

CULLEN/FROST BANKERS, INC.

Form 10-Q

April 26, 2017

Table of Contents

United States

Securities and Exchange Commission

Washington, D.C. 20549

Form 10-Q

ý Quarterly Report Pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934

For the quarterly period ended: March 31, 2017

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 number: 001-13221

Cullen/Frost Bankers, Inc.

(Exact name of registrant as specified in its charter)

Texas 74-1751768

(I.R.S.

(State or other jurisdiction of Employer
incorporation or organization) Identification
No.)

100 W. Houston Street, San Antonio, Texas 78205
(Address of principal executive offices) (Zip code)

(210) 220-4011

(Registrant's telephone number, including area code)

N/A

(Former name, former address and former fiscal year, if changed since last report)

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

Large accelerated filer ý Accelerated filer ¨

Non-accelerated filer ¨ (Do not check if a smaller reporting company) Smaller reporting company ¨

Emerging growth company ¨

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

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

As of April 21, 2017 there were 63,950,427 shares of the registrant's Common Stock, \$.01 par value, outstanding.

Table of Contents

Cullen/Frost Bankers, Inc.

Quarterly Report on Form 10-Q

March 31, 2017

Table of Contents

	Page
<u>Part I - Financial Information</u>	
Item 1. <u>Financial Statements (Unaudited)</u>	
<u>Consolidated Balance Sheets</u>	<u>3</u>
<u>Consolidated Statements of Income</u>	<u>4</u>
<u>Consolidated Statements of Comprehensive Income</u>	<u>5</u>
<u>Consolidated Statements of Changes in Shareholders' Equity</u>	<u>6</u>
<u>Consolidated Statements of Cash Flows</u>	<u>7</u>
<u>Notes to Consolidated Financial Statements</u>	<u>8</u>
Item 2. Management's Discussion and Analysis of Financial Condition and Results of Operations	<u>32</u>
Item 3. <u>Quantitative and Qualitative Disclosures About Market Risk</u>	<u>50</u>
Item 4. <u>Controls and Procedures</u>	<u>51</u>
<u>Part II - Other Information</u>	
Item 1. <u>Legal Proceedings</u>	<u>52</u>
Item 1A. <u>Risk Factors</u>	<u>52</u>
Item 2. <u>Unregistered Sales of Equity Securities and Use of Proceeds</u>	<u>52</u>
Item 3. <u>Defaults Upon Senior Securities</u>	<u>52</u>
Item 4. <u>Mine Safety Disclosures</u>	<u>52</u>
Item 5. <u>Other Information</u>	<u>52</u>
Item 6. <u>Exhibits</u>	<u>52</u>
<u>Signatures</u>	<u>53</u>

Table of Contents

Part I. Financial Information

Item 1. Financial Statements (Unaudited)

Cullen/Frost Bankers, Inc.

Consolidated Balance Sheets

(Dollars in thousands, except per share amounts)

	March 31, 2017	December 31, 2016
Assets:		
Cash and due from banks	\$509,506	\$561,838
Interest-bearing deposits	3,989,375	3,560,865
Federal funds sold and resell agreements	30,292	18,742
Total cash and cash equivalents	4,529,173	4,141,445
Securities held to maturity, at amortized cost	1,640,255	2,250,460
Securities available for sale, at estimated fair value	10,612,493	10,203,277
Trading account securities	17,094	16,703
Loans, net of unearned discounts	12,185,645	11,975,392
Less: Allowance for loan losses	(153,056)	(153,045)
Net loans	12,032,589	11,822,347
Premises and equipment, net	521,092	525,821
Goodwill	654,952	654,952
Other intangible assets, net	6,318	6,776
Cash surrender value of life insurance policies	178,206	177,884
Accrued interest receivable and other assets	332,533	396,654
Total assets	\$30,524,705	\$30,196,319
Liabilities:		
Deposits:		
Non-interest-bearing demand deposits	\$10,909,415	\$10,513,369
Interest-bearing deposits	15,232,749	15,298,206
Total deposits	26,142,164	25,811,575
Federal funds purchased and repurchase agreements	895,200	976,992
Junior subordinated deferrable interest debentures, net of unamortized issuance costs	136,141	136,127
Subordinated notes, net of unamortized issuance costs	98,446	99,990
Accrued interest payable and other liabilities	155,376	169,107
Total liabilities	27,427,327	27,193,791
Shareholders' Equity:		
Preferred stock, par value \$0.01 per share; 10,000,000 shares authorized; 6,000,000 Series A shares (\$25 liquidation preference) issued at March 31, 2017 and December 31, 2016	144,486	144,486
Common stock, par value \$0.01 per share; 210,000,000 shares authorized; 63,915,806 shares issued at March 31, 2017 and 63,632,464 shares issued at December 31, 2016	640	637
Additional paid-in capital	926,005	906,732
Retained earnings	2,032,097	1,985,569
Accumulated other comprehensive income, net of tax	(5,850)	(24,623)
Treasury stock, at cost; none at March 31, 2017 and 158,243 shares at December 31, 2016	—	(10,273)
Total shareholders' equity	3,097,378	3,002,528
Total liabilities and shareholders' equity	\$30,524,705	\$30,196,319

See Notes to Consolidated Financial Statements.

Table of Contents

Cullen/Frost Bankers, Inc.

Consolidated Statements of Income

(Dollars in thousands, except per share amounts)

	Three Months Ended March 31,	
	2017	2016
Interest income:		
Loans, including fees	\$ 122,600	\$ 112,586
Securities:		
Taxable	25,302	25,974
Tax-exempt	56,947	50,333
Interest-bearing deposits	6,836	3,653
Federal funds sold and resell agreements	107	58
Total interest income	211,792	192,604
Interest expense:		
Deposits	1,868	1,787
Federal funds purchased and repurchase agreements	139	56
Junior subordinated deferrable interest debentures	908	750
Other long-term borrowings	368	287
Total interest expense	3,283	2,880
Net interest income	208,509	189,724
Provision for loan losses	7,952	28,500
Net interest income after provision for loan losses	200,557	161,224
Non-interest income:		
Trust and investment management fees	26,470	25,334
Service charges on deposit accounts	20,769	20,364
Insurance commissions and fees	13,821	15,423
Interchange and debit card transaction fees	5,574	5,022
Other charges, commissions and fees	9,592	9,053
Net gain (loss) on securities transactions	—	14,903
Other	7,474	6,044
Total non-interest income	83,700	96,143
Non-interest expense:		
Salaries and wages	82,512	79,297
Employee benefits	21,625	20,305
Net occupancy	19,237	17,187
Furniture and equipment	17,990	17,517
Deposit insurance	4,915	3,657
Intangible amortization	458	664
Other	41,178	40,532
Total non-interest expense	187,915	179,159
Income before income taxes	96,342	78,208
Income taxes	11,401	9,392
Net income	84,941	68,816
Preferred stock dividends	2,016	2,016
Net income available to common shareholders	\$82,925	\$66,800

Earnings per common share:

Basic	\$1.29	\$1.07
Diluted	1.28	1.07

See Notes to Consolidated Financial Statements.

Table of Contents

Cullen/Frost Bankers, Inc.

Consolidated Statements of Comprehensive Income

(Dollars in thousands)

	Three Months Ended March 31,	
	2017	2016
Net income	\$84,941	\$68,816
Other comprehensive income (loss), before tax:		
Securities available for sale and transferred securities:		
Change in net unrealized gain/loss during the period	33,811	122,218
Change in net unrealized gain on securities transferred to held to maturity	(6,286)	(8,166)
Reclassification adjustment for net (gains) losses included in net income	—	(14,903)
Total securities available for sale and transferred securities	27,525	99,149
Defined-benefit post-retirement benefit plans:		
Reclassification adjustment for net amortization of actuarial gain/loss included in net income as a component of net periodic cost (benefit)	1,357	1,553
Total defined-benefit post-retirement benefit plans	1,357	1,553
Other comprehensive income (loss), before tax	28,882	100,702
Deferred tax expense (benefit) related to other comprehensive income	10,109	35,246
Other comprehensive income (loss), net of tax	18,773	65,456
Comprehensive income (loss)	\$103,714	\$134,272
See Notes to Consolidated Financial Statements.		

Table of Contents

Cullen/Frost Bankers, Inc.

Consolidated Statements of Changes in Shareholders' Equity

(Dollars in thousands, except per share amounts)

	Three Months Ended March 31,	
	2017	2016
Total shareholders' equity at beginning of period	\$3,002,528	\$2,890,343
Net income	84,941	68,816
Other comprehensive income (loss)	18,773	65,456
Stock option exercises/stock unit conversions (442,054 shares in 2017 and 1,875 shares in 2016)	24,747	97
Stock compensation expense recognized in earnings	3,103	2,482
Purchase of treasury stock (469 shares in 2017)	(42)	—
Cash dividends – preferred stock (approximately \$0.34 per share in both 2017 and in 2016)	(2,016)	(2,016)
Cash dividends – common stock (\$0.54 per share in 2017 and \$0.53 per share in 2016)	(34,656)	(32,938)
Total shareholders' equity at end of period	\$3,097,378	\$2,992,240

See Notes to Consolidated Financial Statements.

Table of Contents

Cullen/Frost Bankers, Inc.
Consolidated Statements of Cash Flows
(Dollars in thousands)

	Three Months Ended March 31,	
	2017	2016
Operating Activities:		
Net income	\$84,941	\$68,816
Adjustments to reconcile net income to net cash from operating activities:		
Provision for loan losses	7,952	28,500
Deferred tax expense (benefit)	(4,301)	(4,395)
Accretion of loan discounts	(3,913)	(3,727)
Securities premium amortization (discount accretion), net	21,638	19,725
Net (gain) loss on securities transactions	—	(14,903)
Depreciation and amortization	12,121	11,912
Net (gain) loss on sale/write-down of assets/foreclosed assets	(533)	(632)
Stock-based compensation	3,103	2,482
Net tax benefit from stock-based compensation	3,515	37
Earnings on life insurance policies	(783)	(867)
Net change in:		
Trading account securities	(1,088)	(444)
Accrued interest receivable and other assets	55,705	29,418
Accrued interest payable and other liabilities	(48,702)	(5,792)
Net cash from operating activities	129,655	130,130
Investing Activities:		
Securities held to maturity:		
Purchases	—	—
Sales	—	135,610
Maturities, calls and principal repayments	599,457	149,507
Securities available for sale:		
Purchases	(466,004)	(813,955)
Sales	—	1,060,196
Maturities, calls and principal repayments	107,586	91,993
Proceeds from sale of loans	—	—
Net change in loans	(214,281)	(54,632)
Benefits received on life insurance policies	461	—
Proceeds from sales of premises and equipment	1,544	1,513
Purchases of premises and equipment	(6,311)	(7,366)
Proceeds from sales of repossessed properties	345	57
Net cash from investing activities	22,797	562,923
Financing Activities:		
Net change in deposits	330,589	(186,620)
Net change in short-term borrowings	(81,792)	(199,636)
Proceeds from issuance of subordinated notes	98,446	—
Principal payments on subordinated notes	(100,000)	—
Proceeds from stock option exercises	24,747	97
Purchase of treasury stock	(42)	—

Edgar Filing: CULLEN/FROST BANKERS, INC. - Form 10-Q

Cash dividends paid on preferred stock	(2,016) (2,016)
Cash dividends paid on common stock	(34,656) (32,938)
Net cash from financing activities	235,276	(421,113)

Net change in cash and cash equivalents	387,728	271,940
Cash and equivalents at beginning of period	4,141,445	3,591,523
Cash and equivalents at end of period	\$4,529,173	\$3,863,463

See Notes to Consolidated Financial Statements.

Table of Contents

Notes to Consolidated Financial Statements

(Table amounts in thousands, except for share and per share amounts)

Note 1 - Significant Accounting Policies

Nature of Operations. Cullen/Frost Bankers, Inc. (“Cullen/Frost”) is a financial holding company and a bank holding company headquartered in San Antonio, Texas that provides, through its subsidiaries, a broad array of products and services throughout numerous Texas markets. The terms “Cullen/Frost,” “the Corporation,” “we,” “us” and “our” mean Cullen/Frost Bankers, Inc. and its subsidiaries, when appropriate. In addition to general commercial and consumer banking, other products and services offered include trust and investment management, insurance, brokerage, mutual funds, leasing, treasury management, capital markets advisory and item processing.

Basis of Presentation. The consolidated financial statements in this Quarterly Report on Form 10-Q include the accounts of Cullen/Frost and all other entities in which Cullen/Frost has a controlling financial interest. All significant intercompany balances and transactions have been eliminated in consolidation. The accounting and financial reporting policies we follow conform, in all material respects, to accounting principles generally accepted in the United States and to general practices within the financial services industry.

The consolidated financial statements in this Quarterly Report on Form 10-Q have not been audited by an independent registered public accounting firm, but in the opinion of management, reflect all adjustments necessary for a fair presentation of our financial position and results of operations. All such adjustments were of a normal and recurring nature. The consolidated financial statements have been prepared in accordance with accounting principles generally accepted in the United States for interim financial information and with the instructions to Form 10-Q adopted by the Securities and Exchange Commission (“SEC”). Accordingly, the financial statements do not include all of the information and footnotes required by accounting principles generally accepted in the United States for complete financial statements and should be read in conjunction with our consolidated financial statements, and notes thereto, for the year ended December 31, 2016, included in our Annual Report on Form 10-K filed with the SEC on February 3, 2017 (the “2016 Form 10-K”). Operating results for the interim periods disclosed herein are not necessarily indicative of the results that may be expected for a full year or any future period.

Use of Estimates. The preparation of financial statements in conformity with accounting principles generally accepted in the United States requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements. Actual results could differ from those estimates. The allowance for loan losses and the fair values of financial instruments and the status of contingencies are particularly subject to change.

Cash Flow Reporting. Additional cash flow information was as follows:

	Three Months Ended March 31,	
	2017	2016
Cash paid for interest	\$3,257	\$2,794
Cash paid for income taxes	—	—
Significant non-cash transactions:		
Unsettled purchases of securities	33,466	94,905
Loans foreclosed and transferred to other real estate owned and foreclosed assets	—	376

Accounting Changes, Reclassifications and Restatements. Certain items in prior financial statements have been reclassified to conform to the current presentation. As more fully described in our 2016 Form 10-K, during the third quarter of 2016, we elected to adopt the provisions of ASU 2016-09, “Compensation - Stock Compensation (Topic 718): Improvements to Employee Share-Based Payment Accounting,” in advance of the required application date of January 1, 2017. Our financial statements for the three months ended March 31, 2016 have been restated to reflect the adoption of ASU 2016-09 as of January 1, 2016. As a result, compared to previously reported amounts, our consolidated income statement as of March 31, 2016 reflects a \$37 thousand decrease in income tax expense and a \$37 thousand increase in net income which did not impact previously reported earnings per share.

Table of Contents

Note 2 - Securities

Securities. A summary of the amortized cost and estimated fair value of securities, excluding trading securities, is presented below.

	March 31, 2017				December 31, 2016			
	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Estimated Fair Value	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Estimated Fair Value
Held to Maturity								
U.S. Treasury	\$—	\$—	\$—	\$—	\$249,889	\$1,762	\$—	\$251,651
Residential mortgage-backed securities	4,313	30	—	4,343	4,511	39	—	4,550
States and political subdivisions	1,634,592	27,531	3,039	1,659,084	1,994,710	16,821	6,335	2,005,196
Other	1,350	—	4	1,346	1,350	—	—	1,350
Total	\$1,640,255	\$27,561	\$3,043	\$1,664,773	\$2,250,460	\$18,622	\$6,335	\$2,262,747
Available for Sale								
U.S. Treasury	\$4,203,543	\$25,386	\$7,698	\$4,221,231	\$4,003,692	\$24,984	\$8,945	\$4,019,731
Residential mortgage-backed securities	711,040	27,305	1,426	736,919	756,072	30,388	1,293	785,167
States and political subdivisions	5,624,493	70,205	82,860	5,611,838	5,403,918	50,101	98,134	5,355,885
Other	42,505	—	—	42,505	42,494	—	—	42,494
Total	\$10,581,581	\$122,896	\$91,984	\$10,612,493	\$10,206,176	\$105,473	\$108,372	\$10,203,277

All mortgage-backed securities included in the above table were issued by U.S. government agencies and corporations. At March 31, 2017, approximately 98.1% of the securities in our municipal bond portfolio were issued by political subdivisions or agencies within the State of Texas, of which approximately 67.2% are either guaranteed by the Texas Permanent School Fund, which has a “triple A” insurer financial strength rating, or are secured by U.S. Treasury securities via defeasance of the debt by the issuers. Securities with limited marketability, such as stock in the Federal Reserve Bank and the Federal Home Loan Bank, are carried at cost and are reported as other available for sale securities in the table above. The carrying value of securities pledged to secure public funds, trust deposits, repurchase agreements and for other purposes, as required or permitted by law was \$3.4 billion at March 31, 2017 and \$3.9 billion and December 31, 2016.

During the fourth quarter of 2012, we reclassified certain securities from available for sale to held to maturity. The securities had an aggregate fair value of \$2.3 billion with an aggregate net unrealized gain of \$165.7 million (\$107.7 million, net of tax) on the date of the transfer. The net unamortized, unrealized gain on the remaining transferred securities included in accumulated other comprehensive income in the accompanying balance sheet as of March 31, 2017 totaled \$21.5 million (\$14.0 million, net of tax). This amount will be amortized out of accumulated other comprehensive income over the remaining life of the underlying securities as an adjustment of the yield on those securities.

