandard	Nonaccrual	Performing	Nonaccrual	Total
Commercial:							
Energy	$2,580,694	$325,663	$ 129,782	$ 61,189	$—	$ —	$3,097,328
Services	2,763,929	3,296	6,761	10,290	—	—	2,784,276
Wholesale/retail	1,394,596	18,184	6,365	2,919	—	—	1,422,064
Manufacturing	534,966	19,560	1,872	331	—	—	556,729
Healthcare	1,876,745	5,563	—	1,072	—	—	1,883,380
Other commercial and industrial	477,551	5,479	—	496	25,101	127	508,754
Total commercial	9,628,481	377,745	144,780	76,297	25,101	127	10,252,531
Commercial real estate:							
Residential construction and land development	154,369	1,355	293	4,409	—	—	160,426
Retail	788,708	6,046	426	1,319	—	—	796,499
Office	636,210	291	555	651	—	—	637,707
Multifamily	744,299	—	6,512	274	—	—	751,085
Industrial	563,093	—	—	76	—	—	563,169
Other commercial real estate	347,864	—	11	2,272	—	—	350,147
Total commercial real estate	3,234,543	7,692	7,797	9,001	—	—	3,259,033
Residential mortgage:							
Permanent mortgage	192,367	89	1,932	2,313	721,964	26,671	945,336
Permanent mortgages guaranteed by U.S. government agencies	—	—	—	—	175,037	21,900	196,937
Home equity	—	—	—	—	724,264	10,356	734,620
Total residential mortgage	192,367	89	1,932	2,313	1,621,265	58,927	1,876,893
Personal	467,808	3	14	130	84,409	333	552,697
Total	$13,523,199	$385,529	$ 154,523	$ 87,741	$1,730,775	$ 59,387	$15,941,154

The following table summarizes the Company's loan portfolio at September 30, 2015 by the risk grade categories (in thousands):

	Internally Risk Graded Performing				Non-Graded		
	Pass	Other Loans Especially Mentioned	Accruing Substandard	Nonaccrual	Performing	Nonaccrual	Total
Commercial:							
Energy	$2,527,543	$196,298	$96,446	$17,880	$—	$—	$2,838,167
Services	2,683,655	4,207	8,070	10,692	—	—	2,706,624
Wholesale/retail	1,432,460	23,176	3,242	3,058	—	—	1,461,936
Manufacturing	532,443	20,975	1,907	352	—	—	555,677
Healthcare	1,734,741	5,721	—	1,218	—	—	1,741,680
Other commercial and industrial	463,385	3,012	—	522	26,343	76	493,338
Total commercial	9,374,227	253,389	109,665	33,722	26,343	76	9,797,422
Commercial real estate:							
Residential construction and land development	146,764	1,628	370	4,748	—	—	153,510
Retail	761,279	6,089	433	1,648	—	—	769,449
Office	624,611	296	560	684	—	—	626,151
Multifamily	750,791	—	7,682	185	—	—	758,658
Industrial	563,795	—	—	76	—	—	563,871
Other commercial real estate	359,672	—	141	3,615	—	—	363,428
Total commercial real estate	3,206,912	8,013	9,186	10,956	—	—	3,235,067
Residential mortgage:							
Permanent mortgage	186,832	91	918	2,520	719,163	28,140	937,664
Permanent mortgages guaranteed by U.S. government agencies	—	—	—	—	188,827	3,885	192,712
Home equity	—	—	—	—	729,065	9,554	738,619
Total residential mortgage	186,832	91	918	2,520	1,637,055	41,579	1,868,995
Personal	380,216	5	15	140	85,227	354	465,957
Total	$13,148,187	$261,498	$119,784	$47,338	$1,748,625	$42,009	$15,367,441

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 includes all nonaccruing loans, all loans modified in a TDR and all loans repurchased from GNMA pools.

A summary of impaired loans follows (in thousands):

	As of September 30, 2016					For the Three Months Ended September 30, 2016		For the Nine Months Ended September 30, 2016	
		Recorded Investment							
	Unpaid Principal Balance	Total	With No Allowance	With Allowance	Related Allowance	Average Recorded Investment	Interest Income Recognized	Average Recorded Investment	Interest Income Recognized
Commercial:									
Energy	$179,578	$142,966	$100,300	$42,666	$ 6,502	$155,555	$ —	$85,333	$ —
Services	11,858	8,477	8,477	—	—	8,932	—	9,384	—
Wholesale/retail	8,528	2,453	2,453	—	—	2,613	—	2,686	—
Manufacturing	642	274	274	—	—	284	—	303	—
Healthcare	1,168	855	855	—	—	865	—	964	—
Other commercial and industrial	29,176	21,439	21,439	—	—	10,978	—	11,031	—
Total commercial	230,950	176,464	133,798	42,666	6,502	179,227	—	109,701	—
Commercial real estate:									
Residential construction and land development	6,090	3,739	3,739	—	—	4,000	—	4,074	—
Retail	1,914	1,249	1,249	—	—	1,257	—	1,284	—
Office	1,187	882	882	—	—	744	—	766	—
Multifamily	1,000	51	51	—	—	58	—	163	—
Industrial	76	76	76	—	—	76	—	76	—
Other real estate loans	7,375	1,353	1,353	—	—	1,430	—	1,813	—
Total commercial real estate	17,642	7,350	7,350	—	—	7,565	—	8,176	—
Residential mortgage:									
Permanent mortgage	32,372	25,956	25,847	109	62	26,592	292	27,470	923
Permanent mortgage guaranteed by U.S. government agencies[1]	196,162	190,309	190,309	—	—	190,547	2,098	193,879	5,893
Home equity	12,099	11,064	11,064	—	—	10,578	—	10,710	—
Total residential mortgage	240,633	227,329	227,220	109	62	227,717	2,390	232,059	6,816
Personal	724	686	686	—	—	520	—	575	—
Total	$489,949	$411,829	$369,054	$42,775	$ 6,564	$415,029	$ 2,390	$350,511	$ 6,816

[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 September 30, 2016, $15 million of these loans were nonaccruing and $175 million were accruing based on the guarantee by U.S. government agencies.

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, 2015 follows (in thousands):

		Recorded Investment			
	Unpaid Principal Balance	Total	With No Allowance	With Allowance	Related Allowance
Commercial:					
Energy	$63,910	$61,189	$ 18,330	$ 42,859	$ 16,115
Services	13,449	10,290	9,657	633	148
Wholesale/retail	8,582	2,919	2,907	12	9
Manufacturing	665	331	331	—	—
Healthcare	1,352	1,072	931	141	35
Other commercial and industrial	8,304	623	623	—	—
Total commercial	96,262	76,424	32,779	43,645	16,307
Commercial real estate:					
Residential construction and land development	8,963	4,409	4,409	—	—
Retail	1,923	1,319	1,319	—	—
Office	937	651	651	—	—
Multifamily	1,192	274	274	—	—
Industrial	76	76	76	—	—
Other real estate loans	8,363	2,272	2,113	159	18
Total commercial real estate	21,454	9,001	8,842	159	18
Residential mortgage:					
Permanent mortgage	37,273	28,984	28,868	116	68
Permanent mortgage guaranteed by U.S. government agencies[1]	202,984	196,937	196,937	—	—
Home equity	10,988	10,356	10,356	—	—
Total residential mortgage	251,245	236,277	236,161	116	68
Personal	489	463	463	—	—
Total	$369,450	$322,165	$278,245	$ 43,920	$ 16,393

[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, 2015, $22 million of these loans were nonaccruing and $175 million were accruing based on the guarantee by U.S. government agencies.