Unrealized Losses. As of March 31, 2017, securities with unrealized losses, segregated by length of impairment, were as follows:

	Less than 12 Months		More than 12 Months		Total	
	Estimated Fair Value	Unrealized Losses	Estimated Fair Value	Unrealized Losses	Estimated Fair Value	Unrealized Losses
Held to Maturity						
States and political subdivisions	\$27,969	\$249	\$120,214	\$2,790	\$148,183	\$3,039
Other	1,346	4	—	—	1,346	4

Edgar Filing: CULLEN/FROST BANKERS, INC. - Form 10-Q

Total	\$29,315	\$ 253	\$120,214	\$ 2,790	\$149,529	\$ 3,043
Available for Sale						
U.S. Treasury	\$1,621,498	\$ 7,698	\$—	\$ —	\$1,621,498	\$ 7,698
Residential mortgage-backed securities	61,669	1,166	\$6,200	260	67,869	1,426
States and political subdivisions	2,182,114	82,860	—	—	2,182,114	82,860
Total	\$3,865,281	\$ 91,724	\$6,200	\$ 260	\$3,871,481	\$ 91,984

9

Table of Contents

Declines in the fair value of held-to-maturity and available-for-sale securities below their cost that are deemed to be other than temporary are reflected in earnings as realized losses to the extent the impairment is related to credit losses. The amount of the impairment related to other factors is recognized in other comprehensive income. In estimating other-than-temporary impairment losses, management considers, among other things, (i) the length of time and the extent to which the fair value has been less than cost, (ii) the financial condition and near-term prospects of the issuer, and (iii) the intent and our ability to retain our investment in the issuer for a period of time sufficient to allow for any anticipated recovery in cost.

Management has the ability and intent to hold the securities classified as held to maturity in the table above until they mature, at which time we will receive full value for the securities. Furthermore, as of March 31, 2017, management does not have the intent to sell any of the securities classified as available for sale in the table above and believes that it is more likely than not that we will not have to sell any such securities before a recovery of cost. Any unrealized losses are due to increases in market interest rates over the yields available at the time the underlying securities were purchased. The fair value is expected to recover as the bonds approach their maturity date or repricing date or if market yields for such investments decline. Management does not believe any of the securities are impaired due to reasons of credit quality. Accordingly, as of March 31, 2017, management believes the impairments detailed in the table above are temporary and no impairment loss has been realized in our consolidated income statement.

Contractual Maturities. The amortized cost and estimated fair value of securities, excluding trading securities, at March 31, 2017 are presented below by contractual maturity. Expected maturities may differ from contractual maturities because issuers may have the right to call or prepay obligations. Residential mortgage-backed securities and equity securities are shown separately since they are not due at a single maturity date.

	Held to Maturity		Available for Sale	
	Amortized Cost	Estimated Fair Value	Amortized Cost	Estimated Fair Value
Due in one year or less	\$327,143	\$335,353	\$50,830	\$51,606
Due after one year through five years	166,880	174,676	4,793,171	4,819,082
Due after five years through ten years	349,195	353,119	366,528	376,888
Due after ten years	792,724	797,282	4,617,507	4,585,493
Residential mortgage-backed securities	4,313	4,343	711,040	736,919
Equity securities	—	—	42,505	42,505
Total	\$1,640,255	\$1,664,773	\$10,581,581	\$10,612,493

Sales of Securities. As more fully discussed in our 2016 Form 10-K, during 2016, we sold certain securities issued by municipalities that, based upon our internal credit analysis, had experienced significant deterioration in creditworthiness. Some of the securities we sold were classified as held to maturity prior to their sale. Despite their classification as held to maturity, we believe the sale of these securities was merited and permissible under the applicable accounting guidelines because of the significant deterioration in the creditworthiness of the issuers.

Sales of securities held to maturity were as follows:

	Three Months Ended March 31, 2016
Proceeds from sales	\$—\$135,610
Amortized cost	—131,840
Gross realized gains	—3,770
Gross realized losses	—
Tax (expense) benefit of securities gains/losses	—(1,319)

Sales of securities available for sale were as follows:

Three Months Ended

	March 31,
	2016
Proceeds from sales	\$1,060,196
Gross realized gains	—11,133
Gross realized losses	—
Tax (expense) benefit of securities gains/losses	—(3,897)

10

Table of Contents

Premiums and Discounts. Premium amortization and discount accretion included in interest income on securities was as follows:

	Three Months Ended March 31,	
	2017	2016
Premium amortization	\$(24,028)	\$(22,340)
Discount accretion	2,390	2,615
Net (premium amortization) discount accretion	\$(21,638)	\$(19,725)

Trading Account Securities. Trading account securities, at estimated fair value, were as follows:

	March 31, December 31,	
	2017	2016
U.S. Treasury	\$ 17,094	\$ 16,594
States and political subdivisions	—	109
Total	\$ 17,094	\$ 16,703

Net gains and losses on trading account securities were as follows:

	Three Months Ended March 31,	
	2017	2016
Net gain on sales transactions	\$311	\$302
Net mark-to-market gains (losses)	13	1
Net gain (loss) on trading account securities	\$324	\$303

Note 3 - Loans

Loans were as follows:

	March 31, 2017	Percentage of Total	December 31, 2016	Percentage of Total
Commercial and industrial	\$4,402,276	36.2 %	\$4,344,000	36.3 %
Energy:				
Production	982,266	8.0	971,767	8.1
Service	204,797	1.7	221,213	1.8
Other	175,493	1.5	193,081	1.7
Total energy	1,362,556	11.2	1,386,061	11.6
Commercial real estate:				
Commercial mortgages	3,602,100	29.6	3,481,157	29.1
Construction	1,063,894	8.7	1,043,261	8.7
Land	322,790	2.6	311,030	2.6
Total commercial real estate	4,988,784	40.9	4,835,448	40.4
Consumer real estate:				
Home equity loans	346,632	2.8	345,130	2.9
Home equity lines of credit	269,813	2.2	264,862	2.2
Other	332,531	2.7	326,793	2.7
Total consumer real estate	948,976	7.7	936,785	7.8
Total real estate	5,937,760	48.6	5,772,233	48.2
Consumer and other	483,053	4.0	473,098	3.9
Total loans	\$12,185,645	100.0 %	\$11,975,392	100.0 %

Concentrations of Credit. Most of our lending activity occurs within the State of Texas, including the four largest metropolitan areas of Austin, Dallas/Ft. Worth, Houston and San Antonio, as well as other markets. The majority of our loan portfolio consists of commercial and industrial and commercial real estate loans. As of March 31, 2017, there

were no concentrations of loans related to any single industry in excess of 10% of total loans other than energy loans, which totaled 11.2% of total loans. Unfunded commitments to extend credit and standby letters of credit issued to customers in the energy industry totaled \$1.2 billion and \$38.4 million, respectively, as of March 31, 2017.

Table of Contents

Foreign Loans. We have U.S. dollar denominated loans and commitments to borrowers in Mexico. The outstanding balance of these loans and the unfunded amounts available under these commitments were not significant at March 31, 2017 or December 31, 2016.

Non-Accrual and Past Due Loans. Non-accrual loans, segregated by class of loans, were as follows:

	March 31, 2017	December 31, 2016
Commercial and industrial	\$ 26,531	\$ 31,475
Energy	78,747	57,571
Commercial real estate:		
Buildings, land and other	7,608	8,550
Construction	—	—
Consumer real estate	2,987	2,130
Consumer and other	303	425
Total	\$ 116,176	\$ 100,151

As of March 31, 2017, non-accrual loans reported in the table above included \$11.2 million related to loans that were restructured as “troubled debt restructurings” during 2017. See the section captioned “Troubled Debt Restructurings” elsewhere in this note. Had non-accrual loans performed in accordance with their original contract terms, we would have recognized additional interest income, net of tax, of approximately \$851 thousand for the three months ended March 31, 2017, compared to \$844 thousand for three months ended March 31, 2016.

An age analysis of past due loans (including both accruing and non-accruing loans), segregated by class of loans, as of March 31, 2017 was as follows:

	Loans 30-89 Days Past Due	Loans 90 or More Days Past Due	Total Past Due Loans	Current Loans	Total Loans	Accruing Loans 90 or More Days Past Due
Commercial and industrial	\$ 20,566	\$ 23,787	\$ 44,353	\$ 4,357,923	\$ 4,402,276	\$ 3,014
Energy	2,941	29,467	32,408	1,330,148	1,362,556	628
Commercial real estate:						
Buildings, land and other	6,243	5,214	11,457	3,913,433	3,924,890	1,834
Construction	2,115	113	2,228	1,061,666	1,063,894	113
Consumer real estate	5,145	2,230	7,375	941,601	948,976	695
Consumer and other	4,598	668	5,266	477,787	483,053	530
Total	\$ 41,608	\$ 61,479	\$ 103,087	\$ 12,082,558	\$ 12,185,645	\$ 6,814

Table of Contents

Impaired Loans. Impaired loans are set forth in the following table. No interest income was recognized on impaired loans subsequent to their classification as impaired.

	Unpaid Contractual Principal Balance	Recorded Investment With No Allowance	Recorded Investment With Allowance	Total Recorded Investment	Related Allowance
March 31, 2017					
Commercial and industrial	\$ 35,005	\$ 18,113	\$ 5,763	\$ 23,876	\$ 2,751
Energy	84,912	53,313	25,326	78,639	850
Commercial real estate:					
Buildings, land and other	11,635	6,453	—	6,453	—
Construction	—	—	—	—	—
Consumer real estate	1,881	1,548	—	1,548	—
Consumer and other	75	23	—	23	—
Total	\$ 133,508	\$ 79,450	\$ 31,089	\$ 110,539	\$ 3,601
December 31, 2016					
Commercial and industrial	\$ 40,288	\$ 19,862	\$ 9,047	\$ 28,909	\$ 5,436
Energy	60,522	27,759	29,804	57,563	3,750
Commercial real estate:					
Buildings, land and other	11,369	6,866	—	6,866	—
Construction	—	—	—	—	—
Consumer real estate	977	655	—	655	—
Consumer and other	32	30	—	30	—
Total	\$ 113,188	\$ 55,172	\$ 38,851	\$ 94,023	\$ 9,186

The average recorded investment in impaired loans was as follows:

	Three Months Ended March 31,	
	2017	2016
Commercial and industrial	\$26,393	\$23,809
Energy	68,101	67,615
Commercial real estate:		
Buildings, land and other	6,660	31,985
Construction	—	770
Consumer real estate	1,102	471
Consumer and other	27	—
Total	\$102,283	\$124,650

Troubled Debt Restructurings. Troubled debt restructurings during the three months ended March 31, 2017 and March 31, 2016 are set forth in the following table.

	Three Months Ended March 31, 2017		Three Months Ended March 31, 2016	
	Balance at Restructure	Balance at Period-End	Balance at Restructure	Balance at Period-End
Commercial and industrial	\$—	\$ —	\$19	\$ 17
Energy	11,262	11,212	62,546	61,095
Commercial real estate:				
Construction	—	—	243	235

\$11,262 \$ 11,212 \$62,808 \$ 61,347

Loan modifications are typically related to extending amortization periods, converting loans to interest only for a limited period of time, deferral of interest payments, waiver of certain covenants, consolidating notes and/or reducing collateral or interest rates. The modifications during the reported periods did not significantly impact our determination of the allowance for loan losses. As of March 31, 2017, there was one loan restructured during the last year totaling \$747 thousand that was in excess of 90 days past due. During the first quarter of 2017, we recognized a charge-off of \$2.0 million related to a loan restructured during the third quarter of 2016.

Table of Contents

Credit Quality Indicators. As part of the on-going monitoring of the credit quality of our loan portfolio, management tracks certain credit quality indicators including trends related to (i) the weighted-average risk grade of commercial loans, (ii) the level of classified commercial loans, (iii) the delinquency status of consumer loans (see details above), (iv) net charge-offs, (v) non-performing loans (see details above) and (vi) the general economic conditions in the State of Texas.

We utilize a risk grading matrix to assign a risk grade to each of our commercial loans. Loans are graded on a scale of 1 to 14. A description of the general characteristics of the 14 risk grades is set forth in our 2016 Form 10-K. In monitoring credit quality trends in the context of assessing the appropriate level of the allowance for loan losses, we monitor portfolio credit quality by the weighted-average risk grade of each class of commercial loan. Individual relationship managers review updated financial information for all pass grade loans to reassess the risk grade on at least an annual basis. When a loan has a risk grade of 9, it is still considered a pass grade loan; however, it is considered to be on management's "watch list," where a significant risk-modifying action is anticipated in the near term. When a loan has a risk grade of 10 or higher, a special assets officer monitors the loan on an on-going basis. The following tables present weighted-average risk grades for all commercial loans by class.

	March 31, 2017		December 31, 2016	
	Weighted	loans	Weighted	loans
	Average		Average	
	Risk Grade		Risk Grade	
Commercial and industrial:				
Risk grades 1-8	6.00	\$3,981,338	6.01	\$3,989,722
Risk grade 9	9.00	194,639	9.00	106,988
Risk grade 10	10.00	87,107	10.00	115,420
Risk grade 11	11.00	112,511	11.00	100,245
Risk grade 12	12.00	23,681	12.00	25,939
Risk grade 13	13.00	3,000	13.00	5,686
Total	6.38	\$4,402,276	6.35	\$4,344,000
Energy				
Risk grades 1-8	6.33	\$876,206	6.34	\$854,688
Risk grade 9	9.00	55,136	9.00	78,524
Risk grade 10	10.00	152,360	10.00	150,872
Risk grade 11	11.00	199,479	11.00	244,406
Risk grade 12	12.00	78,525	12.00	53,821
Risk grade 13	13.00	850	13.00	3,750
Total	7.86	\$1,362,556	7.95	\$1,386,061
Commercial real estate:				
Buildings, land and other				
Risk grades 1-8	6.69	\$3,605,460	6.67	\$3,463,064
Risk grade 9	9.00	107,441	9.00	109,110
Risk grade 10	10.00	132,850	10.00	145,067
Risk grade 11	11.00	71,531	11.00	66,396
Risk grade 12	12.00	7,608	12.00	8,550
Risk grade 13	13.00	—	13.00	—
Total	6.96	\$3,924,890	6.95	\$3,792,187
Construction				
Risk grades 1-8	7.06	\$1,037,166	6.97	\$1,023,194
Risk grade 9	9.00	21,193	9.00	15,829
Risk grade 10	10.00	446	10.00	2,889
Risk grade 11	11.00	5,089	11.00	1,349

Risk grade 12	12.00	—	12.00	—
Risk grade 13	13.00	—	13.00	—
Total	7.12	\$ 1,063,894	7.01	\$ 1,043,261

Table of Contents

Net (charge-offs)/recoveries, segregated by class of loans, were as follows:

	Three Months Ended March 31,	
	2017	2016
Commercial and industrial	\$(2,729)	\$(1,132)
Energy	(4,225)	(1,011)
Commercial real estate:		
Buildings, land and other	42	61
Construction	3	7
Consumer real estate	96	99
Consumer and other	(1,128)	(503)
Total	\$(7,941)	\$(2,479)

In assessing the general economic conditions in the State of Texas, management monitors and tracks the Texas Leading Index ("TLI"), which is produced by the Federal Reserve Bank of Dallas. The TLI, the components of which are more fully described in our 2016 Form 10-K, totaled 123.4 at February 28, 2017 (most recent date available) and 123.1 at December 31, 2016. A higher TLI value implies more favorable economic conditions.

Allowance for Loan Losses. The allowance for loan losses is a reserve established through a provision for loan losses charged to expense, which represents management's best estimate of inherent losses that have been incurred within the existing portfolio of loans. The allowance, in the judgment of management, is necessary to reserve for estimated loan losses and risks inherent in the loan portfolio. Our allowance for loan loss methodology, which is more fully described in our 2016 Form 10-K, follows the accounting guidance set forth in U.S. generally accepted accounting principles and the Interagency Policy Statement on the Allowance for Loan and Lease Losses, which was jointly issued by U.S. bank regulatory agencies. The level of the allowance reflects management's continuing evaluation of industry concentrations, specific credit risks, loan loss and recovery experience, current loan portfolio quality, present economic, political and regulatory conditions and unidentified losses inherent in the current loan portfolio. Portions of the allowance may be allocated for specific credits; however, the entire allowance is available for any credit that, in management's judgment, should be charged off.

The following table presents details of the allowance for loan losses allocated to each portfolio segment as of March 31, 2017 and December 31, 2016 and detailed on the basis of the impairment evaluation methodology we used:

	Commercial and Industrial	Energy	Commercial Real Estate	Consumer Real Estate	Consumer and Other	Total
March 31, 2017						
Historical valuation allowances	\$ 26,216	\$38,666	\$ 17,932	\$ 2,329	\$ 5,297	\$90,440
Specific valuation allowances	2,751	850	—	—	—	3,601
General valuation allowances	8,072	5,255	6,333	1,939	19	21,618
Macroeconomic valuation allowances	8,544	17,022	9,744	555	1,532	37,397
Total	\$ 45,583	\$61,793	\$ 34,009	\$ 4,823	\$ 6,848	\$153,056
Allocated to loans:						
Individually evaluated	\$ 2,751	\$850	\$ —	\$ —	\$ —	\$3,601
Collectively evaluated	42,832	60,943	34,009	4,823	6,848	149,455
Total	\$ 45,583	\$61,793	\$ 34,009	\$ 4,823	\$ 6,848	\$153,056
December 31, 2016						
Historical valuation allowances	\$ 33,251	\$34,626	\$ 16,976	\$ 2,225	\$ 4,585	\$91,663
Specific valuation allowances	5,436	3,750	—	—	—	9,186
General valuation allowances	6,708	3,769	5,004	1,506	(144)	16,843
Macroeconomic valuation allowances	7,520	18,508	8,233	507	585	35,353
Total	\$ 52,915	\$60,653	\$ 30,213	\$ 4,238	\$ 5,026	\$153,045

Allocated to loans:

Individually evaluated	\$ 5,436	\$3,750	\$ —	\$ —	\$ —	\$9,186
Collectively evaluated	47,479	56,903	30,213	4,238	5,026	143,859
Total	\$ 52,915	\$60,653	\$ 30,213	\$ 4,238	\$ 5,026	\$153,045

Table of Contents

Our recorded investment in loans as of March 31, 2017 and December 31, 2016 related to each balance in the allowance for loan losses by portfolio segment and detailed on the basis of the impairment methodology we used was as follows:

	Commercial and Industrial	Energy	Commercial Real Estate	Consumer Real Estate	Consumer and Other	Total
March 31, 2017						
Individually evaluated	\$ 23,876	\$ 78,639	\$ 6,453	\$ 1,548	\$ 23	\$ 110,539
Collectively evaluated	4,378,400	1,283,917	4,982,331	947,428	483,030	12,075,106
Total	\$ 4,402,276	\$ 1,362,556	\$ 4,988,784	\$ 948,976	\$ 483,053	\$ 12,185,645
December 31, 2016						
Individually evaluated	\$ 28,909	\$ 57,563	\$ 6,866	\$ 655	\$ 30	\$ 94,023
Collectively evaluated	4,315,091	1,328,498	4,828,582	936,130	473,068	11,881,369
Total	\$ 4,344,000	\$ 1,386,061	\$ 4,835,448	\$ 936,785	\$ 473,098	\$ 11,975,392

The following table details activity in the allowance for loan losses by portfolio segment for the three months ended March 31, 2017 and 2016. Allocation of a portion of the allowance to one category of loans does not preclude its availability to absorb losses in other categories.

	Commercial and Industrial	Energy	Commercial Real Estate	Consumer Real Estate	Consumer and Other	Total
Three months ended:						
March 31, 2017						
Beginning balance	\$ 52,915	\$ 60,653	\$ 30,213	\$ 4,238	\$ 5,026	\$ 153,045
Provision for loan losses	(4,603)	5,365	3,751	489	2,950	7,952
Charge-offs	(3,527)	(4,278)	—	(11)	(3,548)	(11,364)
Recoveries	798	53	45	107	2,420	3,423
Net charge-offs	(2,729)	(4,225)	45	96	(1,128)	(7,941)
Ending balance	\$ 45,583	\$ 61,793	\$ 34,009	\$ 4,823	\$ 6,848	\$ 153,056
March 31, 2016						
Beginning balance	\$ 42,993	\$ 54,696	\$ 24,313	\$ 4,659	\$ 9,198	\$ 135,859
Provision for loan losses	3,223	31,288	(794)	(972)	(4,245)	28,500
Charge-offs	(1,861)	(1,011)	(28)	(154)	(2,724)	(5,778)
Recoveries	729	—	96	253	2,221	3,299
Net charge-offs	(1,132)	(1,011)	68	99	(503)	(2,479)
Ending balance	\$ 45,084	\$ 84,973	\$ 23,587	\$ 3,786	\$ 4,450	\$ 161,880

Note 4 - Goodwill and Other Intangible Assets

Goodwill and other intangible assets are presented in the table below.

	March 31, 2017	December 31, 2016
Goodwill	\$ 654,952	\$ 654,952
Other intangible assets:		
Core deposits	\$ 4,960	\$ 5,298
Customer relationships	1,296	1,410
Non-compete agreements	62	68
	\$ 6,318	\$ 6,776

Table of Contents

The estimated aggregate future amortization expense for intangible assets remaining as of March 31, 2017 is as follows:

Remainder of 2017	\$1,245
2018	1,424
2019	1,167
2020	918
2021	697
Thereafter	867
	\$6,318

Note 5 - Deposits

Deposits were as follows:

	March 31, 2017	Percentage of Total	December 31, 2016	Percentage of Total
Non-interest-bearing demand deposits:				
Commercial and individual	\$10,220,181	39.1 %	\$9,670,989	37.5 %
Correspondent banks	264,543	1.0	280,751	1.1
Public funds	424,691	1.6	561,629	2.2
Total non-interest-bearing demand deposits	10,909,415	41.7	10,513,369	40.8
Interest-bearing deposits:				
Private accounts:				
Savings and interest checking	6,545,178	25.0	6,436,065	24.9
Money market accounts	7,489,565	28.7	7,486,431	29.0
Time accounts of \$100,000 or more	446,809	1.7	460,028	1.8
Time accounts under \$100,000	332,543	1.3	338,714	1.3
Total private accounts	14,814,095	56.7	14,721,238	57.0
Public funds:				
Savings and interest checking	302,202	1.1	446,872	1.7
Money market accounts	99,658	0.4	113,669	0.4
Time accounts of \$100,000 or more	15,762	0.1	15,748	0.1
Time accounts under \$100,000	1,032	—	679	—
Total public funds	418,654	1.6	576,968	2.2
Total interest-bearing deposits	15,232,749	58.3	15,298,206	59.2
Total deposits	\$26,142,164	100.0 %	\$25,811,575	100.0 %

The following table presents additional information about our deposits:

	March 31, 2017	December 31, 2016
Deposits from foreign sources (primarily Mexico)	\$ 772,400	\$ 776,003
Deposits not covered by deposit insurance	13,359,707	12,889,047

Note 6 - Borrowed Funds

Subordinated Notes Payable. In March 2017, we issued \$100 million of 4.50% subordinated notes that mature on March 17, 2027. The notes, which qualify as Tier 2 capital for Cullen/Frost, bear interest at the rate of 4.50% per annum, payable semi-annually on each March 17 and September 17. The notes are unsecured and subordinated in right of payment to the payment of our existing and future senior indebtedness and structurally subordinated to all existing and future indebtedness of our subsidiaries. Unamortized debt issuance costs related to these notes, totaled approximately \$1.6 million at March 31, 2017. Proceeds from sale of the notes will be used for general corporate purposes.

Our \$100 million of 5.75% fixed-to-floating rate subordinated notes matured and were redeemed on February 15, 2017. See Note 8 - Borrowed Funds in our 2016 Form 10-K for additional information about these notes.

Table of Contents

Note 7 - Commitments and Contingencies

Financial Instruments with Off-Balance-Sheet Risk. In the normal course of business, we enter into various transactions, which, in accordance with generally accepted accounting principles are not included in our consolidated balance sheets. We enter into these transactions to meet the financing needs of our customers. As more fully discussed in our 2016 Form 10-K, these transactions include commitments to extend credit and standby letters of credit, which involve, to varying degrees, elements of credit risk and interest rate risk in excess of the amounts recognized in the consolidated balance sheets. We minimize our exposure to loss under these commitments by subjecting them to credit approval and monitoring procedures.

Financial instruments with off-balance-sheet risk were as follows:

	March 31, 2017	December 31, 2016
Commitments to extend credit	\$7,834,523	\$ 7,476,420
Standby letters of credit	240,791	239,482
Deferred standby letter of credit fees	1,931	2,054

Lease Commitments. We lease certain office facilities and office equipment under operating leases. Rent expense for all operating leases totaled \$7.7 million and \$7.2 million during the three months ended March 31, 2017 and 2016.

There has been no significant change in our expected future minimum lease payments since December 31, 2016. See the 2016 Form 10-K for information regarding these commitments.

Litigation. We are subject to various claims and legal actions that have arisen in the course of conducting business. Management does not expect the ultimate disposition of these matters to have a material adverse impact on our financial statements.

Note 8 - Capital and Regulatory Matters

Banks and bank holding companies are subject to various regulatory capital requirements administered by state and federal banking agencies. Capital adequacy guidelines and, additionally for banks, prompt corrective action regulations, involve quantitative measures of assets, liabilities, and certain off-balance-sheet items calculated under regulatory accounting practices. Capital amounts and classifications are also subject to qualitative judgments by regulators about components, risk weighting and other factors.

Cullen/Frost's and Frost Bank's Common Equity Tier 1 capital includes common stock and related paid-in capital, net of treasury stock, and retained earnings. In connection with the adoption of the Basel III Capital Rules, we elected to opt-out of the requirement to include most components of accumulated other comprehensive income in Common Equity Tier 1. Common Equity Tier 1 for both Cullen/Frost and Frost Bank is reduced by, goodwill and other intangible assets, net of associated deferred tax liabilities, and subject to transition provisions. Frost Bank's Common Equity Tier 1 is also reduced by its equity investment in its financial subsidiary, Frost Insurance Agency ("FIA"). Tier 1 capital includes Common Equity Tier 1 capital and additional Tier 1 capital. For Cullen/Frost, additional Tier 1 capital at March 31, 2017 and December 31, 2016 includes \$144.5 million of 5.375% non-cumulative perpetual preferred stock. Frost Bank did not have any additional Tier 1 capital beyond Common Equity Tier 1 at March 31, 2017 or December 31, 2016.

Total capital includes Tier 1 capital and Tier 2 capital. Tier 2 capital for both Cullen/Frost and Frost Bank includes a permissible portion of the allowance for loan losses. Tier 2 capital for Cullen/Frost also includes \$100.0 million of qualified subordinated debt at March 31, 2017 and \$133.0 million of trust preferred securities at both March 31, 2017 and December 31, 2016.

Table of Contents

The following table presents actual and required capital ratios for Cullen/Frost and Frost Bank under the Basel III Capital Rules. The minimum required capital amounts presented include the minimum required capital levels as of March 31, 2017 and December 31, 2016 based on the phase-in provisions of the Basel III Capital Rules and the minimum required capital levels as of January 1, 2019 when the Basel III Capital Rules have been fully phased-in. Capital levels required to be considered well capitalized are based upon prompt corrective action regulations, as amended to reflect the changes under the Basel III Capital Rules. See the 2016 Form 10-K for a more detailed discussion of the Basel III Capital Rules.

	Actual		Minimum Capital Required - Basel III Phase-In Schedule		Minimum Capital Required - Basel III Fully Phased-In		Required to be Considered Well Capitalized	
	Capital Amount	Ratio	Capital Amount	Ratio	Capital Amount	Ratio	Capital Amount	Ratio
March 31, 2017								
Common Equity Tier 1 to Risk-Weighted Assets								
Cullen/Frost	\$2,315,059	12.71 %	\$1,047,521	5.75 %	\$1,275,155	7.00 %	\$1,184,154	6.50 %
Frost Bank	2,347,446	12.92	1,044,474	5.75	1,271,445	7.00	1,180,710	6.50
Tier 1 Capital to Risk-Weighted Assets								
Cullen/Frost	2,459,545	13.50	1,320,788	7.25	1,548,402	8.50	1,457,421	8.00
Frost Bank	2,347,446	12.92	1,316,945	7.25	1,543,897	8.50	1,453,181	8.00
Total Capital to Risk-Weighted Assets								
Cullen/Frost	2,845,601	15.62	1,685,143	9.25	1,912,732	10.50	1,821,776	10.00
Frost Bank	2,500,502	13.77	1,680,241	9.25	1,907,167	10.50	1,816,476	10.00
Leverage Ratio								
Cullen/Frost	2,459,545	8.34	1,179,874	4.00	1,179,823	4.00	1,474,843	5.00
Frost Bank	2,347,446	7.97	1,178,399	4.00	1,178,348	4.00	1,472,998	5.00
December 31, 2016								
Common Equity Tier 1 to Risk-Weighted Assets								
Cullen/Frost	\$2,239,186	12.52 %	\$916,360	5.125 %	\$1,251,425	7.00 %	\$1,162,213	6.50 %
Frost Bank	2,296,480	12.88	913,460	5.125	1,247,463	7.00	1,158,535	6.50
Tier 1 Capital to Risk-Weighted Assets								
Cullen/Frost	2,383,672	13.33	1,184,563	6.625	1,519,587	8.50	1,430,416	8.00
Frost Bank	2,296,480	12.88	1,180,814	6.625	1,514,776	8.50	1,425,889	8.00
Total Capital to Risk-Weighted Assets								
Cullen/Frost	2,669,717	14.93	1,542,168	8.625	1,877,137	10.50	1,788,020	10.00
Frost Bank	2,449,525	13.74	1,537,286	8.625	1,871,194	10.50	1,782,361	10.00
Leverage Ratio								
Cullen/Frost	2,383,672	8.14	1,171,682	4.00	1,171,573	4.00	1,464,602	5.00
Frost Bank	2,296,480	7.85	1,170,249	4.00	1,170,141	4.00	1,462,812	5.00

As of March 31, 2017, capital levels at Cullen/Frost and Frost Bank exceed all capital adequacy requirements under the Basel III Capital Rules on a fully phased-in basis. Based on the ratios presented above, capital levels as of March 31, 2017 at Cullen/Frost and Frost Bank exceed the minimum levels necessary to be considered “well capitalized.”

Cullen/Frost and Frost Bank are subject to the regulatory capital requirements administered by the Federal Reserve Board and, for Frost Bank, the Federal Deposit Insurance Corporation ("FDIC"). Regulatory authorities can initiate certain mandatory actions if Cullen/Frost or Frost Bank fail to meet the minimum capital requirements, which could have a direct material effect on our financial statements. Management believes, as of March 31, 2017, that Cullen/Frost and Frost Bank meet all capital adequacy requirements to which they are subject.

Stock Repurchase Plans. From time to time, our board of directors has authorized stock repurchase plans. In general, stock repurchase plans allow us to proactively manage our capital position and return excess capital to shareholders. Shares purchased under such plans also provide us with shares of common stock necessary to satisfy obligations related to stock compensation awards. On October 27, 2016, our board of directors authorized a \$100.0 million stock repurchase program, allowing us to

Table of Contents

repurchase shares of our common stock over a two-year period from time to time at various prices in the open market or through private transactions. As of March 31, 2017, no shares have been repurchased under the plan.

Dividend Restrictions. In the ordinary course of business, Cullen/Frost is dependent upon dividends from Frost Bank to provide funds for the payment of dividends to shareholders and to provide for other cash requirements. Banking regulations may limit the amount of dividends that may be paid. Approval by regulatory authorities is required if the effect of dividends declared would cause the regulatory capital of Frost Bank to fall below specified minimum levels. Approval is also required if dividends declared exceed the net profits for that year combined with the retained net profits for the preceding two years. Under the foregoing dividend restrictions and while maintaining its “well capitalized” status, at March 31, 2017, Frost Bank could pay aggregate dividends of up to \$367.3 million to Cullen/Frost without prior regulatory approval.

Under the terms of the junior subordinated deferrable interest debentures that Cullen/Frost has issued to Cullen/Frost Capital Trust II and WNB Capital Trust I, Cullen/Frost has the right at any time during the term of the debentures to defer the payment of interest at any time or from time to time for an extension period not exceeding 20 consecutive quarterly periods with respect to each extension period. In the event that we have elected to defer interest on the debentures, we may not, with certain exceptions, declare or pay any dividends or distributions on our capital stock or purchase or acquire any of our capital stock.

Under the terms of our Series A Preferred Stock, in the event that we do not declare and pay dividends on our Series A Preferred Stock for the most recent dividend period, we may not, with certain exceptions, declare or pay dividends on, or purchase, redeem or otherwise acquire, shares of our common stock or any of our securities that rank junior to our Series A Preferred Stock.

Note 9 - Derivative Financial Instruments

The fair value of derivative positions outstanding is included in accrued interest receivable and other assets and accrued interest payable and other liabilities in the accompanying consolidated balance sheets and in the net change in each of these financial statement line items in the accompanying consolidated statements of cash flows.

Interest Rate Derivatives. We utilize interest rate swaps, caps and floors to mitigate exposure to interest rate risk and to facilitate the needs of our customers. Our objectives for utilizing these derivative instruments are described in our 2016 Form 10-K.

The notional amounts and estimated fair values of interest rate derivative contracts are presented in the following table. The fair values of interest rate derivative contracts are estimated utilizing internal valuation models with observable market data inputs.

	March 31, 2017		December 31, 2016	
	Notional Amount	Estimated Fair Value	Notional Amount	Estimated Fair Value
Derivatives designated as hedges of fair value:				
Financial institution counterparties:				
Loan/lease interest rate swaps – assets	\$40,942	\$ 368	\$41,818	\$ 368
Loan/lease interest rate swaps – liabilities	17,052	(1,064)	18,812	(1,278)
Non-hedging interest rate derivatives:				
Financial institution counterparties:				
Loan/lease interest rate swaps – assets	278,134	3,116	206,745	2,649
Loan/lease interest rate swaps – liabilities	635,512	(22,790)	694,965	(25,466)
Loan/lease interest rate caps – assets	105,845	916	85,966	575
Customer counterparties:				
Loan/lease interest rate swaps – assets	640,512	22,816	694,965	25,467
Loan/lease interest rate swaps – liabilities	273,134	(3,114)	206,745	(2,649)
Loan/lease interest rate caps – liabilities	105,845	(916)	85,966	(575)

Table of Contents

The weighted-average rates paid and received for interest rate swaps outstanding at March 31, 2017 were as follows:

	Weighted-Average			
	Interest		Interest	
	Rate		Rate	
	Paid		Received	
Interest rate swaps:				
Fair value hedge loan/lease interest rate swaps	2.41	%	0.92	%
Non-hedging interest rate swaps – financial institution counterparties	3.99	%	2.57	%
Non-hedging interest rate swaps – customer counterparties	2.57	%	3.99	%

The weighted-average strike rate for outstanding interest rate caps was 3.14% at March 31, 2017.

Commodity Derivatives. We enter into commodity swaps and option contracts that are not designated as hedging instruments primarily to accommodate the business needs of our customers. Upon the origination of a commodity swap or option contract with a customer, we simultaneously enter into an offsetting contract with a third party financial institution to mitigate the exposure to fluctuations in commodity prices.

The notional amounts and estimated fair values of non-hedging commodity swap and option derivative positions outstanding are presented in the following table. We obtain dealer quotations and use internal valuation models with observable market data inputs to value our commodity derivative positions.