A summary of impaired loans at September 30, 2015 follows (in thousands):

	As of September 30, 2015					For the Three Months Ended September 30, 2015		For the Nine Months Ended September 30, 2015	
		Recorded Investment							
	Unpaid Principal Balance	Total	With No Allowance	With Allowance	Related Allowance	Average Recorded Investment	Interest Income Recognized	Average Recorded Investment	Interest Income Recognized
Commercial:									
Energy	$18,904	$17,880	$5,017	$ 12,863	$ 4,644	$12,361	$ —	$9,648	$ —
Services	13,677	10,692	10,041	651	148	10,818	—	7,946	—
Wholesale/retail	8,588	3,058	3,046	12	9	3,612	—	3,603	—
Manufacturing	675	352	352	—	—	365	—	401	—
Healthcare	1,612	1,218	1,064	154	35	1,248	—	1,299	—
Other commercial and industrial	8,277	598	598	—	—	611	—	765	—
Total commercial	51,733	33,798	20,118	13,680	4,836	29,015	—	23,662	—
Commercial real estate:									
Residential construction and land development	9,349	4,748	4,748	—	—	7,058	—	5,023	—
Retail	2,252	1,648	1,648	—	—	2,737	—	2,787	—
Office	2,046	684	684	—	—	1,522	—	2,052	—
Multifamily	192	185	185	—	—	190	—	93	—
Industrial	76	76	76	—	—	76	—	38	—
Other real estate loans	9,650	3,615	3,452	163	18	3,965	—	4,763	—
Total commercial real estate	23,565	10,956	10,793	163	18	15,548	—	14,756	—
Residential mortgage:									
Permanent mortgage	38,829	30,660	30,506	154	97	31,424	297	32,753	942
Permanent mortgage guaranteed by U.S. government agencies[1]	198,905	192,712	192,712	—	—	193,165	1,902	198,312	6,205
Home equity	10,085	9,554	9,554	—	—	9,810	—	9,559	—
Total residential mortgage	247,819	232,926	232,772	154	97	234,399	2,199	240,624	7,147
Personal	516	494	494	—	—	522	—	530	—
Total	$323,633	$278,174	$264,177	$ 13,997	$ 4,951	$279,484	$ 2,199	$279,572	$ 7,147

[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 September 30, 2015, $3.9 million of these loans were nonaccruing and $189 million were accruing based on the guarantee by U.S. government agencies.

Troubled Debt Restructurings

A summary of troubled debt restructurings ("TDRs") by accruing status as of September 30, 2016 is as follows (in thousands):

	As of September 30, 2016				Amounts Charged Off During:	
	Recorded Investment	Performing in Accordance With Modified Terms	Not Performing in Accordance With Modified Terms	Specific Allowance	Three Months Ended September 30, 2016	Nine Months Ended Sept. 30, 2016
Nonaccruing TDRs:						
Commercial:						
Energy	$ 1,746	$ —	$ 1,746	$ —	$ 500	$ 1,000
Services	7,761	7,034	727	—	—	—
Wholesale/retail	2,327	2,287	40	—	—	—
Manufacturing	238	238	—	—	—	—
Healthcare	623	—	623	—	—	—
Other commercial and industrial	497	61	436	—	—	57
Total commercial	13,192	9,620	3,572	—	500	1,057
Commercial real estate:						
Residential construction and land development	794	359	435	—	—	—
Retail	1,249	892	357	—	—	—
Office	149	149	—	—	—	—
Multifamily	—	—	—	—	—	—
Industrial	—	—	—	—	—	—
Other real estate loans	666	666	—	—	—	—
Total commercial real estate	2,858	2,066	792	—	—	—
Residential mortgage:						
Permanent mortgage	16,109	11,944	4,165	62	—	2
Permanent mortgage guaranteed by U.S. government agencies	8,220	2,331	5,889	—	—	—
Home equity	5,168	4,667	501	—	34	153
Total residential mortgage	29,497	18,942	10,555	62	34	155
Personal	273	271	2	—	9	18
Total nonaccruing TDRs	$ 45,820	$ 30,899	$ 14,921	$ 62	$ 543	$ 1,230
Accruing TDRs:						
Permanent mortgages guaranteed by U.S. government agencies	80,306	29,020	51,286	—	—	—

Total TDRs	$126,126	$ 59,919	$ 66,207	$ 62	$543	$1,230

A summary of troubled debt restructurings by accruing status as of December 31, 2015 is as follows (in thousands):

	As of December 31, 2015			
	Recorded Investment	Performing in Accordance With Modified Terms	Not Performing in Accordance With Modified Terms	Specific Allowance
Nonaccruing TDRs:				
Commercial:				
Energy	$2,304	$ 2,304	$ —	$ —
Services	9,027	8,210	817	148
Wholesale/retail	2,758	2,706	52	9
Manufacturing	282	282	—	—
Healthcare	673	673	—	—
Other commercial and industrial	621	89	532	—
Total commercial	15,665	14,264	1,401	157
Commercial real estate:				
Residential construction and land development	2,328	1,556	772	—
Retail	1,319	942	377	—
Office	165	165	—	—
Multifamily	—	—	—	—
Industrial	—	—	—	—
Other real estate loans	920	478	442	—
Total commercial real estate	4,732	3,141	1,591	—
Residential mortgage:				
Permanent mortgage	16,618	9,043	7,575	68
Permanent mortgage guaranteed by U.S. government agencies	11,136	139	10,997	—
Home equity	5,159	4,218	941	—
Total residential mortgage	32,913	13,400	19,513	68
Personal	324	297	27	—
Total nonaccruing TDRs	$53,634	$ 31,102	$ 22,532	$ 225
Accruing TDRs:				
Permanent mortgages guaranteed by U.S. government agencies	74,050	23,029	51,021	—
Total TDRs	$127,684	$ 54,131	$ 73,553	$ 225

A summary of troubled debt restructurings by accruing status as of September 30, 2015 is as follows (in thousands):

	As of September 30, 2015				Amounts Charged Off During	
	Recorded Investment	Performing in Accordance With Modified Terms	Not Performing in Accordance With Modified Terms	Specific Allowance	Three Months Ended September 30, 2015	Nine Months Ended Sept. 30, 2015
Nonaccruing TDRs:						
Commercial:						
Energy	$—	$ —	$ —	$ —	$—	$ —
Services	9,362	8,502	860	148	—	—
Wholesale/retail	2,897	2,844	53	9	—	—
Manufacturing	296	296	—	—	—	—
Healthcare	689	689	—	—	—	—
Other commercial and industrial	590	76	514	—	100	100
Total commercial	13,834	12,407	1,427	157	100	100
Commercial real estate:						
Residential construction and land development	2,539	1,624	915	—	—	—
Retail	1,356	960	396	—	—	—
Office	169	169	—	—	—	—
Multifamily	—	—	—	—	—	—
Industrial	—	—	—	—	—	—
Other real estate loans	1,037	584	453	—	—	—
Total commercial real estate	5,101	3,337	1,764	—	—	—
Residential mortgage:						
Permanent mortgage	16,359	9,361	6,998	97	140	142
Permanent mortgage guaranteed by U.S. government agencies	1,944	140	1,804	—	—	—
Home equity	4,975	4,336	639	—	10	68
Total residential mortgage	23,278	13,837	9,441	97	150	210
Personal	365	209	156	—	—	2
Total nonaccruing TDRs	$42,578	$ 29,790	$ 12,788	$ 254	$ 250	$ 312
Accruing TDRs:						
Permanent mortgages guaranteed by U.S. government agencies	81,598	22,352	59,246	—	—	—
Total TDRs	$124,176	$ 52,142	$ 72,034	$ 254	$ 250	$ 312

Troubled debt restructurings generally consist of interest rate concessions, payment stream concessions or a combination of concessions to distressed borrowers. The following tables detail the recorded balance of loans at September 30, 2016 by class that were restructured during the three months ended September 30, 2016 by primary type of concession (in thousands):

	Three Months Ended Sept. 30, 2016						
	Accruing			Nonaccrual			
	Payment Stream	Combination & Other	Total	Payment Stream	Combination & Other	Total	Total
Commercial:							
Energy	$ —	$ —	$—	$—	$ —	$—	$—
Services	—	—	—	—	—	—	—
Wholesale/retail	—	—	—	—	—	—	—
Manufacturing	—	—	—	—	—	—	—
Healthcare	—	—	—	—	—	—	—
Other commercial and industrial	—	—	—	—	—	—	—
Total commercial	—	—	—	—	—	—	—
Commercial real estate:							
Residential construction and land development	—	—	—	—	—	—	—
Retail	—	—	—	—	—	—	—
Office	—	—	—	—	—	—	—
Multifamily	—	—	—	—	—	—	—
Industrial	—	—	—	—	—	—	—
Other real estate loans	—	—	—	—	—	—	—
Total commercial real estate	—	—	—	—	—	—	—
Residential mortgage:							
Permanent mortgage	—	—	—	—	151	151	151
Permanent mortgage guaranteed by U.S. government agencies	3,527	4,211	7,738	—	287	287	8,025
Home equity	—	—	—	—	920	920	920
Total residential mortgage	3,527	4,211	7,738	—	1,358	1,358	9,096
Personal	—	—	—	—	19	19	19
Total	$ 3,527	$ 4,211	$7,738	$—	$ 1,377	$1,377	$9,115