		March 31, 2017		December 31, 2016	
	Notional Units	Notional Amount	Estimated Fair Value	Notional Amount	Estimated Fair Value
Financial institution counterparties:					
Oil – assets	Barrels	619	\$ 889	227	\$ 206
Oil – liabilities	Barrels	402	(1,180)	944	(4,400)
Natural gas – assets	MMBTUs	976	73	—	—
Natural gas – liabilities	MMBTUs	1,555	(499)	1,299	(1,357)
Customer counterparties:					
Oil – assets	Barrels	427	1,234	944	4,580
Oil – liabilities	Barrels	594	(788)	227	(206)
Natural gas – assets	MMBTUs	1,555	537	1,299	1,393
Natural gas – liabilities	MMBTUs	976	(70)	—	—

Foreign Currency Derivatives. We enter into foreign currency forward contracts that are not designated as hedging instruments primarily to accommodate the business needs of our customers. Upon the origination of a foreign currency denominated transaction with a customer, we simultaneously enter into an offsetting contract with a third party financial institution to negate the exposure to fluctuations in foreign currency exchange rates. We also utilize foreign currency forward contracts that are not designated as hedging instruments to mitigate the economic effect of fluctuations in foreign currency exchange rates on foreign currency holdings and certain short-term, non-U.S. dollar denominated loans. The notional amounts and fair values of open foreign currency forward contracts were as follows:

		March 31, 2017		December 31, 2016	
	Notional Currency	Notional Amount	Estimated Fair Value	Notional Amount	Estimated Fair Value
Financial institution counterparties:					
Forward contracts – assets	EUR	890	\$ 9	—	\$ —
Forward contracts – assets	CAD	2,257	2	—	—
Forward contracts – liabilities	EUR	—	—	870	(9)
Forward contracts – liabilities	CAD	—	—	2,214	(21)
Forward contracts – liabilities	GBP	425	(5)	419	(3)
Customer counterparties:					

Forward contracts – assets	CAD	2,249.6	2,205.29
----------------------------	-----	---------	----------

21

Table of Contents

Gains, Losses and Derivative Cash Flows. For fair value hedges, the changes in the fair value of both the derivative hedging instrument and the hedged item are included in other non-interest income or other non-interest expense. The extent that such changes in fair value do not offset represents hedge ineffectiveness. Net cash flows from interest rate swaps on commercial loans/leases designated as hedging instruments in effective hedges of fair value are included in interest income on loans. For non-hedging derivative instruments, gains and losses due to changes in fair value and all cash flows are included in other non-interest income and other non-interest expense.

Amounts included in the consolidated statements of income related to interest rate derivatives designated as hedges of fair value were as follows:

	Three Months Ended March 31, 2017 2016	
--	---	--

Commercial loan/lease interest rate swaps:

Amount of gain (loss) included in interest income on loans	\$ (245)	\$ (388)
--	----------	----------

Amount of (gain) loss included in other non-interest expense	(1)	—
--	------	---

As stated above, we enter into non-hedge related derivative positions primarily to accommodate the business needs of our customers. Upon the origination of a derivative contract with a customer, we simultaneously enter into an offsetting derivative contract with a third party financial institution. We recognize immediate income based upon the difference in the bid/ask spread of the underlying transactions with our customers and the third party. Because we act only as an intermediary for our customer, subsequent changes in the fair value of the underlying derivative contracts for the most part offset each other and do not significantly impact our results of operations.

Amounts included in the consolidated statements of income related to non-hedging interest rate, commodity and foreign currency derivative instruments are presented in the table below.

	Three Months Ended March 31, 2017 2016	
--	--	--

Non-hedging interest rate derivatives:

Other non-interest income	\$ 370	\$ 435
---------------------------	--------	--------

Other non-interest expense	(1)	—
----------------------------	------	---

Non-hedging commodity derivatives:

Other non-interest income	52	132
---------------------------	----	-----

Non-hedging foreign currency derivatives:

Other non-interest income	9	6
---------------------------	---	---

Counterparty Credit Risk. Our credit exposure relating to interest rate swaps, commodity swaps/options and foreign currency forward contracts with bank customers was approximately \$24.1 million at March 31, 2017. This credit exposure is partly mitigated as transactions with customers are generally secured by the collateral, if any, securing the underlying transaction being hedged. Our credit exposure, net of collateral pledged, relating to interest rate swaps, commodity swaps/options and foreign currency forward contracts with upstream financial institution counterparties was approximately \$6.8 million at March 31, 2017. This amount was primarily related to excess collateral we posted to counterparties. Collateral levels for upstream financial institution counterparties are monitored and adjusted as necessary. See Note 10 – Balance Sheet Offsetting and Repurchase Agreements for additional information regarding our credit exposure with upstream financial institution counterparties.

The aggregate fair value of securities we posted as collateral related to derivative contracts totaled \$16.0 million at March 31, 2017. At such date, we also had \$11.3 million in cash collateral on deposit with other financial institution counterparties.

Table of Contents

Note 10 - Balance Sheet Offsetting and Repurchase Agreements

Balance Sheet Offsetting. Certain financial instruments, including resell and repurchase agreements and derivatives, may be eligible for offset in the consolidated balance sheet and/or subject to master netting arrangements or similar agreements. Our derivative transactions with upstream financial institution counterparties are generally executed under International Swaps and Derivative Association (“ISDA”) master agreements which include “right of set-off” provisions. In such cases there is generally a legally enforceable right to offset recognized amounts and there may be an intention to settle such amounts on a net basis. Nonetheless, we do not generally offset such financial instruments for financial reporting purposes.

Information about financial instruments that are eligible for offset in the consolidated balance sheet as of March 31, 2017 is presented in the following tables.

	Gross Amount Recognized	Gross Amount Offset	Net Amount Recognized
March 31, 2017			
Financial assets:			
Derivatives:			
Loan/lease interest rate swaps and caps	\$ 4,400	\$	— \$ 4,400
Commodity swaps and options	962	—	962
Foreign currency forward contracts	11	—	11
Total derivatives	5,373	—	5,373
Resell agreements	9,642	—	9,642
Total	\$ 15,015	\$	— \$ 15,015
Financial liabilities:			
Derivatives:			
Loan/lease interest rate swaps	\$ 23,854	\$	— \$ 23,854
Commodity swaps and options	1,679	—	1,679
Foreign currency forward contracts	5	—	5
Total derivatives	25,538	—	25,538
Repurchase agreements	879,050	—	879,050
Total	\$ 904,588	\$	— \$ 904,588

	Gross Amounts Not Offset	Net Amount Recognized	Financial Instruments	Collateral	Net Amount
March 31, 2017					
Financial assets:					
Derivatives:					
Counterparty A	\$ 612	\$(612)	\$—		\$ —
Counterparty B	874	(874)	—		—
Counterparty C	329	(329)	—		—
Counterparty D	2,133	(2,133)	—		—
Other counterparties	1,425	(688)	(627)		110
Total derivatives	5,373	(4,636)	(627)		110
Resell agreements	9,642	—	(9,642)		—
Total	\$ 15,015	\$(4,636)	\$(10,269)		\$ 110
Financial liabilities:					
Derivatives:					
Counterparty A	\$ 10,211	\$(612)	\$(9,599)		\$ —
Counterparty B	4,261	(874)	(3,304)		83
Counterparty C	2,373	(329)	(1,759)		285

Counterparty D	6,865	(2,133)	(4,732)	—
Other counterparties	1,828	(688)	(1,133)	7
Total derivatives	25,538	(4,636)	(20,527)	375
Repurchase agreements	879,050	—	(879,050)	—
Total	\$ 904,588	\$(4,636)	\$(899,577)	\$ 375

Table of Contents

Information about financial instruments that are eligible for offset in the consolidated balance sheet as of December 31, 2016 is presented in the following tables.

	Gross Amount Recognized	Gross Amount Offset	Net Amount Recognized
December 31, 2016			
Financial assets:			
Derivatives:			
Loan/lease interest rate swaps and caps	\$ 3,592	\$	—\$ 3,592
Commodity swaps and options	206	—	206
Foreign currency forward contracts	—	—	—
Total derivatives	3,798	—	3,798
Resell agreements	9,642	—	9,642
Total	\$ 13,440	\$	—\$ 13,440
Financial liabilities:			
Derivatives:			
Loan/lease interest rate swaps	\$ 26,744	\$	—\$ 26,744
Commodity swaps and options	5,757	—	5,757
Foreign currency forward contracts	33	—	33
Total derivatives	32,534	—	32,534
Repurchase agreements	963,317	—	963,317
Total	\$ 995,851	\$	—\$ 995,851

	Net Amount Recognized	Gross Amounts Not Offset	Financial Instruments	Collateral	Net Amount
December 31, 2016					
Financial assets:					
Derivatives:					
Counterparty A	\$ 687	\$(687)	\$—		\$—
Counterparty B	223	(223)	—		—
Counterparty C	158	(158)	—		—
Counterparty D	1,820	(1,820)	—		—
Other counterparties	910	(677)	(64)		169
Total derivatives	3,798	(3,565)	(64)		169
Resell agreements	9,642	—	(9,642)		—
Total	\$ 13,440	\$(3,565)	\$(9,706)		\$ 169
Financial liabilities:					
Derivatives:					
Counterparty A	\$ 11,233	\$(687)	\$(10,026)		\$ 520
Counterparty B	6,867	(223)	(6,344)		300
Counterparty C	4,578	(158)	(4,415)		5
Counterparty D	7,706	(1,820)	(5,886)		—
Other counterparties	2,150	(677)	(676)		797
Total derivatives	32,534	(3,565)	(27,347)		1,622
Repurchase agreements	963,317	—	(963,317)		—
Total	\$ 995,851	\$(3,565)	\$(990,664)		\$ 1,622

Table of Contents

Repurchase Agreements. We utilize securities sold under agreements to repurchase to facilitate the needs of our customers and to facilitate secured short-term funding needs. Securities sold under agreements to repurchase are stated at the amount of cash received in connection with the transaction. We monitor collateral levels on a continuous basis. We may be required to provide additional collateral based on the fair value of the underlying securities. Securities pledged as collateral under repurchase agreements are maintained with our safekeeping agents.

The remaining contractual maturity of repurchase agreements in the consolidated balance sheets as of March 31, 2017 and December 31, 2016 is presented in the following tables.

Remaining Contractual Maturity of the
Agreements

Overnight and Continuous	Up to 30 Days	30-90 Days	Greater than 90 Days	Total
--------------------------------	---------------------	---------------	----------------------------	-------

March 31, 2017

Repurchase agreements:

U.S. Treasury	\$834,717	\$	—\$	—\$	—\$834,717
Residential mortgage-backed securities	44,333	—	—	—	44,333
Total borrowings	\$879,050	\$	—\$	—\$	—\$879,050
Gross amount of recognized liabilities for repurchase agreements					\$879,050
Amounts related to agreements not included in offsetting disclosures above					\$—

December 31, 2016

Repurchase agreements:

U.S. Treasury	\$841,475	\$	—\$	—\$	—\$841,475
Residential mortgage-backed securities	121,842	—	—	—	121,842
Total borrowings	\$963,317	\$	—\$	—\$	—\$963,317
Gross amount of recognized liabilities for repurchase agreements					\$963,317
Amounts related to agreements not included in offsetting disclosures above					\$—

Note 11 - Stock-Based Compensation

A combined summary of activity in our active stock plans is presented in the table. Performance stock units outstanding are presented assuming attainment of the maximum payout rate as set forth by the performance criteria. The target award level for performance stock units granted in 2016 was 29,240. As of March 31, 2017, there were 1,472,138 shares remaining available for grant for future stock-based compensation awards.

	Director Deferred Stock Units		Non-Vested Stock Awards/Stock Units		Performance Stock Units		Stock Options Outstanding	
	Outstanding		Outstanding		Outstanding			
	Number of Units	Weighted- Average Fair Value at Grant	Number of Shares/Units	Weighted- Average Fair Value at Grant	Number of Units	Weighted- Average Fair Value at Grant	Number of Shares	Weighted- Average Exercise Price
Balance, January 1, 2017	53,659	\$ 61.48	256,850	\$ 73.43	43,860	69.70	4,089,028	\$ 62.67
Authorized	—	—	—	—	—	—	—	—
Granted	—	—	—	—	—	—	—	—
Exercised/vested	(1,180)	67.75	(1,730)	76.07	—	—	(439,144)	56.35
Forfeited/expired	—	—	(260)	76.07	—	—	(20,656)	67.47
Balance, March 31, 2017	52,479	\$ 61.34	254,860	\$ 73.41	43,860	69.70	3,629,228	\$ 63.41

Table of Contents

Shares issued in connection with stock compensation awards are issued from available treasury shares. If no treasury shares are available, new shares are issued from available authorized shares. Shares issued in connection with stock compensation awards along with other related information were as follows:

	Three Months Ended March 31,	
	2017	2016
New shares issued from available authorized shares	283,342	—
Issued from available treasury stock	158,712	1,875
Total	442,054	1,875

Proceeds from stock option exercises	\$24,747	\$ 97
--------------------------------------	----------	-------

Stock-based compensation expense is recognized ratably over the requisite service period for all awards. For most stock option awards, the service period generally matches the vesting period. For stock options granted to certain executive officers and for non-vested stock units granted to all participants, the service period does not extend past the date the participant reaches 65 years of age. Deferred stock units granted to non-employee directors generally have immediate vesting and the related expense is fully recognized on the date of grant. For performance stock units, the service period generally matches the three-year performance period specified by the award, however, the service period does not extend past the date the participant reaches 65 years of age. Expense recognized each period is dependent upon our estimate of the number of shares that will ultimately be issued.

Stock-based compensation expense and the related income tax benefit is presented in the following table.

	Three Months Ended March 31,	
	2017	2016
Stock options	\$1,787	\$2,125
Non-vested stock awards/stock units	1,033	357
Director deferred stock units	—	—
Performance stock units	283	—
Total	\$3,103	\$2,482
Income tax benefit	\$1,086	\$869

Unrecognized stock-based compensation expense at March 31, 2017 is presented in the table below. Unrecognized stock-based compensation expense related to performance stock units is presented assuming attainment of the maximum payout rate as set forth by the performance criteria.

Stock options	\$10,439
Non-vested stock awards/stock units	9,360
Performance stock units	2,774
Total	\$22,573

Table of Contents

Note 12 - Earnings Per Common Share

Earnings per common share is computed using the two-class method as more fully described in our 2016 Form 10-K. The following table presents a reconciliation of net income available to common shareholders, net earnings allocated to common stock and the number of shares used in the calculation of basic and diluted earnings per common share.

	Three Months Ended March 31,	
	2017	2016
Net income	\$84,941	\$ 68,816
Less: Preferred stock dividends	2,016	2,016
Net income available to common shareholders	82,925	66,800
Less: Earnings allocated to participating securities	435	235
Net earnings allocated to common stock	\$82,490	\$ 66,565
Distributed earnings allocated to common stock	\$34,475	\$ 32,822
Undistributed earnings allocated to common stock	48,015	33,743
Net earnings allocated to common stock	\$82,490	\$ 66,565
Weighted-average shares outstanding for basic earnings per common share	63,738,191	61,929,466
Dilutive effect of stock compensation	999,194	69,897
Weighted-average shares outstanding for diluted earnings per common share	64,737,385	61,999,363

Note 13 - Defined Benefit Plans

The components of the combined net periodic expense (benefit) for our defined benefit pension plans are presented in the table below.

	Three Months Ended March 31,	
	2017	2016
Expected return on plan assets, net of expenses	\$(2,779)	\$(2,890)
Interest cost on projected benefit obligation	1,547	1,749
Net amortization and deferral	1,357	1,553
Net periodic expense (benefit)	\$125	\$412

Our non-qualified defined benefit pension plan is not funded. No contributions to the qualified defined benefit pension plan were made during the three months ended March 31, 2017. We do not expect to make any contributions to the qualified defined benefit plan during the remainder of 2017.

Note 14 - Income Taxes

Income tax expense was as follows:

	Three Months Ended March 31,	
	2017	2016
Current income tax expense	\$15,702	\$13,787
Deferred income tax expense (benefit)	(4,301)	(4,395)
Income tax expense, as reported	\$11,401	\$9,392

Effective tax rate 11.8 % 12.0 %

Net deferred tax assets totaled \$57.9 million at March 31, 2017 and \$63.7 million at December 31, 2016. No valuation allowance for deferred tax assets was recorded at March 31, 2017 as management believes it is more likely than not that all of the deferred tax assets will be realized because they were supported by recoverable taxes paid in prior years. The effective income tax rates differed from the U.S. statutory rate of 35% during the comparable periods primarily

due to the effect of tax-exempt income from loans, securities and life insurance policies and the income tax effects associated with stock-based compensation. There were no unrecognized tax benefits during any of the reported periods. Interest and/or penalties related to income taxes are reported as a component of income tax expense. Such amounts were not significant during the reported periods.

Table of Contents

We file income tax returns in the U.S. federal jurisdiction. We are no longer subject to U.S. federal income tax examinations by tax authorities for years before 2013.

Note 15 - Other Comprehensive Income (Loss)

The before and after tax amounts allocated to each component of other comprehensive income (loss) are presented in the following table. Reclassification adjustments related to securities available for sale are included in net gain (loss) on securities transactions in the accompanying consolidated statements of income. Reclassification adjustments related to defined-benefit post-retirement benefit plans are included in the computation of net periodic pension expense (see Note 13 – Defined Benefit Plans).

	Three Months Ended March 31, 2017			Three Months Ended March 31, 2016		
	Before Tax Amount	Tax Expense, (Benefit)	Net of Tax Amount	Before Tax Amount	Tax Expense, (Benefit)	Net of Tax Amount
Securities available for sale and transferred securities:						
Change in net unrealized gain/loss during the period	\$33,811	\$11,834	\$21,977	\$122,218	\$42,776	\$79,442
Change in net unrealized gain on securities transferred to held to maturity	(6,286)	(2,200)	(4,086)	(8,166)	(2,858)	(5,308)
Reclassification adjustment for net (gains) losses included in net income	—	—	—	(14,903)	(5,216)	(9,687)
Total securities available for sale and transferred securities	27,525	9,634	17,891	99,149	34,702	64,447
Defined-benefit post-retirement benefit plans:						
Reclassification adjustment for net amortization of actuarial gain/loss included in net income	1,357	475	882	1,553	544	1,009
Total defined-benefit post-retirement benefit plans	1,357	475	882	1,553	544	1,009
Total other comprehensive income (loss)	\$28,882	\$10,109	\$18,773	\$100,702	\$35,246	\$65,456
Activity in accumulated other comprehensive income (loss), net of tax, was as follows:						

	Securities Available For Sale	Defined Benefit Plans	Accumulated Other Comprehensive Income
Balance January 1, 2017	\$16,153	\$(40,776)	\$ (24,623)
Other comprehensive income (loss) before reclassifications	17,891	—	17,891
Amounts reclassified from accumulated other comprehensive income (loss)	—	882	882
Net other comprehensive income (loss) during period	17,891	882	18,773
Balance at March 31, 2017	\$34,044	\$(39,894)	\$ (5,850)
Balance January 1, 2016	\$160,611	\$(46,748)	\$ 113,863
Other comprehensive income (loss) before reclassifications	74,134	1,009	75,143
Amounts reclassified from accumulated other comprehensive income (loss)	(9,687)	—	(9,687)
Net other comprehensive income (loss) during period	64,447	1,009	65,456
Balance at March 31, 2016	\$225,058	\$(45,739)	\$ 179,319

Table of Contents

Note 16 – Operating Segments

We are managed under a matrix organizational structure whereby our two primary operating segments, Banking and Frost Wealth Advisors, overlap a regional reporting structure. See our 2016 Form 10-K for additional information regarding our operating segments. Summarized operating results by segment were as follows:

	Banking	Frost Wealth Advisors	Non-Banks	Consolidated
Revenues from (expenses to) external customers:				
Three months ended:				
March 31, 2017	\$258,911	\$34,588	\$ (1,290)	\$ 292,209
March 31, 2016	255,273	31,723	(1,129)	285,867
Net income (loss):				
Three months ended:				
March 31, 2017	\$80,869	\$5,294	\$ (1,222)	\$ 84,941
March 31, 2016	65,967	4,152	(1,303)	68,816

Note 17 – Fair Value Measurements

The fair value of an asset or liability is the price that would be received to sell that asset or paid to transfer that liability in an orderly transaction occurring in the principal market (or most advantageous market in the absence of a principal market) for such asset or liability. In estimating fair value, we utilize valuation techniques that are consistent with the market approach, the income approach and/or the cost approach. Such valuation techniques are consistently applied. Inputs to valuation techniques include the assumptions that market participants would use in pricing an asset or liability. ASC Topic 820 establishes a three-level fair value hierarchy for valuation inputs that gives the highest priority to quoted prices in active markets for identical assets or liabilities and the lowest priority to unobservable inputs. See our 2016 Form 10-K for additional information regarding the fair value hierarchy and a description of our valuation techniques.