Troubled debt restructurings generally consist of interest rate concessions, payment stream concessions or a combination of concessions to distressed borrowers. The following tables detail the recorded balance of loans at September 30, 2016 by class that were restructured during the nine months ended September 30, 2016 by primary type of concession (in thousands):

	Nine Months Ended Sept. 30, 2016						
	Accruing			Nonaccrual			
	Payment Stream	Combination & Other	Total	Payment Stream	Combination & Other	Total	Total
Commercial:							
Energy	$—	$ —	$—	$501	$ —	$501	$501
Services	—	—	—	—	—	—	—
Wholesale/retail	—	—	—	—	—	—	—
Manufacturing	—	—	—	—	—	—	—
Healthcare	—	—	—	—	—	—	—
Other commercial and industrial	—	—	—	—	—	—	—
Total commercial	—	—	—	501	—	501	501
Commercial real estate:							
Residential construction and land development	—	—	—	—	—	—	—
Retail	—	—	—	—	—	—	—
Office	—	—	—	—	—	—	—
Multifamily	—	—	—	—	—	—	—
Industrial	—	—	—	—	—	—	—
Other real estate loans	—	—	—	—	—	—	—
Total commercial real estate	—	—	—	—	—	—	—
Residential mortgage:							
Permanent mortgage	—	—	—	1,037	1,051	2,088	2,088
Permanent mortgage guaranteed by U.S. government agencies	9,687	9,350	19,037	—	982	982	20,019
Home equity	—	—	—	48	1,630	1,678	1,678
Total residential mortgage	9,687	9,350	19,037	1,085	3,663	4,748	23,785
Personal	—	—	—	—	82	82	82
Total	$9,687	$ 9,350	$19,037	$1,586	$ 3,745	$5,331	$24,368

Troubled debt restructurings generally consist of interest rate concessions, payment stream concessions or a combination of concessions to distressed borrowers. The following tables detail the recorded balance of loans by class that were restructured during three months ended September 30, 2015 by primary type of concession (in thousands):

	Three Months Ended Sept. 30, 2015							
	Accruing			Nonaccrual				
	Payment Stream	Combination & Other	Total	Interest Rate	Payment Stream	Combination & Other	Total	Total
Commercial:								
Energy	$—	$ —	$—	$—	$—	$ —	$—	$—
Services	—	—	—	—	—	—	—	—
Wholesale/retail	—	—	—	—	—	—	—	—
Manufacturing	—	—	—	—	—	—	—	—
Healthcare	—	—	—	—	—	—	—	—
Other commercial and industrial	—	—	—	—	—	—	—	—
Total commercial	—	—	—	—	—	—	—	—
Commercial real estate:								
Residential construction and land development	—	—	—	—	—	—	—	—
Retail	—	—	—	—	—	—	—	—
Office	—	—	—	—	—	—	—	—
Multifamily	—	—	—	—	—	—	—	—
Industrial	—	—	—	—	—	—	—	—
Other real estate loans	—	—	—	—	—	—	—	—
Total commercial real estate	—	—	—	—	—	—	—	—
Residential mortgage:								
Permanent mortgage	—	—	—	—	1,448	150	1,598	1,598
Permanent mortgage guaranteed by U.S. government agencies	5,809	3,846	9,655	—	—	—	—	9,655
Home equity	—	—	—	—	—	447	447	447
Total residential mortgage	5,809	3,846	9,655	—	1,448	597	2,045	11,700
Personal	—	—	—	—	—	18	18	18
Total	$5,809	$ 3,846	$9,655	$—	$1,448	$ 615	$2,063	$11,718

Troubled debt restructurings generally consist of interest rate concessions, payment stream concessions or a combination of concessions to distressed borrowers. The following tables detail the recorded balance of loans by class that were restructured during nine months ended September 30, 2015 by primary type of concession (in thousands):

	Nine Months Ended Sept. 30, 2015							
	Accruing			Nonaccrual				
	Payment Stream	Combination & Other	Total	Interest Rate	Payment Stream	Combination & Other	Total	Total
Commercial:								
Energy	$—	$ —	$—	$—	$ —	$ —	$—	$—
Services	—	—	—	—	—	7,851	7,851	7,851
Wholesale/retail	—	—	—	—	—	—	—	—
Manufacturing	—	—	—	—	—	—	—	—
Healthcare	—	—	—	689	—	—	689	689
Other commercial and industrial	—	—	—	—	—	—	—	—
Total commercial	—	—	—	689	—	7,851	8,540	8,540
Commercial real estate:								
Residential construction and land development	—	—	—	—	329	—	329	329
Retail	—	—	—	—	—	—	—	—
Office	—	—	—	—	—	—	—	—
Multifamily	—	—	—	—	—	—	—	—
Industrial	—	—	—	—	—	—	—	—
Other real estate loans	—	—	—	—	—	—	—	—
Total commercial real estate	—	—	—	—	329	—	329	329
Residential mortgage:								
Permanent mortgage	—	—	—	—	2,150	1,125	3,275	3,275
Permanent mortgage guaranteed by U.S. government agencies	15,858	10,397	26,255	—	—	843	843	27,098
Home equity	—	—	—	59	145	1,523	1,727	1,727
Total residential mortgage	15,858	10,397	26,255	59	2,295	3,491	5,845	32,100
Personal	—	—	—	—	—	104	104	104
Total	$15,858	$ 10,397	$26,255	$748	$ 2,624	$ 11,446	$14,818	$41,073

The following table summarizes, by loan class, the recorded investment at September 30, 2016 and 2015, respectively, of loans modified as TDRs within the previous 12 months and for which there was a payment default during the three months ended September 30, 2016 and 2015, respectively (in thousands):

	Three Months Ended Sept. 30, 2016			Nine Months Ended Sept. 30, 2016		
	Accruing	Nonaccrual	Total	Accruing	Nonaccrual	Total
Commercial:						
Energy	$—	$ 1,746	$1,746	$—	$ 1,746	$1,746
Services	—	—	—	—	—	—
Wholesale/retail	—	—	—	—	—	—
Manufacturing	—	—	—	—	—	—
Healthcare	—	—	—	—	—	—
Other commercial and industrial	—	—	—	—	—	—
Total commercial	—	1,746	1,746	—	1,746	1,746
Commercial real estate:						
Residential construction and land development	—	—	—	—	—	—
Retail	—	—	—	—	—	—
Office	—	—	—	—	—	—
Multifamily	—	—	—	—	—	—
Industrial	—	—	—	—	—	—
Other real estate loans	—	—	—	—	—	—
Total commercial real estate	—	—	—	—	—	—
Residential mortgage:						
Permanent mortgage	—	298	298	—	542	542
Permanent mortgage guaranteed by U.S. government agencies	17,491	1,095	18,586	19,352	1,121	20,473
Home equity	—	258	258	—	258	258
Total residential mortgage	17,491	1,651	19,142	19,352	1,921	21,273
Personal	—	11	11	—	11	11
Total	$17,491	$ 3,408	$20,899	$19,352	$ 3,678	$23,030

A payment default is defined as being 30 days or more past due. The table above includes loans that experienced a payment default during the period, but may be performing in accordance with the modified terms as of the balance sheet date.

	Three Months Ended Sept. 30, 2015			Nine Months Ended Sept. 30, 2015		
	Accruing	Nonaccrual	Total	Accruing	Nonaccrual	Total
Commercial:						
Energy	$—	$ —	$—	$—	$ —	$—
Services	—	—	—	—	—	—
Wholesale/retail	—	—	—	—	—	—
Manufacturing	—	—	—	—	—	—
Healthcare	—	—	—	—	—	—
Other commercial and industrial	—	—	—	—	—	—
Total commercial	—	—	—	—	—	—
Commercial real estate:						
Residential construction and land development	—	329	329	—	329	329
Retail	—	—	—	—	—	—
Office	—	—	—	—	—	—
Multifamily	—	—	—	—	—	—
Industrial	—	—	—	—	—	—
Other real estate loans	—	—	—	—	—	—
Total commercial real estate	—	329	329	—	329	329
Residential mortgage:						
Permanent mortgage	—	2,364	2,364	—	2,543	2,543
Permanent mortgage guaranteed by U.S. government agencies	29,942	779	30,721	31,673	919	32,592
Home equity	—	398	398	—	435	435
Total residential mortgage	29,942	3,541	33,483	31,673	3,897	35,570
Personal	—	38	38	—	38	38
Total	$29,942	$ 3,908	$33,850	$31,673	$ 4,264	$35,937

Nonaccrual & 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.

A summary of loans currently performing, loans past due and accruing and nonaccrual loans as of September 30, 2016 is as follows (in thousands):

	Current	Past Due 30 to 59 Days	60 to 89 Days	90 Days or More	Nonaccrual	Total
Commercial:						
Energy	$2,365,850	$11,988	$—	$—	$ 142,966	$2,520,804
Services	2,923,874	502	39	3,707	8,477	2,936,599
Wholesale/retail	1,599,356	221	—	—	2,453	1,602,030
Manufacturing	499,212	—	—	—	274	499,486
Healthcare	2,083,556	635	—	—	855	2,085,046
Other commercial and industrial	454,538	34	68	119	21,439	476,198
Total commercial	9,926,386	13,380	107	3,826	176,464	10,120,163
Commercial real estate:						
Residential construction and land development	156,207	—	—	—	3,739	159,946
Retail	796,362	3,766	—	—	1,249	801,377
Office	751,823	—	—	—	882	752,705
Multifamily	868,591	—	5,131	—	51	873,773
Industrial	837,945	—	—	—	76	838,021
Other real estate loans	366,416	7	—	—	1,353	367,776
Total commercial real estate	3,777,344	3,773	5,131	—	7,350	3,793,598
Residential mortgage:						
Permanent mortgage	939,853	3,547	202	—	25,956	969,558
Permanent mortgages guaranteed by U.S. government agencies	41,150	17,364	12,963	103,400	15,432	190,309
Home equity	700,031	1,526	305	—	11,064	712,926
Total residential mortgage	1,681,034	22,437	13,470	103,400	52,452	1,872,793
Personal	677,194	191	148	13	686	678,232
Total	$16,061,958	$39,781	$18,856	$107,239	$ 236,952	$16,464,786

A summary of loans currently performing, loans past due and accruing and nonaccrual loans as of December 31, 2015 is as follows (in thousands):

	Current	Past Due 30 to 59 Days	60 to 89 Days	90 Days or More	Nonaccrual	Total
Commercial:						
Energy	$3,033,504	$2,635	—	$—	$ 61,189	$3,097,328
Services	2,769,895	66	4,025	—	10,290	2,784,276
Wholesale/retail	1,418,396	49	—	700	2,919	1,422,064
Manufacturing	556,398	—	—	—	331	556,729
Healthcare	1,879,873	2,435	—	—	1,072	1,883,380
Other commercial and industrial	507,929	84	16	102	623	508,754
Total commercial	10,165,995	5,269	4,041	802	76,424	10,252,531
Commercial real estate:						
Residential construction and land development	156,017	—	—	—	4,409	160,426
Retail	795,180	—	—	—	1,319	796,499
Office	637,056	—	—	—	651	637,707
Multifamily	742,697	8,114	—	—	274	751,085
Industrial	563,093	—	—	—	76	563,169
Other real estate loans	347,498	—	—	377	2,272	350,147
Total commercial real estate	3,241,541	8,114	—	377	9,001	3,259,033
Residential mortgage:						
Permanent mortgage	913,062	3,290	—	—	28,984	945,336
Permanent mortgages guaranteed by U.S. government agencies	33,653	16,986	13,397	111,001	21,900	196,937
Home equity	721,149	2,379	716	20	10,356	734,620
Total residential mortgage	1,667,864	22,655	14,113	111,021	61,240	1,876,893
Personal	551,533	665	28	8	463	552,697
Total	$15,626,933	$36,703	18,182	$112,208	$ 147,128	$15,941,154

A summary of loans currently performing, loans past due and accruing and nonaccrual loans as of September 30, 2015 is as follows (in thousands):

		Past Due				
	Current	30 to 59 Days	60 to 89 Days	90 Days or More	Nonaccrual	Total
Commercial:						
Energy	$2,813,145	$7,142	—	$—	$ 17,880	$2,838,167
Services	2,690,554	1,575	3,803	—	10,692	2,706,624
Wholesale/retail	1,458,681	197	—	—	3,058	1,461,936
Manufacturing	555,325	—	—	—	352	555,677
Healthcare	1,740,462	—	—	—	1,218	1,741,680
Other commercial and industrial	492,554	65	21	100	598	493,338
Total commercial	9,750,721	8,979	3,824	100	33,798	9,797,422
Commercial real estate:						
Residential construction and land development	148,762	—	—	—	4,748	153,510
Retail	767,801	—	—	—	1,648	769,449
Office	625,250	217	—	—	684	626,151
Multifamily	752,055	—	6,418	—	185	758,658
Industrial	563,795	—	—	—	76	563,871
Other real estate loans	359,813	—	—	—	3,615	363,428
Total commercial real estate	3,217,476	217	6,418	—	10,956	3,235,067
Residential mortgage:						
Permanent mortgage	903,685	3,183	135	—	30,661	937,664
Permanent mortgages guaranteed by U.S. government agencies	33,046	15,299	10,477	130,005	3,885	192,712
Home equity	725,572	2,873	619	1	9,554	738,619
Total residential mortgage	1,662,303	21,355	11,231	130,006	44,100	1,868,995
Personal	465,218	199	46	—	494	465,957
Total	$15,095,718	$30,750	21,519	$130,106	$ 89,348	$15,367,441

(5) Acquisitions

On December 8, 2015, the Company announced the signing of a definitive purchase agreement with MBT Bancshares ("MBT"). MBT is headquartered in Kansas City, Mo. and is the parent company of Missouri Bank and Trust of Kansas City ("mobank"). mobank operates four banking branches in the Kansas City, Mo. area. Under terms of the definitive agreement, BOK Financial will pay $102.5 million in an all-cash deal for all outstanding shares of MBT stock, subject to certain conditions and potential adjustments. The transaction has been approved by the boards of directors of both companies and is expected to close by the end of 2016, subject to customary closing conditions, including regulatory approval.

In the first quarter of 2016, the Company acquired Weaver and Tidwell Financial Advisors LTD d/b/a Weaver Wealth Management, a registered investment advisor and E-Spectrum Advisors, an energy investment banking firm in Texas. The cash purchase price for these acquisitions was $7.7 million. The purchase price allocation included $5.3 million of identifiable intangible assets and $3.3 million of goodwill.

On May 4, 2015, the Company acquired a majority voting interest in Heartland Food Products, LLC, a Kansas-based food product and restaurant equipment company. The cash purchase price for this acquisition was $18 million. The final purchase price allocation included $11 million of identifiable intangible assets and $2.7 million of goodwill.

The pro-forma impact of these transactions was not material to the Company's consolidated financial statements.
(6) 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 sale commitments which are considered derivative contracts that have not been designated as hedging instruments. 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):

	September 30, 2016		Dec. 31, 2015		September 30, 2015	
	Unpaid Principal Balance/	Fair Value	Unpaid Principal Balance/	Fair Value	Unpaid Principal Balance/	Fair Value

	Notional		Notional		Notional	
Residential mortgage loans held for sale	$422,523	$433,040	$293,637	$299,505	$336,974	$348,400
Residential mortgage loan commitments	630,804	18,598	601,147	8,134	742,742	18,161
Forward sales contracts	929,907	(4,046)	884,710	800	1,073,343	(9,147)
		$447,592		$308,439		$357,414

No residential mortgage loans held for sale were 90 days or more past due or considered impaired as of September 30, 2016, December 31, 2015 or September 30, 2015. No credit losses were recognized on residential mortgage loans held for sale for the nine month periods ended September 30, 2016 and 2015.