Financial Assets and Financial Liabilities. The table below summarizes financial assets and financial liabilities measured at fair value on a recurring basis as of March 31, 2017 and December 31, 2016, segregated by the level of the valuation inputs within the fair value hierarchy of ASC Topic 820 utilized to measure fair value.

	Level 1 Inputs	Level 2 Inputs	Level 3 Inputs	Total Fair Value
March 31, 2017				
Securities available for sale:				
U.S. Treasury	\$4,221,231	\$ —	—	—\$4,221,231
Residential mortgage-backed securities	—	736,919	—	736,919
States and political subdivisions	—	5,611,838	—	5,611,838
Other	—	42,505	—	42,505
Trading account securities:				
U.S. Treasury	17,094	—	—	17,094
States and political subdivisions	—	—	—	—
Derivative assets:				
Interest rate swaps, caps and floors	—	27,216	—	27,216
Commodity swaps and options	—	2,733	—	2,733
Foreign currency forward contracts	17	—	—	17
Derivative liabilities:				
Interest rate swaps, caps and floors	—	27,884	—	27,884
Commodity swaps and options	—	2,537	—	2,537
Foreign currency forward contracts	5	—	—	5

Table of Contents

	Level 1 Inputs	Level 2 Inputs	Level 3 Inputs	Total Fair Value
December 31, 2016				
Securities available for sale:				
U.S. Treasury	\$4,019,731	\$ —	—\$	—\$4,019,731
Residential mortgage-backed securities	—	785,167	—	785,167
States and political subdivisions	—	5,355,885	—	5,355,885
Other	—	42,494	—	42,494
Trading account securities:				
U.S. Treasury	16,594	—	—	16,594
States and political subdivisions	—	109	—	109
Derivative assets:				
Interest rate swaps, caps and floors	—	29,059	—	29,059
Commodity swaps and options	—	6,179	—	6,179
Foreign currency forward contracts	29	—	—	29
Derivative liabilities:				
Interest rate swaps, caps and floors	—	29,968	—	29,968
Commodity swaps and options	—	5,963	—	5,963
Foreign currency forward contracts	33	—	—	33

Certain financial assets and financial liabilities are measured at fair value on a nonrecurring basis; that is, the instruments are not measured at fair value on an ongoing basis but are subject to fair value adjustments in certain circumstances (for example, when there is evidence of impairment). Financial assets measured at fair value on a non-recurring basis during the reported periods include certain impaired loans reported at the fair value of the underlying collateral if repayment is expected solely from the collateral. The following table presents impaired loans that were remeasured and reported at fair value through a specific valuation allowance allocation of the allowance for loan losses based upon the fair value of the underlying collateral during the reported periods.

	Three Months Ended March 31, 2017 Level 3	Three Months Ended March 31, 2016 Level 3
Carrying value of impaired loans before allocations	\$—24,171	\$—45,751
Specific valuation allowance (allocations) reversals of prior allocations	—(1,340)	—(11,144)
Fair value	\$—22,831	\$—34,607

Non-Financial Assets and Non-Financial Liabilities. We do not have any non-financial assets or non-financial liabilities measured at fair value on a recurring basis. Non-financial assets measured at fair value on a non-recurring basis during the reported periods include certain foreclosed assets which, upon initial recognition, were remeasured and reported at fair value through a charge-off to the allowance for loan losses and certain foreclosed assets which, subsequent to their initial recognition, were remeasured at fair value through a write-down included in other non-interest expense. The following table presents foreclosed assets that were remeasured and reported at fair value during the reported periods:

Three
Months
Ended
March 31,
2017
2017 2016

Foreclosed assets remeasured at initial recognition:

Carrying value of foreclosed assets prior to remeasurement	\$—	\$379
Charge-offs recognized in the allowance for loan losses	—	(3)
Fair value	\$—	\$376
Foreclosed assets remeasured subsequent to initial recognition:		
Carrying value of foreclosed assets prior to remeasurement	\$89	\$—
Write-downs included in other non-interest expense	(16)	—
Fair value	\$73	\$—

Table of Contents

Financial Instruments Reported at Amortized Cost. The estimated fair values of financial instruments that are reported at amortized cost in our consolidated balance sheets, segregated by the level of the valuation inputs within the fair value hierarchy utilized to measure fair value, were as follows:

	March 31, 2017		December 31, 2016	
	Carrying Amount	Estimated Fair Value	Carrying Amount	Estimated Fair Value
Financial assets:				
Level 2 inputs:				
Cash and cash equivalents	\$4,529,173	\$4,529,173	\$4,141,445	\$4,141,445
Securities held to maturity	1,640,255	1,664,773	2,250,460	2,262,747
Cash surrender value of life insurance policies	178,206	178,206	177,884	177,884
Accrued interest receivable	115,308	115,308	156,714	156,714
Level 3 inputs:				
Loans, net	12,032,589	12,088,725	11,822,347	11,903,956
Financial liabilities:				
Level 2 inputs:				
Deposits	26,142,164	26,142,216	25,811,575	25,812,039
Federal funds purchased and repurchase agreements	895,200	895,200	976,992	976,992
Junior subordinated deferrable interest debentures	136,141	137,115	136,127	137,115
Subordinated notes payable and other borrowings	98,446	99,777	99,990	100,000
Accrued interest payable	1,230	1,230	1,204	1,204

Note 18 - Accounting Standards Updates

Accounting Standards Update (“ASU”) 2017-04, “Intangibles - Goodwill and Other (Topic 350) - Simplifying the Test for Goodwill Impairment.” ASU 2017-04 eliminates Step 2 from the goodwill impairment test which required entities to compute the implied fair value of goodwill. Under ASU 2017-04, an entity should perform its annual, or interim, goodwill impairment test by comparing the fair value of a reporting unit with its carrying amount. An entity should recognize an impairment charge for the amount by which the carrying amount exceeds the reporting unit’s fair value; however, the loss recognized should not exceed the total amount of goodwill allocated to that reporting unit.

ASU 2017-04 will be effective for us on January 1, 2020, with early adoption permitted for interim or annual impairment tests beginning in 2017. ASU 2017-04 is not expected to have a significant impact on our financial statements.

ASU 2017-05, “Other Income - Gains and Losses from the Derecognition of Nonfinancial Assets (Subtopic 610-20) - Clarifying the Scope of Asset Derecognition Guidance and Accounting for Partial Sales of Nonfinancial Assets.” ASU 2017-05 clarifies the scope of Subtopic 610-20 and adds guidance for partial sales of nonfinancial assets, including partial sales of real estate. Historically, U.S. GAAP contained several different accounting models to evaluate whether the transfer of certain assets qualified for sale treatment. ASU 2017-05 reduces the number of potential accounting models that might apply and clarifies which model does apply in various circumstances. ASU 2017-05 will be effective for us on January 1, 2018 and is not expected to have a significant impact on our financial statements.

ASU 2017-08 “Receivables - Nonrefundable Fees and Other Costs (Subtopic 310-20) - Premium Amortization on Purchased Callable Debt Securities.” ASU 2017-08 shortens the amortization period for certain callable debt securities held at a premium to require such premiums to be amortized to the earliest call date unless applicable guidance related to certain pools of securities is applied to consider estimated prepayments. Under prior guidance, entities were generally required to amortize premiums on individual, non-pooled callable debt securities as a yield adjustment over the contractual life of the security. ASU 2017-08 does not change the accounting for callable debt securities held at a discount. ASU 2017-08 will be effective for us on January 1, 2019, with early adoption permitted. We are currently evaluating the potential impact of ASU 2017-08 on our financial statements.

Table of Contents

Item 2. Management's Discussion and Analysis of Financial Condition and Results of Operations

Financial Review

Cullen/Frost Bankers, Inc.

The following discussion should be read in conjunction with our consolidated financial statements, and notes thereto, for the year ended December 31, 2016, and the other information included in the 2016 Form 10-K. Operating results for the three months ended March 31, 2017 are not necessarily indicative of the results for the year ending December 31, 2017 or any future period.

Dollar amounts in tables are stated in thousands, except for per share amounts.

Forward-Looking Statements and Factors that Could Affect Future Results

Certain statements contained in this Quarterly Report on Form 10-Q that are not statements of historical fact constitute forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995 (the "Act"), notwithstanding that such statements are not specifically identified as such. In addition, certain statements may be contained in our future filings with the SEC, in press releases, and in oral and written statements made by us or with our approval that are not statements of historical fact and constitute forward-looking statements within the meaning of the Act. Examples of forward-looking statements include, but are not limited to: (i) projections of revenues, expenses, income or loss, earnings or loss per share, the payment or nonpayment of dividends, capital structure and other financial items; (ii) statements of plans, objectives and expectations of Cullen/Frost or its management or Board of Directors, including those relating to products or services; (iii) statements of future economic performance; and (iv) statements of assumptions underlying such statements. Words such as "believes", "anticipates", "expects", "intends", "targeted", "continue", "remain", "will", "should", "may" and other similar expressions are intended to identify forward-looking statements but are not the exclusive means of identifying such statements.

Forward-looking statements involve risks and uncertainties that may cause actual results to differ materially from those in such statements. Factors that could cause actual results to differ from those discussed in the forward-looking statements include, but are not limited to:

- Local, regional, national and international economic conditions and the impact they may have on us and our customers and our assessment of that impact.

- Volatility and disruption in national and international financial and commodity markets.

- Government intervention in the U.S. financial system.

- Changes in the mix of loan geographies, sectors and types or the level of non-performing assets and charge-offs.

- Changes in estimates of future reserve requirements based upon the periodic review thereof under relevant regulatory and accounting requirements.

- The effects of and changes in trade and monetary and fiscal policies and laws, including the interest rate policies of the Federal Reserve Board.

- Inflation, interest rate, securities market and monetary fluctuations.

- The effect of changes in laws and regulations (including laws and regulations concerning taxes, banking, securities and insurance) with which we and our subsidiaries must comply.

- The soundness of other financial institutions.

- Political instability.

- Impairment of our goodwill or other intangible assets.

- Acts of God or of war or terrorism.

- The timely development and acceptance of new products and services and perceived overall value of these products and services by users.

- Changes in consumer spending, borrowings and savings habits.

- Changes in the financial performance and/or condition of our borrowers.

- Technological changes.

- Acquisitions and integration of acquired businesses.

- Our ability to increase market share and control expenses.

- Our ability to attract and retain qualified employees.

-

Changes in the competitive environment in our markets and among banking organizations and other financial service providers.

The effect of changes in accounting policies and practices, as may be adopted by the regulatory agencies, as well as the Public Company Accounting Oversight Board, the Financial Accounting Standards Board and other accounting standard setters.

- Changes in the reliability of our vendors, internal control systems or information systems.

Changes in our liquidity position.

Changes in our organization, compensation and benefit plans.

Table of Contents

The costs and effects of legal and regulatory developments, the resolution of legal proceedings or regulatory or other governmental inquiries, the results of regulatory examinations or reviews and the ability to obtain required regulatory approvals.

Greater than expected costs or difficulties related to the integration of new products and lines of business.

Our success at managing the risks involved in the foregoing items.

Forward-looking statements speak only as of the date on which such statements are made. We do not undertake any obligation to update any forward-looking statement to reflect events or circumstances after the date on which such statement is made, or to reflect the occurrence of unanticipated events.

Application of Critical Accounting Policies and Accounting Estimates

We follow accounting and reporting policies that conform, in all material respects, to accounting principles generally accepted in the United States and to general practices within the financial services industry. The preparation of financial statements in conformity with accounting principles generally accepted in the United States requires management to make estimates and assumptions that affect the amounts reported in the financial statements and accompanying notes. While we base estimates on historical experience, current information and other factors deemed to be relevant, actual results could differ from those estimates.

We consider accounting estimates to be critical to reported financial results if (i) the accounting estimate requires management to make assumptions about matters that are highly uncertain and (ii) different estimates that management reasonably could have used for the accounting estimate in the current period, or changes in the accounting estimate that are reasonably likely to occur from period to period, could have a material impact on our financial statements. Accounting policies related to the allowance for loan losses are considered to be critical as these policies involve considerable subjective judgment and estimation by management.

For additional information regarding critical accounting policies, refer to Note 1 - Summary of Significant Accounting Policies and Note 3 - Loans in the notes to consolidated financial statements and the sections captioned "Application of Critical Accounting Policies and Accounting Estimates" and "Allowance for Loan Losses" in Management's Discussion and Analysis of Financial Condition and Results of Operations included in the 2016 Form 10-K. There have been no significant changes in our application of critical accounting policies related to the allowance for loan losses since December 31, 2016.

Overview

A discussion of our results of operations is presented below. Certain reclassifications have been made to make prior periods comparable. Taxable-equivalent adjustments are the result of increasing income from tax-free loans and investments by an amount equal to the taxes that would be paid if the income were fully taxable based on a 35% federal tax rate, thus making tax-exempt yields comparable to taxable asset yields.

Table of Contents

Results of Operations

Net income available to common shareholders totaled \$82.9 million, or \$1.28 per diluted common share, for the three months ended March 31, 2017 compared to \$66.8 million, or \$1.07 per diluted common share, for the three months ended March 31, 2016.

Selected data for the comparable periods was as follows:

	Three Months Ended March 31,	
	2017	2016
Taxable-equivalent net interest income	\$252,393	\$229,173
Taxable-equivalent adjustment	43,884	39,449
Net interest income	208,509	189,724
Provision for loan losses	7,952	28,500
Net interest income after provision for loan losses	200,557	161,224
Non-interest income	83,700	96,143
Non-interest expense	187,915	179,159
Income before income taxes	96,342	78,208
Income taxes	11,401	9,392
Net income	84,941	68,816
Preferred stock dividends	2,016	2,016
Net income available to common shareholders	\$82,925	\$66,800
Earnings per common share – basic	\$1.29	\$1.07
Earnings per common share – diluted	1.28	1.07
Dividends per common share	0.54	0.53
Return on average assets	1.12	% 0.96 %
Return on average common equity	11.55	9.55
Average shareholders' equity to average assets	10.14	10.53

Net income available to common shareholders for the three months ended March 31, 2017 increased \$16.1 million, or 24.1% compared to the same period in 2016. The increase was primarily the result of a \$20.5 million decrease in the provision for loan losses and an \$18.8 million increase in net interest income partly offset by a \$12.4 million decrease in non-interest income, an \$8.8 million increase in non-interest expense and a \$2.0 million increase in income tax expense.

Details of the changes in the various components of net income are further discussed below.

Net Interest Income

Net interest income is the difference between interest income on earning assets, such as loans and securities, and interest expense on liabilities, such as deposits and borrowings, which are used to fund those assets. Net interest income is our largest source of revenue, representing 71.4% of total revenue during the first quarter of 2017. Net interest margin is the ratio of taxable-equivalent net interest income to average earning assets for the period. The level of interest rates and the volume and mix of earning assets and interest-bearing liabilities impact net interest income and net interest margin.

The Federal Reserve influences the general market rates of interest, including the deposit and loan rates offered by many financial institutions. Our loan portfolio is significantly affected by changes in the prime interest rate. The prime interest rate, which is the rate offered on loans to borrowers with strong credit, remained at 3.50% during most of 2016. In December 2016, the prime rate increased 25 basis points to 3.75% and remained at that level until March 2017, when the prime rate increased another 25 basis points to 4.00%. Our loan portfolio is also impacted, to a lesser extent, by changes in the London Interbank Offered Rate (LIBOR). At March 31, 2017, the one-month and three-month U.S. dollar LIBOR rates were 0.98% and 1.15%, respectively, while at March 31, 2016, the one-month and three-month U.S. dollar LIBOR rates were 0.44% and 0.63%, respectively. The effective federal funds rate, which is the cost of immediately available overnight funds, remained at 0.50% during most of 2016. In December 2016, the effective federal funds rate increased 25 basis points to 0.75% and remained at that level until March 2017, when the

effective federal funds rate increased another 25 basis points to 1.00%.

We are primarily funded by core deposits, with non-interest-bearing demand deposits historically being a significant source of funds. This lower-cost funding base is expected to have a positive impact on our net interest income and net interest margin in a rising interest rate environment. The Dodd-Frank Wall Street Reform and Consumer Protection Act (the “Dodd-Frank Act”) repealed the federal prohibitions on the payment of interest on demand deposits, thereby permitting depository institutions to pay interest on business transaction and other accounts beginning July 21, 2011. To date, we have not experienced any significant

Table of Contents

additional interest costs as a result of the repeal; however, we may begin to incur interest costs associated with certain demand deposits in the future as market conditions warrant. See Item 3. Quantitative and Qualitative Disclosures About Market Risk elsewhere in this report for information about the expected impact of this legislation on our sensitivity to interest rates. Further analysis of the components of our net interest margin is presented below. The following tables present the changes in taxable-equivalent net interest income and identifies the changes due to differences in the average volume of earning assets and interest-bearing liabilities and the changes due to changes in the average interest rate on those assets and liabilities. The changes in net interest income due to changes in both average volume and average interest rate have been allocated to the average volume change or the average interest rate change in proportion to the absolute amounts of the change in each. The comparison between the periods includes an additional change factor that shows the effect of the difference in the number of days in each period for assets and liabilities that accrue interest based upon the actual number of days in the period, as further discussed below.

Three Months Ended March 31, 2017 vs. March 31, 2016 Increase (Decrease) Due to Change in				
	Rate	Volume	Number of Days	Total
Interest-bearing deposits	\$2,567	\$656	\$(40)	\$3,183
Federal funds sold and resell agreements	30	20	(1)	49
Securities:				
Taxable	(1,790)	1,318	(200)	(672)
Tax-exempt	(2,271)	13,417	—	11,146
Loans, net of unearned discounts	4,890	6,279	(1,252)	9,917
Total earning assets	3,426	21,690	(1,493)	23,623
Savings and interest checking	—	21	(3)	18
Money market deposit accounts	—	(41)	(13)	(54)
Time accounts	32	(14)	(3)	15
Public funds	102	1	(1)	102
Federal funds purchased and repurchase agreements	64	20	(1)	83
Junior subordinated deferrable interest debentures	158	—	—	158
Subordinated notes payable and other notes	211	(130)	—	81
Total interest-bearing liabilities	567	(143)	(21)	403
Net change	\$2,859	\$21,833	\$(1,472)	\$23,220

Taxable-equivalent net interest income for the first quarter of 2017 increased \$23.2 million, or 10.1%, compared to the same period in 2016. Taxable-equivalent net interest income for the first quarter of 2017 included 90 days compared to 91 days for the same period in 2016 as a result of the leap year. The additional day added approximately \$1.5 million to taxable-equivalent net interest income during the first quarter of 2016. Excluding the impact of the additional day results in an effective increase in taxable-equivalent net interest income of approximately \$24.7 million during the first quarter of 2017. This effective increase in taxable-equivalent net interest income during the first quarter of 2017 was primarily related to the impact of increases in the average volume of tax-exempt securities and loans as well as increases in the average yields on loans and interest-bearing deposits partly offset by the impact of decreases in the average yields on tax-exempt and taxable securities. The average volume of interest-earning assets for the first quarter of 2017 increased \$2.1 billion compared to the same period in 2016. The increase in average earning assets during the first quarter of 2017, included a \$797.0 million increase in average tax-exempt securities, a \$592.1 million increase in average loans, a \$459.5 million increase in average interest-bearing deposits and a \$204.6 million increase in average taxable securities.

The net interest margin increased 6 basis points from 3.58% during the first quarter of 2016 to 3.64% during the first quarter of 2017. The increase in the net interest margin was primarily due to an increase in the average yield on interest earning assets. The average yield on interest-earning assets increased 5 basis points from 3.63% during the

first quarter of 2016 to 3.68% during the first quarter of 2017. The increase in the average yield on interest earning assets was mostly due to increases in the average yields on interest-bearing deposits and loans. The average yield on interest-earning assets is primarily impacted by changes in market interest rates as well as changes in the volume and relative mix of interest-earning assets.

Table of Contents

The average yield on loans increased 16 basis points from 3.99% during the first quarter of 2016 to 4.15% during the first quarter of 2017. The average yield on loans was positively impacted by increases in market interest rates compared to the same period in 2016, as discussed above. The average volume of loans during the first quarter of 2017 increased \$592.1 million, or 5.1%, compared to the first quarter of 2016. Loans made up approximately 43.2% of average interest-earning assets during the first quarter of 2017 compared to 44.3% during the first quarter of 2016. The average yield on securities was 3.99% during the first quarter of 2017, decreasing 7 basis points from 4.06% during the first quarter of 2016. Despite the fact that the average yield on taxable securities decreased 14 basis points from 2.10% during the first quarter of 2016 to 1.96% during the first quarter of 2017 and the average yield on tax-exempt securities decreased 14 basis point from 5.58% during the first quarter of 2016 to 5.44% during the first quarter of 2017, the overall average yield on securities only decreased 7 basis points because of a higher proportion of average securities invested in higher yielding tax-exempt securities during 2017. Tax exempt securities made up approximately 58.0% of total average securities during the first quarter of 2017, compared to 56.2% during the first quarter of 2016. The average volume of securities during the first quarter of 2017 increased \$1.0 billion, or 8.7%, compared to the same period in 2016. Securities made up approximately 44.8% of average interest-earning assets during the first quarter of 2017 compared to 44.5% during the first quarter of 2016.

Average federal funds sold, resell agreements and interest-bearing deposits during the first quarter of 2017 increased \$470.4 million compared to the same period in 2016. The increase in average federal funds sold, resell agreements and interest-bearing deposits was primarily related to growth in average deposits. Federal funds sold, resell agreements and interest-bearing deposits made up approximately 12.0% of average interest-earning assets during the first quarter of 2017 compared to 11.2% during the first quarter of 2016. The combined average yield on federal funds sold, resell agreements and interest-bearing deposits was 0.84% during the first quarter of 2017 compared to 0.51% during the first quarter of 2016. As discussed above, the effective federal funds rate increased from 0.50% to 0.75% in December 2016 and increased from 0.75% to 1.00% in March 2017.

The average rate paid on interest-bearing liabilities was 0.08% during the both first quarter of 2017 and the first quarter of 2016. Average deposits increased \$1.9 billion during the first quarter of 2017 compared to the first quarter of 2016. Average non-interest-bearing deposits for the first quarter of 2017 increased \$666.9 million compared to the first quarter of 2016, while average interest-bearing deposits for the first quarter of 2017 increased \$1.2 billion compared to the first quarter of 2016. The ratio of average interest-bearing deposits to total average deposits was 58.5% during the first quarter of 2017 compared to 58.0% during the first quarter of 2016. The average cost of deposits is primarily impacted by changes in market interest rates as well as changes in the volume and relative mix of interest-bearing deposits. The average cost of interest-bearing deposits and total deposits was 0.05% and 0.03%, respectively, during both the first quarter of 2017 and the first quarter of 2016. The average cost of interest-bearing deposits remained flat over the comparable periods as increases in the average cost of time accounts and public funds were offset by the impact of decreases in the relative proportions of these account types as well as the relative proportion of money market accounts to total interest-bearing deposits while the relative proportion of lower cost savings and interest checking accounts increased.

Our net interest spread, which represents the difference between the average rate earned on earning assets and the average rate paid on interest-bearing liabilities, was 3.60% during the first quarter of 2017 compared to 3.55% during the first quarter of 2016. The net interest spread, as well as the net interest margin, will be impacted by future changes in short-term and long-term interest rate levels, as well as the impact from the competitive environment. A discussion of the effects of changing interest rates on net interest income is set forth in Item 3. Quantitative and Qualitative Disclosures About Market Risk included elsewhere in this report.

Our hedging policies permit the use of various derivative financial instruments, including interest rate swaps, swaptions, caps and floors, to manage exposure to changes in interest rates. Details of our derivatives and hedging activities are set forth in Note 9 - Derivative Financial Instruments in the accompanying notes to consolidated financial statements included elsewhere in this report. Information regarding the impact of fluctuations in interest rates on our derivative financial instruments is set forth in Item 3. Quantitative and Qualitative Disclosures About Market Risk included elsewhere in this report.

Provision for Loan Losses

The provision for loan losses is determined by management as the amount to be added to the allowance for loan losses after net charge-offs have been deducted to bring the allowance to a level which, in management's best estimate, is necessary to absorb inherent losses within the existing loan portfolio. The provision for loan losses totaled \$8.0 million for the first quarter of 2017 compared to \$28.5 million for the first quarter of 2016. See the section captioned "Allowance for Loan Losses" elsewhere in this discussion for further analysis of the provision for loan losses.

Table of Contents

Non-Interest Income

The components of non-interest income were as follows:

	Three Months Ended March 31,	
	2017	2016
Trust and investment management fees	\$26,470	\$25,334
Service charges on deposit accounts	20,769	20,364
Insurance commissions and fees	13,821	15,423
Interchange and debit card transaction fees	5,574	5,022
Other charges, commissions and fees	9,592	9,053
Net gain (loss) on securities transactions	—	14,903
Other	7,474	6,044
Total	\$83,700	\$96,143

Total non-interest income for the three months ended March 31, 2017 decreased \$12.4 million, or 12.9%, compared to the same period in 2016. Excluding the impact of the net gain on securities transactions in 2016, total non-interest income effectively increased \$2.5 million, or 3.0%, for the three months ended March 31, 2017 compared to the same period in 2016. Changes in the various components of non-interest income are discussed in more detail below.

Trust and Investment Management Fees. Trust and investment management fees for the three months ended March 31, 2017 increased \$1.1 million, or 4.5%, compared to the same period in 2016. Investment fees are the most significant component of trust and investment management fees, making up approximately 84.2% and 82.0% of total trust and investment management fees for the first three months of 2017 and 2016, respectively. Investment and other custodial account fees are generally based on the market value of assets within a trust account. Volatility in the equity and bond markets impacts the market value of trust assets and the related investment fees.

The increase in trust and investment management fees during the three months ended March 31, 2017 compared to the same period in 2016 was primarily the result of an increase in trust investment fees (up \$1.5 million, or 7.3%) partly offset by decreases in estate fees (down \$212 thousand) and oil and gas fees (down \$118 thousand). The increase in trust investment fees during 2017 was due to higher average equity valuations and an increase in the number of accounts. The decrease in estate fees during 2017 was related to a decrease in the aggregate value of estates settled compared to 2016. The decrease in oil and gas fees during 2017 was related to decreased production.

At March 31, 2017, trust assets, including both managed assets and custody assets, were primarily composed of equity securities (48.5% of assets), fixed income securities (39.3% of assets) and cash equivalents (7.7% of assets). The estimated fair value of these assets was \$30.1 billion (including managed assets of \$13.6 billion and custody assets of \$16.5 billion) at March 31, 2017, compared to \$29.3 billion (including managed assets of \$13.4 billion and custody assets of \$15.9 billion) at December 31, 2016 and \$29.3 billion (including managed assets of \$13.1 billion and custody assets of \$16.2 billion) at March 31, 2016.

Service Charges on Deposit Accounts. Service charges on deposit accounts for the three months ended March 31, 2017 increased \$405 thousand, or 2.0%, compared to the same period in 2016. The increase was primarily due to increases in overdraft/insufficient funds charges on consumer and commercial accounts (up \$606 thousand and \$130 thousand, respectively) partly offset by a decrease in consumer service charges (down \$239 thousand).

Overdraft/insufficient funds charges totaled \$8.5 million (\$6.6 million consumer and \$2.0 million commercial) during the first quarter of 2017 compared to \$7.8 million (\$6.0 million consumer and \$1.8 million commercial) during the same period in 2016.

Insurance Commissions and Fees. Insurance commissions and fees for the three months ended March 31, 2017 decreased \$1.6 million, or 10.4%, compared to the same period in 2016. The decrease was related to a decrease in contingent income (down \$2.6 million) partly offset by an increase in commission income (up \$1.0 million). Insurance commissions and fees include contingent income totaling \$2.4 million during the three months ended March 31, 2017 and \$5.0 million during the same periods in 2016. Contingent income primarily consists of amounts received from various property and casualty insurance carriers related to the loss performance of insurance policies previously

placed. These performance related contingent payments are seasonal in nature, mostly received during the first quarter of each year, and totaled \$1.7 million and \$4.4 million during the three months ended March 31, 2017 and 2016, respectively. The decrease in performance related contingent income during 2017 was primarily related to a lack of growth within the portfolio and a deterioration in the loss performance of insurance policies previously placed. Contingent income also includes amounts received from various benefit plan insurance companies related to the volume of business generated and/or the subsequent retention of such business. This benefit plan related contingent income totaled \$634 thousand and \$644 thousand during the three months ended March 31, 2017 and 2016, respectively. The increase in commission income

Table of Contents

was primarily related to increases in benefit plan commissions due to increased business volumes partly offset by decreases in property and casualty commissions and consulting fees.

Interchange and Debit Card Transaction Fees. Interchange fees, or “swipe” fees, are charges that merchants pay to us and other card-issuing banks for processing electronic payment transactions. Interchange and debit card transaction fees consist of income from check card usage, point of sale income from PIN-based debit card transactions and ATM service fees. Interchange and debit card transaction fees for the three months ended March 31, 2017 increased \$552 thousand, or 11.0%, compared to the same period in 2016 primarily due to increases in income from debit card transactions (up \$399 thousand) and income from ATM service fees (up \$153 thousand). The increases were primarily related to increased transaction volumes.

Federal Reserve rules applicable to financial institutions that have assets of \$10 billion or more provide that the maximum permissible interchange fee for an electronic debit transaction is the sum of 21 cents per transaction and 5 basis points multiplied by the value of the transaction. An upward adjustment of no more than 1 cent to an issuer's debit card interchange fee is allowed if the card issuer develops and implements policies and procedures reasonably designed to achieve certain fraud-prevention standards. The Federal Reserve also has rules governing routing and exclusivity that require issuers to offer two unaffiliated networks for routing transactions on each debit or prepaid product.

Other Charges, Commissions and Fees. Other charges, commissions and fees for the three months ended March 31, 2017 increased \$539 thousand, or 6.0%, compared to the same period in 2016. The increase included increases in income related to the sale of mutual funds (up \$458 thousand) and loan processing fees (up \$397 thousand), among other things. These increases were partly offset by a decrease in income related to the sale of annuities (down \$247 thousand), among other things. Fluctuations in the aforementioned items were due to fluctuations in business volumes.

Net Gain/Loss on Securities Transactions. We did not realize any gains or losses on securities transactions during the three months ended March 31, 2017. During the three months ended March 31, 2016, we sold available-for-sale U.S. Treasury securities with an amortized cost totaling \$749.5 million and realized a gain of \$2.8 million on those sales. The securities sold were due to mature during 2016. Most of the proceeds from the sale of these securities were reinvested into U.S. Treasury securities having comparable yields, but longer-terms. As more fully discussed in Note 2 - Securities in our 2016 Form 10-K, during the first quarter of 2016, we also sold certain municipal securities that were classified as both available for sale and held to maturity due to a significant deterioration in the creditworthiness of the issuers. These securities had a total amortized cost of \$431.4 million and we realized a gain of \$12.1 million on those sales.

Other Non-Interest Income. Other non-interest income for the three months ended March 31, 2017 increased \$1.4 million, or 23.7%, compared to the same period in 2016. The increase was primarily related to increases in sundry and other miscellaneous income (up \$735 thousand), public finance underwriting fees (up \$556 thousand), income from customer foreign currency transactions (up \$125 thousand) and gains on the sale of foreclosed and other assets (up \$117 thousand) partly offset by decreases in lease rental income (down \$137 thousand) and income from customer derivative and trading activities (down \$121 thousand). Sundry income during 2017 included \$758 thousand related to the settlement of a non-solicitation agreement and \$115 thousand related to the recovery of a prior write-off. The fluctuations in public finance underwriting fees, income from customer foreign currency transactions and income from customer derivative and trading activities were primarily related to changes in business volumes. During 2017, gains on the sale of foreclosed and other assets included \$795 thousand related to amortization of the deferred gain on our headquarters building, which we sold in December 2016. During the first quarter of 2016, gains on the sale of foreclosed and other assets include \$666 thousand related to the sale of a branch facility.

Non-Interest Expense

The components of non-interest expense were as follows:

Three Months	
Ended	
March 31,	
2017	2016

Salaries and wages	\$82,512	\$79,297
Employee benefits	21,625	20,305
Net occupancy	19,237	17,187
Furniture and equipment	17,990	17,517
Deposit insurance	4,915	3,657
Intangible amortization	458	664
Other	41,178	40,532
Total	\$187,915	\$179,159

Table of Contents

Total non-interest expense for the three months ended March 31, 2017 increased \$8.8 million, or 4.9%, compared to the same periods in 2016. Changes in the various components of non-interest expense are discussed below.

Salaries and Wages. Salaries and wages for the three months ended March 31, 2017 increased \$3.2 million, or 4.1%, compared to the same period in 2016. The increase was primarily related to an increase in salaries, due to an increase in the number of employees and normal annual merit and market increases, as well an increase in stock compensation expense.

Employee Benefits. Employee benefits expense for the three months ended March 31, 2017 increased \$1.3 million, or 6.5%, compared to the same period in 2016. The increase was primarily due to increases in payroll taxes (up \$896 thousand), expenses related to our 401(k) and profit sharing plans (up \$592 thousand) medical insurance expense (up \$260 thousand), partly offset by a decrease in expenses related to our defined benefit retirement plans (down \$287 thousand).

During the first quarter of 2017, we recognized a combined net periodic pension expense of \$125 thousand related to our defined benefit retirement plans compared to a combined net periodic pension expense of \$412 thousand during the first quarter of 2016. Our defined benefit retirement and restoration plans were frozen effective as of December 31, 2001 and were replaced by a profit sharing plan. Management believes these actions helped to reduce the volatility in retirement plan expense. However, we still have funding obligations related to the defined benefit and restoration plans and could recognize retirement expense related to these plans in future years, which would be dependent on the return earned on plan assets, the level of interest rates and employee turnover.

Net Occupancy. Net occupancy expense for the three months ended March 31, 2017 increased \$2.1 million, or 11.9%, compared to the same period in 2016. The increase was primarily related to increases in lease expense (up \$1.1 million), repairs and maintenance/service contracts expense (up \$443 thousand), property taxes (up \$338 thousand), depreciation on leasehold improvements (up \$293 thousand) and utilities expense (up \$275 thousand) partly offset by a decrease in building depreciation (down \$389 thousand). The increase in lease expense and the decrease in building depreciation were related to the sale and lease back of our headquarters building in December 2016, as more fully discussed in our 2016 Form 10-K.