Mortgage banking revenue was as follows (in thousands):

	Three Months Ended Sept. 30,		Nine Months Ended September 30,	
	2016	2015	2016	2015
Production revenue:				
Net realized gains on sale of mortgage loans	$27,142	$18,968	$57,126	$60,075
Net change in unrealized gain on mortgage loans held for sale	(2,518)	6,666	4,649	4,751
Net change in the fair value of mortgage loan commitments	(6,901)	9,838	10,464	8,190
Net change in the fair value of forward sales contracts	8,267	(16,755)	(4,846)	(5,146)
Total production revenue	25,990	18,717	67,393	67,870
Servicing revenue	16,558	14,453	47,809	41,466
Total mortgage banking revenue	$42,548	$33,170	$115,202	$109,336

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 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):

	September 30, 2016	Dec. 31, 2015	September 30, 2015
Number of residential mortgage loans serviced for others	139,587	131,859	128,828
Outstanding principal balance of residential mortgage loans serviced for others	$21,851,536	$19,678,226	$18,928,726
Weighted average interest rate	4.01 %	4.12 %	4.15 %
Remaining term (in months)	302	300	300

Activity in capitalized mortgage servicing rights during the three months ended September 30, 2016 was as follows (in thousands):

	Purchased	Originated	Total
Balance, June 30, 2016	$ 4,067	$186,680	$190,747
Additions, net	—	21,990	21,990
Change in fair value due to scheduled payments and full-balance payoffs	(753)	(10,690)	(11,443)
Change in fair value due to market assumption changes	251	2,076	2,327
Balance, Sept. 30, 2016	$ 3,565	$200,056	$203,621

Activity in capitalized mortgage servicing rights during the nine months ended September 30, 2016 was as follows (in thousands):

	Purchased	Originated	Total
Balance, Dec. 31, 2015	$ 9,911	$208,694	$218,605
Additions, net	—	56,345	56,345
Change in fair value due to scheduled payments and full-balance payoffs	(2,109)	(27,276)	(29,385)

Change in fair value due to market assumption changes	(4,237)	(37,707)	(41,944)
Balance, Sept. 30, 2016	$ 3,565	$ 200,056	$ 203,621

Activity in capitalized mortgage servicing rights during the three months ended September 30, 2015 was as follows (in thousands):

	Purchased	Originated	Total
Balance, June 30, 2015	$10,730	$187,964	$198,694
Additions, net	—	19,993	19,993
Change in fair value due to scheduled payments and full-balance payoffs	(661)	(6,220)	(6,881)
Change in fair value due to market assumption changes	(656)	(11,101)	(11,757)
Balance, Sept. 30, 2015	$9,413	$190,636	$200,049

Activity in capitalized mortgage servicing rights during the nine months ended September 30, 2015 was as follows (in thousands):

	Purchased	Originated	Total
Balance, Dec. 31, 2014	$11,114	$160,862	$171,976
Additions, net	—	62,375	62,375
Change in fair value due to scheduled payments and full-balance payoffs	(2,171)	(19,862)	(22,033)
Change in fair value due to market assumption changes	470	(12,739)	(12,269)
Balance, Sept. 30, 2015	$9,413	$190,636	$200,049

Changes in the fair value of mortgage servicing rights are included in Other operating revenue in the Consolidated Statements of Earnings. Changes in fair value due to actual loan payments are included in Mortgage banking costs. Changes in fair value due to market assumption changes are reported separately. Changes in fair value due to market assumption changes during the period relate to assets held at the reporting date.

There is no active market for trading in mortgage servicing rights after origination. Fair value is determined by discounting the projected net cash flows. Significant assumptions used to determine fair value based on significant unobservable inputs were as follows:

	September 30, 2016	Dec. 31, 2015	September 30, 2015
Discount rate – risk-free rate plus a market premium	10.08%	10.11%	10.12%
Loan servicing costs – annually per loan based upon loan type:			
Performing loans	$63-$120	$63 - $105	$63 - $105
Delinquent loans	$150 - $500	$150 - $500	$150 - $500
Loans in foreclosure	$650 - $4,250	$650 - $4,250	$650 - $4,250
Escrow earnings rate – indexed to rates paid on deposit accounts with comparable average life	1.18%	1.73%	1.40%
Primary/secondary mortgage rate spread	115 bps	130 bps	135 bps

The Company is exposed to interest rate risk as benchmark residential mortgage interest rates directly affect the prepayment speeds used in valuing our mortgage servicing rights, which is partially managed through forward sales of residential mortgage-backed securities and forward sales contracts. A separate third party model is used to estimate prepayment speeds based on interest rates, housing turnover rates, estimated loan curtailment, anticipated defaults and other relevant factors. The prepayment model is updated daily for changes in market conditions and adjusted to better correlate with actual performance of BOK Financial's servicing portfolio.

Stratification of the residential mortgage loan servicing portfolio and outstanding principal of loans serviced for others by interest rate at September 30, 2016 follows (in thousands):

	< 4.00%	4.00% - 4.99%	5.00% - 5.99%	> 5.99%	Total

Fair value	$121,802	$74,830	$4,968	$2,021	$203,621
Outstanding principal of loans serviced for others	$12,145,996	$7,720,311	$1,215,692	$769,537	$21,851,536
Weighted average prepayment rate[1]	9.16 %	12.48 %	36.75 %	47.15 %	13.20 %

1 Annual prepayment estimates based upon loan interest rate, original term and loan type. Weighted average prepayment rate is determined by weighting the prepayment speed for each loan by its unpaid principal balance.

The interest rate sensitivity of our mortgage servicing rights is modeled over a range of +/- 50 basis points. At September 30, 2016, a 50 basis point decrease in mortgage interest rates is expected to decrease the fair value of our mortgage servicing rights by $52.6 million. A 50 basis point increase in mortgage interest rates is expected to increase the fair value of our mortgage servicing rights by $30.6 million. In the model, changes in the value of servicing rights due to changes in interest rates assume stable relationships between residential mortgage rates and prepayment speeds. Changes in market conditions can cause variations from these assumptions. These factors and others may cause changes in the value of our mortgage servicing rights to differ from our expectations.

The aging status of our mortgage loans serviced for others by investor at September 30, 2016 follows (in thousands):

	Current	Past Due 30 to 59 Days	60 to 89 Days	90 Days or More	Total
FHLMC	$7,760,547	$34,145	$10,399	$23,938	$7,829,029
FNMA	6,944,158	43,046	8,704	17,097	7,013,005
GNMA	6,338,155	150,386	48,790	16,624	6,553,955
Other	452,083	1,219	596	1,649	455,547
Total	$21,494,943	$228,796	$68,489	$59,308	$21,851,536

The Company has off-balance sheet credit risk related to residential mortgage loans sold to U.S. government agencies with recourse prior to 2008 under various community development programs. These loans consist of first lien, fixed-rate residential mortgage loans underwritten to standards approved by the agencies including full documentation and originated under programs available only for owner-occupied properties. However, these loans have a higher risk of delinquency and loss given default than traditional residential mortgage loans. The Company no longer sells residential mortgage loans with recourse other than obligations under standard representations and warranties. The recourse obligation relates to loan performance for the life of the loan and the Company is obligated to repurchase the loan at the time of foreclosure for the unpaid principal balance plus unpaid interest. The principal balance of residential mortgage loans sold subject to recourse obligations totaled $139 million at September 30, 2016, $155 million at December 31, 2015 and $162 million at September 30, 2015. A separate accrual for these off-balance sheet commitments is included in Other liabilities in the Consolidated Balance Sheets. At September 30, 2016, approximately 2 percent of the loans sold with recourse with an outstanding principal balance of $3.3 million were either delinquent more than 90 days, in bankruptcy or in foreclosure and 5 percent with an outstanding balance of $7.1 million were past due 30 to 89 days. The provision for credit losses on loans sold with recourse is included in Mortgage banking costs in the Consolidated Statements of Earnings.