Furniture and Equipment. Furniture and equipment expense for the three months ended March 31, 2017 increased \$473 thousand, or 2.7%, compared to the same period in 2016. The increase was primarily related to increases in depreciation on furniture and equipment (up \$756 thousand) and software maintenance (up \$644 thousand) partly offset by decreases in equipment rental expense (down \$589 thousand) and software amortization (down \$229 thousand), among other things.

Deposit Insurance. Deposit insurance expense totaled \$4.9 million for the three months ended March 31, 2017 compared to \$3.7 million for the three months ended March 31, 2016. The increase was related to an increase in the overall assessment rate and an increase in assets. The increase in the assessment rate was partly related to a new surcharge that became applicable during the third quarter of 2016. In August 2016, the Federal Deposit Insurance Corporation ("FDIC") announced that the Deposit Insurance Fund ("DIF") reserve ratio had surpassed 1.15% as of June 30, 2016. As a result, beginning in the third quarter of 2016, the range of initial assessment rates for all institutions was adjusted downward and institutions with \$10 billion or more in assets were assessed a quarterly surcharge. The quarterly surcharge will continue to be assessed until such time as the reserve ratio reaches the statutory minimum of 1.35% required by the Dodd-Frank Wall Street Reform and Consumer Protection Act.

Intangible Amortization. Intangible amortization is primarily related to core deposit intangibles and, to a lesser extent, intangibles related to customer relationships and non-compete agreements. Intangible amortization for the three months ended March 31, 2017 decreased \$206 thousand, or 31.0% compared to the same period in 2016. The decrease in amortization was primarily related to the completion of amortization of certain previously recognized intangible assets as well as a reduction in the annual amortization rate of certain previously recognized intangible assets as we use an accelerated amortization approach which results in higher amortization rates during the earlier years of the useful lives of intangible assets.

Other Non-Interest Expense. Other non-interest expense for the three months ended March 31, 2017 increased \$646 thousand, or 1.6%, compared to the same period in 2016. The increase included increases in professional services expense (up \$422 thousand), guard service expense (up \$349 thousand) and sundry and other miscellaneous expense

(up \$291 thousand), among other things. These items were partly offset by a decrease in fraud losses, primarily check card related, (down \$825 thousand), among other things.

Table of Contents

Results of Segment Operations

Our operations are managed along two primary operating segments: Banking and Frost Wealth Advisors. A description of each business and the methodologies used to measure financial performance is described in Note 16 - Operating Segments in the accompanying notes to consolidated financial statements included elsewhere in this report. Net income (loss) by operating segment is presented below:

	Three Months Ended March 31,	
	2017	2016
Banking	\$80,869	\$65,967
Frost Wealth Advisors	5,294	4,152
Non-Banks	(1,222)	(1,303)
Consolidated net income	\$84,941	\$68,816

Banking

Net income for the three months ended March 31, 2017 increased \$14.9 million, or 22.6%, compared to the same period in 2016. The increase during the three months ended March 31, 2017 was primarily the result of a \$20.5 million decrease in the provision for loan losses and a \$17.6 million increase in net interest income partly offset by a \$13.9 million decrease in non-interest income, a \$7.8 million increase in non-interest expense and a \$1.4 million increase in income tax expense.

Net interest income for the three months ended March 31, 2017 increased \$17.6 million, or 9.3%, compared to the same period in 2016. Taxable-equivalent net interest income for the first quarter of 2017 included 90 days compared to 91 days for the same period in 2016 as a result of the leap year. The additional day added approximately \$1.5 million to taxable-equivalent net interest income during the first quarter of 2016. Despite the effect of this additional day during 2016, net interest income during the three months ended March 31, 2017 increased as a result of increases in the average volume of tax-exempt securities and loans as well as increases in the average yields on loans and interest-bearing deposits partly offset by the impact of decreases in the average yields on tax-exempt and taxable securities. See the analysis of net interest income included in the section captioned "Net Interest Income" included elsewhere in this discussion.

The provision for loan losses for the three months ended March 31, 2017 totaled \$8.0 million compared to \$28.5 million for the same period in 2016. See the analysis of the provision for loan losses included in the section captioned "Allowance for Loan Losses" included elsewhere in this discussion.

Non-interest income for the three months ended March 31, 2017 decreased \$13.9 million, or 20.9%, compared to the same period in 2016. The decrease was primarily related to a decrease in the net gain on securities transactions and, to a lesser extent, a decrease in insurance commissions and fees. The decrease due to these items was partly offset by increases in other non-interest income, interchange and debit card transaction fees and other charges, commissions and fees. During 2016, the net gain on securities transactions totaled \$14.9 million, which resulted from the sale of certain municipal securities as a result of a significant deterioration in the creditworthiness of the issuers and the sale of certain U.S. Treasury securities. The decrease in insurance commissions and fees was due to a decrease in contingent income resulting from a lack of growth within the portfolio and a deterioration in the loss performance of insurance policies previously placed partly offset by an increase in commission income related to benefit plans. The increase in other non-interest income was primarily related to increases in sundry and other miscellaneous income and public finance underwriting fees. The increase in interchange and debit card transaction fees was primarily due to increases in income from debit card transactions and ATM service fees related to increased transaction volumes. The increase in other charges, commissions and fees was primarily related to increases in loan processing fees, among other things. See the analysis of these categories of non-interest income included in the section captioned "Non-Interest Income" included elsewhere in this discussion.

Non-interest expense for the three months ended March 31, 2017 increased \$7.8 million, or 5.2% compared to the same period in 2016. The increase during the three months ended March 31, 2017 was primarily related to increases in salaries and wages, other non-interest expense, deposit insurance expense, employee benefits and net occupancy. The

increase in salaries was primarily due to an increase in the number of employees and normal annual merit and market increases, as well as an increase in stock compensation expense. The increase in other non-interest expense was primarily related to increases in professional services expense, guard service expense and sundry and other miscellaneous expense, among other things, partly offset by a decrease in fraud losses. The increase in deposit insurance expense was related to an increase in the assessment rate due to a new quarterly surcharge and an increase in assets. The increase in employee benefits expense was primarily due to increases in payroll taxes, expenses related to our 401(k) and profit sharing plans and medical insurance expense partly offset by a decrease in expenses related to our defined benefit retirement plans. The increase in net occupancy expense was primarily related to increases in lease expense, repairs and maintenance/service contracts expense, property taxes, depreciation on leasehold improvements and utilities expense partly offset by a decrease in building depreciation. The increase in lease expense and the decrease in building depreciation

Table of Contents

were related to the sale and lease back of our headquarters building in December 2016, as more fully discussed in our 2016 Form 10-K. See the analysis of these categories of non-interest expense included in the section captioned “Non-Interest Expense” included elsewhere in this discussion.

Frost Insurance Agency, which is included in the Banking operating segment, had gross commission revenues of \$14.0 million during the three months ended March 31, 2017 and \$15.6 million during the three months ended March 31, 2016. The decrease was primarily related to decreases in contingent commissions, property and casualty commissions and consulting fees partly offset by an increase in benefit plan commissions. See the analysis of insurance commissions and fees included in the section captioned “Non-Interest Income” included elsewhere in this discussion.

Frost Wealth Advisors

Net income for the three months ended March 31, 2017 increased \$1.1 million, or 27.5% compared to the same period in 2016. The increase during the three months ended March 31, 2017 was primarily due to a \$1.5 million increase in net interest income and a \$1.4 million increase in non-interest income partly offset by a \$1.1 million increase in non-interest expense and a \$615 thousand increase in income tax expense.

Net interest income increased \$1.5 million, or 63.6%, compared to the same period in 2016. The increase was primarily due to an increase in the funds transfer price received for funds provided related to Frost Wealth Advisors' repurchase agreements and an increase in the average volume of funds provided.

Non-interest income for the three months ended March 31, 2017 increased \$1.4 million, or 4.8% compared to the same period in 2016. The increase in non-interest income during the three months ended March 31, 2017 was primarily related to increases in trust and investment management fees and other charges, commissions and fees. Trust and investment management fee income is the most significant income component for Frost Wealth Advisors.

Investment fees are the most significant component of trust and investment management fees, making up approximately 84.2% of total trust and investment management fees for the first three months of 2017. Investment and other custodial account fees are generally based on the market value of assets within a trust account. Volatility in the equity and bond markets impacts the market value of trust assets and the related investment fees. The increase in trust and investment management fees during the three months ended March 31, 2017 compared to the same period in 2016 was primarily the result of an increase in trust investment fees partly offset by decreases in estate fees and oil and gas fees. The increase in trust investment fees was due to higher average equity valuations and an increase in the number of accounts. The decrease in estate fees was related to a decrease in the aggregate value of estates settled compared to 2016. The decrease in oil and gas fees was related to decreased production. The increase in other charges, commissions and fees during the three months ended March 31, 2017 was primarily due to an increase in income related to the sale of mutual funds partly offset by a decrease in income related to the sale of annuities. See the analysis of trust and investment management fees and other charges, commissions and fees included in the section captioned “Non-Interest Income” included elsewhere in this discussion.

Non-interest expense for the three months ended March 31, 2017 increased \$1.1 million, or 4.4% compared to the same period in 2016. The increase was primarily related to increases in net occupancy expense and salaries and wages partly offset by a decrease in other non-interest expense. The increase in net occupancy expense and decrease in other non-interest expense were related to a change in the way we allocate occupancy expenses among our operating segments. Beginning in 2017, operating segments receive a direct charge for occupancy expense based upon cost centers within the segment. Such amounts are now reported as occupancy expense. Previously, these costs were included within the allocated overhead and reported as a component of other non-interest expense. The increases in salaries and wages during the three months ended March 31, 2017 was primarily related to an increase in the number of employees and normal annual merit and market increases and an increase in stock compensation expense.

Non-Banks

The Non-Banks operating segment had a net loss of \$1.2 million for the three months ended March 31, 2017 compared to a net loss of \$1.3 million for the same period in 2016. The decrease in net loss during the three months ended March 31, 2017 was primarily due to a \$188 thousand decrease in non-interest expense, a \$78 thousand increase in non-interest income and a \$54 thousand increase in income tax benefit partly offset by a \$239 thousand increase in net interest expense primarily related to an increase in the interest rates paid on our long-term borrowings.

Table of Contents

Income Taxes

We recognized income tax expense of \$11.4 million, for an effective tax rate of 11.8% for the three months ended March 31, 2017 compared to \$9.4 million, for an effective tax rate of 12.0% for the three months ended March 31, 2016. The effective income tax rates differed from the U.S. statutory rate of 35% during the comparable periods primarily due to the effect of tax-exempt income from loans, securities and life insurance policies and the income tax effects associated with stock-based compensation. The decrease in the effective tax rate during 2017 was primarily related to income tax benefits realized in connection with stock-based compensation awards.

Average Balance Sheet

Average assets totaled \$30.1 billion for the three months ended March 31, 2017 representing an increase of \$2.1 billion, or 7.3%, compared to average assets for the same period in 2016. The growth in average assets was primarily funded by deposit growth, an increase in average federal funds purchased and repurchase agreements and earnings retention. The increase was primarily reflected in earning assets, which increased \$2.1 billion, or 8.0%, during the first three months of 2017 compared to the same period of 2016. The increase in earning assets included a \$797.0 million increase in average tax-exempt securities, a \$592.1 million increase in average loans, a \$459.5 million increase in average interest-bearing deposits and a \$204.6 million increase in average taxable securities. Average deposit growth included a \$1.2 billion increase in interest-bearing deposit accounts and a \$666.9 million increase in non-interest bearing deposits. Average non-interest bearing deposits made up 41.5% and 42.0% of average total deposits during the first three months of 2017 and 2016, respectively.

Loans

Loans were as follows as of the dates indicated:

	March 31, 2017	Percentage of Total		December 31, 2016	Percentage of Total
Commercial and industrial	\$4,402,276	36.2 %		\$4,344,000	36.3 %
Energy:					
Production	982,266	8.0		971,767	8.1
Service	204,797	1.7		221,213	1.8
Other	175,493	1.5		193,081	1.7
Total energy	1,362,556	11.2		1,386,061	11.6
Commercial real estate:					
Commercial mortgages	3,602,100	29.6		3,481,157	29.1
Construction	1,063,894	8.7		1,043,261	8.7
Land	322,790	2.6		311,030	2.6
Total commercial real estate	4,988,784	40.9		4,835,448	40.4
Consumer real estate:					
Home equity loans	346,632	2.8		345,130	2.9
Home equity lines of credit	269,813	2.2		264,862	2.2
Other	332,531	2.7		326,793	2.7
Total consumer real estate	948,976	7.7		936,785	7.8
Total real estate	5,937,760	48.6		5,772,233	48.2
Consumer and other	483,053	4.0		473,098	3.9
Total loans	\$12,185,645	100.0 %		\$11,975,392	100.0 %

Loans increased \$210.3 million, or 1.8%, compared to December 31, 2016. The majority of our loan portfolio is comprised of commercial and industrial loans, energy loans and real estate loans. Commercial and industrial loans made up 36.2% and 36.3% of total loans at March 31, 2017 and December 31, 2016, respectively, while energy loans made up 11.2% and 11.6% of total loans, respectively, and real estate loans made up 48.6% and 48.2% of total loans, respectively, at those dates. Real estate loans include both commercial and consumer balances. Selected details related to our loan portfolio segments are presented below. Refer to our 2016 Form 10-K for a more detailed discussion of our loan origination and risk management processes.

Commercial and industrial. Commercial and industrial loans increased \$58.3 million, or 1.3%, during the first quarter of 2017. Our commercial and industrial loans are a diverse group of loans to small, medium and large businesses. The purpose of these loans varies from supporting seasonal working capital needs to term financing of equipment. While some short-term loans may be made on an unsecured basis, most are secured by the assets being financed with collateral margins that are consistent with our loan policy guidelines. The commercial and industrial loan portfolio also includes commercial leases and purchased shared national credits ("SNC"s).

Table of Contents

Energy. Energy loans include loans to entities and individuals that are engaged in various energy-related activities including (i) the development and production of oil or natural gas, (ii) providing oil and gas field servicing, (iii) providing energy-related transportation services (iv) providing equipment to support oil and gas drilling (v) refining petrochemicals, or (vi) trading oil, gas and related commodities. Energy loans decreased \$23.5 million, or 1.7%, during the first quarter of 2017 compared to December 31, 2016. The decrease was primarily related to service and other loans. The average loan size, the significance of the portfolio and the specialized nature of the energy industry requires a highly prescriptive underwriting policy. Exceptions to this policy are rarely granted. Due to the large borrowing requirements of this customer base, the energy loan portfolio includes participations and purchased shared national credits.

Purchased Shared National Credits. Purchased shared national credits are participations purchased from upstream financial organizations and tend to be larger in size than our originated portfolio. Our purchased SNC portfolio totaled \$823.5 million at March 31, 2017, increasing \$51.3 million, or 6.6%, from \$772.2 million at December 31, 2016. At March 31, 2017, 52.2% of outstanding purchased SNCs were related to the energy industry and 11.5% of outstanding purchased SNCs were related to the construction industry. The remaining purchased SNCs were diversified throughout various other industries, with no other single industry exceeding 10% of the total purchased SNC portfolio. Additionally, almost all of the outstanding balance of purchased SNCs was included in the energy and commercial and industrial portfolio, with the remainder included in the real estate categories. SNC participations are originated in the normal course of business to meet the needs of our customers. As a matter of policy, we generally only participate in SNCs for companies headquartered in or which have significant operations within our market areas. In addition, we must have direct access to the company's management, an existing banking relationship or the expectation of broadening the relationship with other banking products and services within the following 12 to 24 months. SNCs are reviewed at least quarterly for credit quality and business development successes.

Commercial Real Estate. Commercial real estate loans totaled \$5.0 billion at March 31, 2017, increasing \$153.3 million compared to \$4.8 billion at December 31, 2016. At such dates, commercial real estate loans represented 84.0% and 83.8% of total real estate loans, respectively. The majority of this portfolio consists of commercial real estate mortgages, which includes both permanent and intermediate term loans. These loans are viewed primarily as cash flow loans and secondarily as loans secured by real estate. Consequently, these loans must undergo the analysis and underwriting process of a commercial and industrial loan, as well as that of a real estate loan. Our primary focus for the commercial real estate portfolio has been growth in loans secured by owner-occupied properties. At March 31, 2017, approximately 44% of the outstanding principal balance of our commercial real estate loans were secured by owner-occupied properties.

Consumer Real Estate and Other Consumer Loans. The consumer loan portfolio, including all consumer real estate and consumer installment loans, totaled \$1.4 billion at both March 31, 2017 and December 31, 2016. Consumer real estate loans, increased \$12.2 million, or 1.3%, from December 31, 2016. Combined, home equity loans and lines of credit made up 65.0% and 65.1% of the consumer real estate loan total at March 31, 2017 and December 31, 2016, respectively. We offer home equity loans up to 80% of the estimated value of the personal residence of the borrower, less the value of existing mortgages and home improvement loans. In general, we do not originate 1-4 family mortgage loans; however, from time to time, we may invest in such loans to meet the needs of our customers. Consumer and other loans, increased \$10.0 million, or 2.1%, from December 31, 2016. The consumer and other loan portfolio primarily consists of automobile loans, overdrafts, unsecured revolving credit products, personal loans secured by cash and cash equivalents and other similar types of credit facilities.

Table of Contents

Non-Performing Assets

Non-performing assets and accruing past due loans are presented in the table below. Troubled debt restructurings on non-accrual status are reported as non-accrual loans. Troubled debt restructurings on accrual status are reported separately.