The activity in the accrual for losses on loans sold with recourse included in Other liabilities in the Consolidated Balance Sheets is summarized as follows (in thousands):

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2016	2015	2016	2015
Beginning balance	$4,339	$6,691	$4,649	$7,299
Provision for recourse losses	113	81	504	211
Loans charged off, net	(235)	(506)	(936)	(1,244)
Ending balance	$4,217	$6,266	$4,217	$6,266

The Company also has obligations to repurchase or provide indemnification for residential mortgage loans sold to government sponsored entities due to standard representations and warranties made under contractual agreements and to service loans in accordance with investor guidelines. The Company has established accruals for losses related to these obligations that are included in Other liabilities in the Consolidated Balance Sheets and in Mortgage banking costs in the Consolidated Statements of Earnings.

The Company repurchased 2 loans from the agencies for $309 thousand during the third quarter of 2016. There were no indemnifications on loans paid during the third quarter of 2016. Losses recognized on repurchases were insignificant.

A summary of unresolved deficiency requests from the agencies follows (in thousands, except for number of unresolved deficiency requests):

	September 30, 2016		2015	
Number of unresolved deficiency requests	221		194	
Aggregate outstanding principal balance subject to unresolved deficiency requests	$	15,750	$	14,237
Unpaid principal balance subject to indemnification by the Company	5,399		4,604	

The activity in the accruals for mortgage losses is summarized as follows (in thousands).

	Three Months Ended September 30, 2016	2015	Nine Months Ended September 30, 2016	2015
Beginning balance	$8,043	$8,908	$7,732	$11,868
Provision for losses	1,357	(52)	5,260	(3,056)
Charge-offs, net	(1,758)	(1,262)	(5,350)	(1,218)
Ending balance	$7,642	$7,594	$7,642	$7,594

(7) Commitments and Contingent Liabilities

Litigation Contingencies

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

BOK Financial currently owns 252,233 Visa Class B shares which are convertible into 415,755 shares of Visa Class A shares after the final settlement of all covered litigation. Class B shares may be diluted in the future if the escrow fund is not adequate to cover future covered litigation costs. Therefore, no value has been currently assigned to the Class B shares and no value may be assigned until the Class B shares are converted into a known number of Class A shares.

On March 3, 2015, the Bank and the Company were named as defendants in a class action alleging (1) that the manner in which the Bank posted charges to its consumer deposit accounts was improper from September 1, 2011 through July 8, 2014, the period after which the Bank and BOK Financial had settled a class action respecting a similar claim, and before it made changes to its posting order and (2) that the manner in which the Bank posted charges to its small business deposit accounts was improper from July 9, 2009 through July 8, 2014. Following mediation of the case in August 2016, the Class Representatives and the Bank reached a settlement of the action for $7.8 million. The settlement is subject to the approval of the Court which the Parties to the Action expect. Management has established an accrual for the settlement.

On June 24, 2015, the Bank 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 the Bank 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 the 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 (estimated to be approximately $73 million, less the value of the facilities securing repayment of the bonds), subject to oversight by a court appointed monitor. On September 7, 2016, the Bank agreed, and the SEC entered, a consent order finding that the Bank had violated Section 17(a) of the Securities Act of 1933 and Section 10(b) of the Securities Exchange Act and requiring the Bank to disgorge $1,067,721 of fees and pay a civil penalty of $600,000. The Bank has disgorged the fees and paid the penalty. On January 7, 2016, the terminated employee filed an action against the Bank alleging the Bank defamed the employee and made a demand for indemnification respecting the SEC investigation which demand the respective boards of directors of the Company and the Bank denied. On September 9, 2016, the SEC filed a complaint against the terminated employee alleging the employee violated Section 17(a) of the Securities Act of 1933 and Section 10(b) of the Securities Exchange Act and requiring the employee to disgorge ill-gotten gains. On September 26, 2016, the employee dismissed the action without prejudice. On August 26, 2016, the Bank 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 the Bank participated in the fraudulent sale of securities by the principals. On September 14, 2016, the Bank was sued in the District Court of Tulsa County, Oklahoma by 19 bondholders alleging the Bank participated in the fraudulent sale of securities by the principals. Management has been advised by counsel that the Bank has valid defenses to the claims. The Bank expects the Court ordered payment plan will result in the payment of the bonds by the principals. Accordingly, no loss is probable at this time and no provision for loss has been made. If the payment plan does not result in payment of the bonds, a loss could become probable. A reasonable estimate cannot be made at this time though the amount could be material to the Company.

The Director of the New Mexico Securities Division of the State of New Mexico Regulation and Licensing Department ("the Director") issued a Notice of Contemplated Action in connection with the purchase of various municipal bonds by the elected County Treasurer of Bernalillo County, New Mexico, from BOK Financial Securities, Inc., the Company’s broker-dealer affiliate. The Notice was settled by a $125,000 payment to the Division’s Educational fund, without any fine, penalty or sanction. The County of Bernalillo, New Mexico, has commenced arbitration pursuant to the Arbitration Rules of FINRA seeking recovery of $5.6 million arising out of the purchase. The Company has been advised that any recovery by the County is remote.

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 two private equity funds 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 determined by the nature of the entity. Variable interest entities are generally defined as entities that either do not have sufficient equity to finance their activities without support from other parties or whose equity investors lack a controlling financial interest. Variable interest entities are consolidated based on the determination that the Company is the primary beneficiary including the power to direct the activities that most significantly impact the variable interest's economic performance and the obligation to absorb losses of the variable interest or the right to receive benefits of the variable interest that could be significant to the variable interest.

BOKF Equity, LLC, an indirect wholly-owned subsidiary, is the general partner of two consolidated private equity funds (“the Funds”). The Funds provide alternative investment opportunities to certain customers, some of which are related parties, through unaffiliated limited partnerships. These unaffiliated limited partnerships generally invest in distressed assets, asset buy-outs or venture capital companies. As general partner, BOKF Equity, LLC has the power to direct activities that most significantly affect the Funds' performance and contingent obligations to make additional investments totaling $4.6 million at September 30, 2016. Substantially all of the obligations are offset by limited partner commitments. The Company does not accrue its contingent liability to fund investments. The Volcker Rule in Title VI of the Dodd-Frank Act will limit both the amount and structure of these types of investments.

Consolidated tax credit investment entities represent the Company's interest in entities earning federal new market tax credits related to qualifying loans. The Company has the power to direct the activities that most significantly impact the variable interest's economic performance of the entity including being the primary beneficiary of or the obligation to absorb losses of the variable interest that could be significant to the variable interest.

Other consolidated alternative investments include entities held under merchant banking authority. While the Company owns a majority of the voting interest in these entities, its ability to manage daily operations is limited by applicable banking regulations. Consolidated other assets includes total tangible assets, identifiable intangible assets and goodwill held by these entities.

The Company also has interests in various unrelated alternative investments generally consisting of unconsolidated limited partnership interests in or loans to entities for which investment return is primarily in the form of tax credits or that invest in distressed real estate loans and properties, energy development, venture capital and other activities. The Company is prohibited by banking regulations from controlling or actively managing the activities of these investments and the Company's maximum exposure to loss is restricted to its investment balance. The Company's obligation to fund alternative investments is included in Other liabilities in the Consolidated Balance Sheets.

A summary of consolidated and unconsolidated alternative investments as of September 30, 2016, December 31, 2015 and September 30, 2015 is as follows (in thousands):

	September 30, 2016				
	Loans	Other assets	Other liabilities	Other borrowings	Non-controlling interests
Consolidated:					
Private equity funds	$—	$18,420	$—	$ —	$ 15,946
Tax credit entities	10,000	11,740	—	10,964	10,000
Other	—	30,978	2,346	1,063	8,154
Total consolidated	$10,000	$61,138	$2,346	$ 12,027	$ 34,100
Unconsolidated:					
Tax credit entities	$39,849	$129,715	$57,026	$ —	$ —
Other	—	30,272	13,653	—	—
Total unconsolidated	$39,849	$159,987	$70,679	$ —	$ —

	Dec. 31, 2015				
	Loans	Other assets	Other liabilities	Other borrowings	Non-controlling interests
Consolidated:					
Private equity funds	$—	$22,472	$—	$ —	$ 17,823
Tax credit entities	10,000	12,206	—	10,964	10,000
Other	—	40,453	2,198	2,831	9,260
Total consolidated	$10,000	$75,131	$2,198	$ 13,795	$ 37,083
Unconsolidated:					
Tax credit entities	$16,916	$85,274	$14,572	$ —	$ —
Other	—	15,506	6,319	—	—
Total unconsolidated	$16,916	$100,780	$20,891	$ —	$ —

	September 30, 2015				
	Loans	Other assets	Other liabilities	Other borrowings	Non-controlling interests
Consolidated:					
Private equity funds	$—	$24,133	$—	$ —	$ 19,947
Tax credit entities	10,000	12,361	—	10,964	10,000
Other	—	41,197	2,774	2,788	8,989
Total consolidated	$10,000	$77,691	$2,774	$ 13,752	$ 38,936
Unconsolidated:					
Tax credit entities	$18,114	$94,600	$21,973	$ —	$ —
Other	—	15,822	6,899	—	—
Total unconsolidated	$18,114	$110,422	$28,872	$ —	$ —

Other Commitments and Contingencies

At September 30, 2016, Cavanal Hill Funds' assets included U.S. Treasury, cash management and tax-free money market funds. Assets of these funds consist of highly-rated, short-term obligations of the U.S. Treasury, corporate issuers and U.S. states and municipalities. The net asset value of units in these funds was $1.00 at September 30, 2016. An investment in these funds is not insured by the Federal Deposit Insurance Corporation or guaranteed by BOK Financial or any of its subsidiaries. BOK Financial may, but is not obligated to purchase assets from these funds to maintain the net asset value at $1.00. No assets were purchased from the funds in 2016 or 2015.

The Company has agreed to purchase approximately $7.5 million of Oklahoma Historic State Income Tax Credits from the George Kaiser Family Foundation, a principal shareholder of BOKF. These credits will be used to reduce the Company's state income tax liability in 2016 and 2017.

(8) Shareholders' Equity

On October 25, 2016, the Company declared a quarterly cash dividend of $0.44 per common share on or about November 28, 2016 to shareholders of record as of November 14, 2016.

Dividends declared were $0.43 per share and $1.29 per share during the three and nine months ended September 30, 2016 and $0.42 per share and $1.26 during the three and nine months ended September 30, 2015.

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. AOCI also includes unrealized gains on AFS securities that were transferred from AFS to investment securities in the third quarter of 2011. Such amounts are being amortized over the estimated remaining life of the security as an adjustment to yield, offsetting the related amortization of premium on the transferred securities. 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. Accumulated losses on the interest rate lock hedge of the 2005 subordinated debt issuance were reclassified into income over the ten-year life of the debt. Gains and losses in AOCI are net of deferred income taxes.

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

	Unrealized Gain (Loss) on				
	Available for Sale Securities	Investment Securities Transferred from AFS	Employee Benefit Plans	Loss on Effective Cash Flow Hedges	Total
Balance, Dec. 31, 2014	$59,239	$ 376	$(2,868)	$ (74)	$56,673
Net change in unrealized gain (loss)	57,763	—	—	—	57,763
Reclassification adjustments included in earnings:					
Interest revenue, Investment securities, Taxable securities	—	(418)	—	—	(418)
Interest expense, Subordinated debentures	—	—	—	121	121
Net impairment losses recognized in earnings	92	—	—	—	92
Gain on available for sale securities, net	(9,926)	—	—	—	(9,926)
Other comprehensive income (loss), before income taxes	47,929	(418)	—	121	47,632
Federal and state income taxes[1]	18,644	(162)	—	47	18,529
Other comprehensive income (loss), net of income taxes	29,285	(256)	—	74	29,103
Balance, Sept. 30, 2015	$88,524	$ 120	$(2,868)	$ —	$85,776
Balance, Dec. 31, 2015	$23,284	$ 68	$(1,765)	$ —	$21,587
Net change in unrealized gain (loss)	133,108	—	—	—	133,108
Reclassification adjustments included in earnings:					
Interest revenue, Investment securities, Taxable securities	—	(112)	—	—	(112)
Interest expense, Subordinated debentures	—	—	—	—	—
Net impairment losses recognized in earnings	—	—	—	—	—
Gain on available for sale securities, net	(11,684)	—	—	—	(11,684)
Other comprehensive income (loss), before income taxes	121,424	(112)	—	—	121,312
Federal and state income taxes[1]	47,216	(44)	—	—	47,172
Other comprehensive income (loss), net of income taxes	74,208	(68)	—	—	74,140
Balance, Sept. 30, 2016	$97,492	$ —	$(1,765)	$ —	$95,727

[1] Calculated using a 39 percent effective tax rate.

(9) Earnings Per Share

(In thousands, except share and per share amounts)	Three Months Ended September 30,		Nine Months Ended September 30,	
	2016	2015	2016	2015
Numerator:				
Net income attributable to BOK Financial Corp. shareholders	$74,277	$ 74,891	$182,642	$ 228,964
Less: Earnings allocated to participating securities	916	894	2,275	2,652
Numerator for basic earnings per share – income available to common shareholders	73,361	73,997	180,367	226,312
Effect of reallocating undistributed earnings of participating securities	1	1	1	2
Numerator for diluted earnings per share – income available to common shareholders	$73,362	$ 73,998	$180,368	$ 226,314
Denominator:				
Weighted average shares outstanding	65,895,436	68,486,376	66,031,497	68,800,419
Less: Participating securities included in weighted average shares outstanding	810,038	818,300	822,723	795,911
Denominator for basic earnings per common share	65,085,398	67,668,076	65,208,774	68,004,508
Dilutive effect of employee stock compensation plans[1]	72,449	94,407	54,792	99,509
Denominator for diluted earnings per common share	65,157,847	67,762,483	65,263,566	68,104,017
Basic earnings per share	$1.13	$ 1.09	$2.77	$ 3.33
Diluted earnings per share	$1.13	$ 1.09	$2.76	$ 3.32
[1] Excludes employee stock options with exercise prices greater than current market price.	—	—	—	—

(10) Reportable Segments

Reportable segments reconciliation to the Consolidated Financial Statements for the three months ended September 30, 2016 is as follows (in thousands):

	Commercial	Consumer	Wealth Management	Funds Management and Other	BOK Financial Consolidated
Net interest revenue from external sources	$123,598	$22,098	$9,274	$ 32,876	$187,846
Net interest revenue (expense) from internal sources	(15,052)	9,263	7,401	(1,612)	—
Net interest revenue	108,546	31,361	16,675	31,264	187,846
Provision for credit losses	5,601	1,157	(89)	3,331	10,000
Net interest revenue after provision for credit losses	102,945	30,204	16,764	27,933	177,846
Other operating revenue	49,642	64,635	73,523	3,542	191,342
Other operating expense	53,375	64,995	64,426	79,324	262,120
Net direct contribution	99,212	29,844	25,861	(47,849)	107,068
Loss on financial instruments, net	—	(1,087)	(42)	1,129	—
Change in fair value of mortgage servicing rights	—	2,327	—	(2,327)	—
Gain on repossessed assets, net	1,486	161	—	(1,647)	—
Corporate expense allocations	9,054	16,905	10,912	(36,871)	—
Net income before taxes	91,644	14,340	14,907	(13,823)	107,068
Federal and state income taxes	35,650	5,578	5,799	(15,071)	31,956
Net income	55,994	8,762	9,108	1,248	75,112
Net income attributable to non-controlling interests	—	—	—	835	835
Net income attributable to BOK Financial Corp. shareholders	$55,994	$8,762	$9,108	$ 413	$74,277
Average assets	$16,934,587	$8,827,816	$6,413,735	$ 470,335	$32,646,473
Average invested capital	1,170,465	275,358	244,291	1,667,437	3,357,551

Reportable segments reconciliation to the Consolidated Financial Statements for the nine months ended September 30, 2016 is as follows (in thousands):

	Commercial	Consumer	Wealth Management	Funds Management and Other	BOK Financial Consolidated
Net interest revenue from external sources	$358,714	$65,897	$21,622	$ 106,797	$553,030
Net interest revenue (expense) from internal sources	(44,259)	27,492	22,258	(5,491)	—
Net interest revenue	314,455	93,389	43,880	101,306	553,030
Provision for credit losses	34,024	4,177	(479)	27,278	65,000
Net interest revenue after provision for credit losses	280,431	89,212	44,359	74,028	488,030
Other operating revenue	146,248	181,774	218,042	(6,096)	539,968
Other operating expense	162,039	189,188	186,524	223,994	761,745
Net direct contribution	264,640	81,798	75,877	(156,062)	266,253
Gain (loss) on financial instruments, net	—	30,539	(42)	(30,497)	—
Change in fair value of mortgage servicing rights	—	(41,944)	—	41,944	—
Gain on repossessed assets, net	806	566	—	(1,372)	—
Corporate expense allocations	26,681	49,513	31,864	(108,058)	—
Net income before taxes	238,765	21,446	43,971	(37,929)	266,253
Federal and state income taxes	92,880	8,342	17,105	(34,446)	83,881
Net income	145,885	13,104	26,866	(3,483)	182,372
Net loss attributable to non-controlling interests	—	—	—	(270)	(270)
Net income attributable to BOK Financial Corp. shareholders	$145,885	$13,104	$26,866	$ (3,213)	$182,642
Average assets	$16,958,999	$8,763,564	$5,916,545	$ 410,075	$32,049,183
Average invested capital	1,161,996	267,123	238,917	1,650,563	3,318,599

Reportable segments reconciliation to the Consolidated Financial Statements for the three months ended September 30, 2015 is as follows (in thousands):

	Commercial	Consumer	Wealth Management	Funds Management and Other	BOK Financial Consolidated
Net interest revenue from external sources	$109,503	$21,551	$6,674	$ 40,908	$178,636
Net interest revenue (expense) from internal sources	(13,450)	7,216	$5,834	400	—
Net interest revenue	96,053	28,767	12,508	41,308	178,636
Provision for credit losses	997	1,431	(190)	5,262	7,500
Net interest revenue after provision for credit losses	95,056	27,336	12,698	36,046	171,136
Other operating revenue	45,276	57,349	66,541	(5,730)	163,436
Other operating expense	51,960	51,027	57,356	64,285	224,628
Net direct contribution	88,372	33,658	21,883	(33,969)	109,944
Gain (loss) on financial instruments, net	—	7,386	(176)	(7,210)	—
Change in fair value of mortgage servicing rights	—	(11,758)	—	11,758	—
Gain on repossessed assets, net	350	331	—	(681)	—
Corporate expense allocations	10,723	18,921	9,841	(39,485)	—
Net income before taxes	77,999	10,696	11,866	9,383	109,944
Federal and state income taxes	30,342	4,161	4,616	(4,991)	34,128
Net income	47,657	6,535	7,250	14,374	75,816
Net income attributable to non-controlling interests	—	—	—	925	925
Net income attributable to BOK Financial Corp. shareholders	$47,657	$6,535	$7,250	$ 13,449	$74,891
Average assets	$16,156,446	$8,843,926	$5,433,238	$ 336,123	$30,769,733
Average invested capital	1,062,053	264,540	226,477	1,808,477	3,361,547

Reportable segments reconciliation to the Consolidated Financial Statements for the nine months ended September 30, 2015 is as follows (in thousands):

	Commercial	Consumer	Wealth Management	Funds Management and Other	BOK Financial Consolidated
Net interest revenue from external sources	$319,298	$63,993	$18,271	$ 120,531	$522,093
Net interest revenue (expense) from internal sources	(38,728)	20,874	$17,400	454	—
Net interest revenue	280,570	84,867	35,671	120,985	522,093
Provision for credit losses	(7,952)	4,467	(937)	15,922	11,500
Net interest revenue after provision for credit losses	288,522	80,400	36,608	105,063	510,593
Other operating revenue	132,996	178,232	204,100	(9,590)	505,738
Other operating expense	151,908	155,844	170,113	194,141	672,006
Net direct contribution	269,610	102,788	70,595	(98,668)	344,325
Gain (loss) on financial instruments, net	—	1,809	(204)	(1,605)	—
Change in fair value of mortgage servicing rights	—	(12,269)	—	12,269	—
Gain on repossessed assets, net	336	888	—	(1,224)	—
Corporate expense allocations	32,747	56,075	30,011	(118,833)	—
Net income before taxes	237,199	37,141	40,380	29,605	344,325
Federal and state income taxes	92,270	14,448	15,708	(9,284)	113,142
Net income	144,929	22,693	24,672	38,889	231,183
Net income attributable to non-controlling interests	—	—	—	2,219	2,219
Net income attributable to BOK Financial Corp. shareholders	$144,929	$22,693	$24,672	$ 36,670	$228,964
Average assets	$16,229,307	$8,871,423	$5,401,433	$ (97,733)	$30,404,430
Average invested capital	1,028,013	268,427	225,222	1,819,969	3,341,631

(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. Certain assets and liabilities are recorded in the Company's financial statements at fair value. Some are recorded on a recurring basis and some on a non-recurring basis.

For some assets and liabilities, observable market transactions and market information might be available. For other assets and liabilities, observable market transactions and market information might not be available. A hierarchy for fair value has been established which categorizes into three levels the inputs to valuation techniques used to measure fair value. The three levels are as follows:

Quoted Prices in Active Markets for Identical Assets or Liabilities (Level 1) - Fair value is based on unadjusted quoted prices in active markets for identical assets or liabilities.

Significant Other Observable Inputs (Level 2) - Fair value is based on significant other observable inputs which are generally determined based on a single price for each financial instrument provided to us by an applicable third-party pricing service and is based on one or more of the following:

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

Significant Unobservable Inputs (Level 3) - Fair value is based upon model-based valuation techniques for which at least one significant assumption is not observable in the market.

Transfers between levels are recognized as of the end of the reporting period. There were no transfers in or out of quoted prices in active markets for identical instruments to significant other observable inputs or significant unobservable inputs during the three and nine months ended September 30, 2016 and 2015, respectively. Transfers between significant other observable inputs and significant unobservable inputs during the three and nine months ended September 30, 2016 and 2015 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 September 30, 2016, December 31, 2015 or September 30, 2015.

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 September 30, 2016 (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	$ 15,705	$ —	$ 15,705	$ —
U.S. government agency residential mortgage-backed securities	464,749	—	464,749	—
Municipal and other tax-exempt securities	54,856	—	54,856	—
Other trading securities	11,305	—	11,305	—
Total trading securities	546,615	—	546,615	—
Available for sale securities:				
U.S. Treasury	1,002	1,002	—	—
Municipal and other tax-exempt	42,092	—	36,379	5,713
U.S. government agency residential mortgage-backed securities	5,668,672	—	5,668,672	—
Privately issued residential mortgage-backed securities	121,603	—	121,603	—
Commercial mortgage-backed securities guaranteed by U.S. government agencies	2,986,495	—	2,986,495	—
Other debt securities	4,151	—	—	4,151
Perpetual preferred stock	19,578	—	19,578	—
Equity securities and mutual funds	18,690	3,544	15,146	—
Total available for sale securities	8,862,283	4,546	8,847,873	9,864
Fair value option securities:				
U.S. government agency residential mortgage-backed securities	—	—	—	—
U.S. Treasury	222,409	222,409	—	—
Total fair value option securities	222,409	222,409	—	—
Residential mortgage loans held for sale	447,592	—	438,291	9,301
Mortgage servicing rights[1]	203,621	—	—	203,621
Derivative contracts, net of cash collateral[2]	655,078	5,575	649,503	—
Liabilities:				
Derivative contracts, net of cash collateral[2]	573,987	1,308	572,679	—

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 6, 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 agricultural 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 energy derivative contracts, net of cash margin.

The fair value of financial assets and liabilities measured on a recurring basis was as follows as of December 31, 2015 (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:				