	March 31, 2017	December 31, 2016
Non-accrual loans:		
Commercial and industrial	\$26,531	\$31,475
Energy	78,747	57,571
Commercial real estate:		
Buildings, land and other	7,608	8,550
Construction	—	—
Consumer real estate	2,987	2,130
Consumer and other	303	425
Total non-accrual loans	116,176	100,151
Restructured loans	—	—
Foreclosed assets:		
Real estate	2,042	2,440
Other	—	—
Total foreclosed assets	2,042	2,440
Total non-performing assets	\$118,218	\$102,591

Ratio of non-performing assets to:

Total loans and foreclosed assets	0.97	%	0.86	%
Total assets	0.39		0.34	

Accruing past due loans:

30 to 89 days past due	\$37,532	\$55,456
90 or more days past due	6,814	24,864
Total accruing past due loans	\$44,346	\$80,320

Ratio of accruing past due loans to total loans:

30 to 89 days past due	0.31	%	0.46	%
90 or more days past due	0.05		0.21	
Total accruing past due loans	0.36	%	0.67	%

Non-performing assets include non-accrual loans, troubled debt restructurings and foreclosed assets. Non-performing assets at March 31, 2017 increased \$15.6 million from December 31, 2016 primarily due to an increase in non-accrual energy loans partly offset by a decrease in non-accrual commercial and industrial loans. Non-accrual energy loans included five credit relationships in excess of \$5 million totaling \$72.9 million at March 31, 2017 and four such credit relationships totaling \$52.1 million at December 31, 2016. The increase in non-accrual energy loans during 2017 was primarily related to a single credit relationship totaling \$25.2 million at March 31, 2017. Non-accrual commercial and industrial loans included one credit relationship in excess of \$5 million at both March 31, 2017 and December 31, 2016. This credit relationship totaled \$9.8 million at both March 31, 2017 and December 31, 2016. Non-accrual real estate loans primarily consist of land development, 1-4 family residential construction credit relationships and loans secured by office buildings and religious facilities.

Generally, loans are placed on non-accrual status if principal or interest payments become 90 days past due and/or management deems the collectibility of the principal and/or interest to be in question, as well as when required by regulatory requirements. Once interest accruals are discontinued, accrued but uncollected interest is charged to current year operations. Subsequent receipts on non-accrual loans are recorded as a reduction of principal, and interest income is recorded only after principal recovery is reasonably assured. Classification of a loan as non-accrual does not preclude the ultimate collection of loan principal or interest.

Foreclosed assets represent property acquired as the result of borrower defaults on loans. Foreclosed assets are recorded at estimated fair value, less estimated selling costs, at the time of foreclosure. Write-downs occurring at foreclosure are charged against the allowance for loan losses. Regulatory guidelines require us to reevaluate the fair value of foreclosed assets on at least an annual basis. Our policy is to comply with the regulatory guidelines. Write-downs are provided for subsequent declines in value and are included in other non-interest expense along with other expenses related to maintaining the properties. Write-downs of foreclosed assets were not significant during the three months ended March 31, 2017 or 2016.

Table of Contents

Potential problem loans consist of loans that are performing in accordance with contractual terms but for which management has concerns about the ability of an obligor to continue to comply with repayment terms because of the obligor's potential operating or financial difficulties. Management monitors these loans closely and reviews their performance on a regular basis. At March 31, 2017 and December 31, 2016, we had \$101.6 million and \$62.7 million in loans of this type which are not included in any one of the non-accrual, restructured or 90 days past due loan categories. At March 31, 2017, potential problem loans consisted of six credit relationships. Of the total outstanding balance at March 31, 2017, 32.9% related to the nursing/assisted living industry, 30.5% related to the energy industry and 23.1% related to the manufacturing industry. Weakness in these organizations' operating performance and financial condition, loan agreement breaches and borrowing base deficits for certain energy credits, among other factors, have caused us to heighten the attention given to these credits.

Allowance for Loan Losses

The allowance for loan losses is a reserve established through a provision for loan losses charged to expense, which represents management's best estimate of inherent losses that have been incurred within the existing portfolio of loans. The allowance, in the judgment of management, is necessary to reserve for estimated loan losses and risks inherent in the loan portfolio. Our allowance for loan loss methodology, which is more fully described in our 2016 Form 10-K, follows the accounting guidance set forth in U.S. generally accepted accounting principles and the Interagency Policy Statement on the Allowance for Loan and Lease Losses, which was jointly issued by U.S. bank regulatory agencies. The level of the allowance reflects management's continuing evaluation of industry concentrations, specific credit risks, loan loss and recovery experience, current loan portfolio quality, present economic, political and regulatory conditions and unidentified losses inherent in the current loan portfolio. Portions of the allowance may be allocated for specific credits; however, the entire allowance is available for any credit that, in management's judgment, should be charged off.

The table below provides, as of the dates indicated, an allocation of the allowance for loan losses by loan type; however, allocation of a portion of the allowance to one category of loans does not preclude its availability to absorb losses in other categories:

	March 31, 2017	December 31, 2016
Commercial and industrial	\$45,583	\$ 52,915
Energy	61,793	60,653
Commercial real estate	34,009	30,213
Consumer real estate	4,823	4,238
Consumer and other	6,848	5,026
Total	\$ 153,056	\$ 153,045

The reserve allocated to commercial and industrial loans at March 31, 2017 decreased \$7.3 million compared to December 31, 2016. The decrease was due to decreases in historical and specific valuation allowances partly offset by increases in general valuation allowances and macroeconomic valuation allowances. Historical valuation allowances decreased \$7.0 million from \$33.3 million at December 31, 2016 to \$26.2 million at March 31, 2017. The decrease was primarily related to decreases in the historical loss allocation factors for non-classified loans graded as "watch" (risk grade 9) and "special mention" (risk grade 10) and classified commercial and industrial loans partly offset by increases in the volume of certain categories of both non-classified and classified loans. Classified loans consist of loans having a risk grade of 11, 12 or 13. Classified commercial and industrial loans totaled \$139.2 million at March 31, 2017 compared to \$131.9 million at December 31, 2016. The weighted-average risk grade of commercial and industrial loans was 6.38 at March 31, 2017 compared to 6.35 at December 31, 2016. Commercial loan net charge-offs totaled \$2.7 million during the first three months of 2017 compared to \$1.1 million during the first three months of 2016. Specific valuation allowances decreased \$2.7 million from \$5.4 million at December 31, 2016 to \$2.8 million at March 31, 2017. The charge-offs in 2017 were mostly related to a single credit relationship that, at the time we recognized the charge-offs, had associated specific valuation allowances totaling \$2.8 million. General valuation allowances for commercial and industrial loans increased \$1.4 million from \$6.7 million at December 31, 2016 to \$8.1 million at March 31, 2017. The increase was primarily related to an increase in the allocation for highly leveraged

credit relationships, a decrease in the adjustment for recoveries and an increase in the allocation for large credit relationships. Macroeconomic valuation allowances for commercial and industrial loans increased \$1.0 million from \$7.5 million at December 31, 2016 to \$8.5 million at March 31, 2017. The increase was primarily related to an increase in the general macroeconomic allocation partly offset by a decrease in the environmental risk adjustment. The reserve allocated to energy loans at March 31, 2017 increased \$1.1 million compared to December 31, 2016. As a result, reserves allocated to energy loans as a percentage of total energy loans totaled 4.54% at March 31, 2017 compared to 4.38% at December 31, 2016. This increase was primarily related to increases in historical valuation allowances and general valuation allowances partly offset by decreases in specific valuation allowances and macroeconomic valuation allowances. Historical valuation allowances increased \$4.0 million from \$34.6 million at December 31, 2016 to \$38.7 million at March 31, 2017. The increase was primarily related to increases in the historical loss allocation factors for both non-classified and classified energy

Table of Contents

loans partly offset by a decrease in the volume of classified energy loans. Classified energy loans totaled \$278.9 million at March 31, 2017 compared to \$302.0 million at December 31, 2016. Non-classified energy loans graded as “watch” and “special mention” totaled \$207.5 million at March 31, 2017 compared to \$229.4 million at December 31, 2016, decreasing \$21.9 million while “pass” grade energy loans increased \$21.5 million from \$854.7 million at December 31, 2016 to \$876.2 million at March 31, 2017. As a result of these changes, the weighted-average risk grade of energy loans decreased to 7.86 at March 31, 2017 from 7.95 at December 31, 2016. Specific valuation allowances for energy loans decreased \$2.9 million from \$3.8 million at December 31, 2016 to \$850 thousand at March 31, 2017. Energy loan net charge-offs totaled \$4.2 million during the first three months of 2017 compared to net charge-offs of \$1.0 million during the first three months of 2016. The charge-offs in 2017 included \$3.9 million related to two credit relationships that, at the time we recognized the charge-offs, had associated specific valuation allowances totaling \$3.4 million. Macroeconomic valuation allowances related to energy loans decreased \$1.5 million from \$18.5 million at December 31, 2016 to \$17.0 million at March 31, 2017, in part due to improving trends in the weighted-average risk grade of the energy loan portfolio and decreased oil price volatility. The price per barrel of crude oil was approximately \$54 at December 31, 2016 and \$51 at March 31, 2017. General valuation allowances increased \$1.5 million primarily due to an increase in the allocation for excessive industry concentrations. The reserve allocated to commercial real estate loans at March 31, 2017 increased \$3.8 million compared to December 31, 2016. The increase was primarily related to increases in macroeconomic valuation allowances, general valuation allowances and historical valuation allowances. Macroeconomic valuation allowances increased \$1.5 million from \$8.2 million at December 31, 2016 to \$9.7 million at March 31, 2017. The increase was primarily related to an increase in the general macroeconomic allocation (up \$976 thousand) and the environmental risk adjustment (up \$660 thousand). The increase reflects current economic trends impacting our Houston market area which has been impacted by decreased construction, higher rent concessions and higher vacancy rates. General valuation allowances increased \$1.3 million from \$5.0 million at December 31, 2016 to \$6.3 million at March 31, 2017. The increase was primarily related to a decrease in the adjustment for recoveries (down \$736 thousand) and an increase in the allocation for large credit relationships (up \$419 thousand). Historical valuation allowances increased \$956 thousand primarily due to an increase in the volume of non-classified commercial real estate loans. Non-classified commercial real estate loans increased \$145.4 million from December 31, 2016 to March 31, 2017 primarily due to an increase in commercial real estate loans graded as “pass.” Classified commercial real estate loans increased \$7.9 million from \$76.3 million at December 31, 2016 to \$84.2 million at March 31, 2017 due to an increase in loans classified as “substandard - accrual” (risk grade 11). The weighted-average risk grade of commercial real estate loans was 6.99 at March 31, 2017 compared to 6.96 at December 31, 2016.

The reserve allocated to consumer real estate loans at March 31, 2017 increased \$585 thousand compared to December 31, 2016. This increase was mostly due to a \$287 thousand increase in general valuation allowances allocated for loans not reviewed by concurrence and a \$146 thousand decrease in the reduction for recoveries. The reserve allocated to consumer and other loans at March 31, 2017 increased \$1.8 million compared to December 31, 2016. The increase was primarily related to increases in macroeconomic valuation allowances, historical valuation allowances and to a lesser extent an increase in general valuation allowances. The increase in macroeconomic valuation allowances was related to a \$933 thousand increase in the general macroeconomic allocation. The increase in historical valuation allowances was primarily due to an increase in the volume of non-classified consumer and other loans. The increase in general valuation allowances was primarily related to an increase in the allocation for loans not reviewed by concurrence and a decrease in the adjustment for recoveries.

Table of Contents

Activity in the allowance for loan losses is presented in the following table.

	Three Months Ended March 31,	
	2017	2016
Balance at beginning of period	\$153,045	\$135,859
Provision for loan losses	7,952	28,500
Charge-offs:		
Commercial and industrial	(3,527)	(1,861)
Energy	(4,278)	(1,011)
Commercial real estate	—	(28)
Consumer real estate	(11)	(154)
Consumer and other	(3,548)	(2,724)
Total charge-offs	(11,364)	(5,778)
Recoveries:		
Commercial and industrial	798	729
Energy	53	—
Commercial real estate	45	96
Consumer real estate	107	253
Consumer and other	2,420	2,221
Total recoveries	3,423	3,299
Net charge-offs	(7,941)	(2,479)
Balance at end of period	\$153,056	\$161,880

Ratio of allowance for loan losses to:

Total loans	1.26	%	1.40	%
Non-accrual loans	131.74		91.22	
Ratio of annualized net charge-offs to average total loans	0.27		0.09	

The provision for loan losses decreased \$20.5 million, or 72.1%, during the three months ended March 31, 2017 compared to the same period in 2016. The level of the provision for loan losses in 2016 was reflective of a significant increase in the volume of classified energy loans, specific valuation allowances taken on certain classified energy loans and increases in the weighted-average risk grades of our energy, commercial and industrial and commercial real estate loan portfolios. Classified energy, commercial and industrial and commercial real estate loans totaled \$502.3 million at March 31, 2017 compared to \$510.1 million at December 31, 2016 and \$505.4 million at March 31, 2016. Specific valuation allowances related to energy, commercial and industrial and commercial real estate loans totaled \$3.6 million at March 31, 2017 compared to \$9.2 million at December 31, 2016 and \$30.3 million at March 31, 2016. The overall weighted-average risk grade of our energy, commercial and industrial and commercial real estate loan portfolios was 6.85 at March 31, 2017 compared to 6.84 at both December 31, 2016 and March 31, 2016. The level of the provision for loan losses during 2017 was mostly reflective of the level of net charge-offs. Net charge-offs during the three months ended March 31, 2017 totaled \$7.9 million compared to \$2.5 million during the same period in 2016, with the majority of the increase related to energy and commercial and industrial loans. The ratio of the allowance for loan losses to total loans was 1.26% at March 31, 2017 compared to 1.28% at December 31, 2016. Management believes the recorded amount of the allowance for loan losses is appropriate based upon management's best estimate of probable losses that have been incurred within the existing portfolio of loans. Should any of the factors considered by management in evaluating the appropriate level of the allowance for loan losses change, our estimate of probable loan losses could also change, which could affect the level of future provisions for loan losses.

Table of Contents

Capital and Liquidity

Capital. Shareholders' equity totaled \$3.1 billion at March 31, 2017 and \$3.0 billion December 31, 2016. In addition to net income of \$84.9 million, other sources of capital during the three months ended March 31, 2017 included \$24.7 million in proceeds from stock option exercises, other comprehensive income, net of tax, of \$18.8 million and \$3.1 million related to stock-based compensation. Uses of capital during the three months ended March 31, 2017 included \$36.7 million of dividends paid on preferred and common stock.

The accumulated other comprehensive income/loss component of shareholders' equity totaled a net, after-tax, unrealized loss of \$5.9 million at March 31, 2017 compared to a net, after-tax, unrealized loss of \$24.6 million at December 31, 2016. The decrease was primarily due to a \$22.0 million net after-tax increase in the net unrealized gain on securities available for sale.

In connection with the adoption of the Basel III Capital Rules on January 1, 2015, we elected to opt-out of the requirement to include most components of accumulated other comprehensive income in regulatory capital.

Accordingly, amounts reported as accumulated other comprehensive income/loss do not increase or reduce regulatory capital and are not included in the calculation of risk-based capital and leverage ratios. Regulatory agencies for banks and bank holding companies utilize capital guidelines designed to measure capital and take into consideration the risk inherent in both on-balance sheet and off-balance sheet items. See Note 8 - Capital and Regulatory Matters in the accompanying notes to consolidated financial statements included elsewhere in this report.

We paid a quarterly dividend of \$0.54 per common share during the first quarter of 2017 and a quarterly dividend of \$0.53 per common share during the first quarter of 2016. This equates to a common stock dividend payout ratio of 41.8% and 49.3% during the first quarters of 2017 and 2016, respectively. Our ability to declare or pay dividends on, or purchase, redeem or otherwise acquire, shares of our capital stock may be impacted by certain restrictions under the terms of our junior subordinated deferrable interest debentures and our Series A Preferred Stock as described in Note 8 - Capital and Regulatory Matters in the accompanying notes to consolidated financial statements included elsewhere in this report.

Stock Repurchase Plans. From time to time, our board of directors has authorized stock repurchase plans. In general, stock repurchase plans allow us to proactively manage our capital position and return excess capital to shareholders. Shares purchased under such plans also provide us with shares of common stock necessary to satisfy obligations related to stock compensation awards. On October 27, 2016, our board of directors authorized a \$100.0 million stock repurchase program, allowing us to repurchase shares of our common stock over a two-year period from time to time at various prices in the open market or through private transactions. As of March 31, 2017, no shares have been repurchased under the plan. See Part II, Item 2 - Unregistered Sales of Equity Securities and Use of Proceeds, included elsewhere in this report.

Liquidity. As more fully discussed in our 2016 Form 10-K, our liquidity position is continuously monitored and adjustments are made to the balance between sources and uses of funds as deemed appropriate. Liquidity risk management is an important element in our asset/liability management process. We regularly model liquidity stress scenarios to assess potential liquidity outflows or funding problems resulting from economic disruptions, volatility in the financial markets, unexpected credit events or other significant occurrences deemed problematic by management. These scenarios are incorporated into our contingency funding plan, which provides the basis for the identification of our liquidity needs. As of March 31, 2017, management is not aware of any events that are reasonably likely to have a material adverse effect on our liquidity, capital resources or operations. In addition, management is not aware of any regulatory recommendations regarding liquidity, that would have a material adverse effect on us.

Since Cullen/Frost is a holding company and does not conduct operations, its primary sources of liquidity are dividends upstreamed from Frost Bank and borrowings from outside sources. Banking regulations may limit the amount of dividends that may be paid by Frost Bank. See Note 8 - Capital and Regulatory Matters in the accompanying notes to consolidated financial statements included elsewhere in this report regarding such dividends. At March 31, 2017, Cullen/Frost had liquid assets, including cash and resell agreements, totaling \$320.5 million.

Accounting Standards Updates

See Note 18 - Accounting Standards Updates in the accompanying notes to consolidated financial statements included elsewhere in this report for details of recently issued accounting pronouncements and their expected impact on our

financial statements.

Table of Contents

Consolidated Average Balance Sheets and Interest Income Analysis - Year To Date

(Dollars in thousands - taxable-equivalent basis)

	March 31, 2017			March 31, 2016		
	Average Balance	Interest Income/ Expense	Yield/ Cost	Average Balance	Interest Income/ Expense	Yield/ Cost
Assets:						
Interest-bearing deposits	\$3,323,244	\$6,836	0.83 %	\$2,863,735	\$3,653	0.51 %
Federal funds sold and resell agreements	48,005	107	0.90	37,096	58	0.63
Securities:						
Taxable	5,263,538	25,302	1.96	5,058,920	25,974	2.10
Tax-exempt	7,282,991	99,575	5.44	6,486,033	88,429	5.58
Total securities	12,546,529	124,877	3.99	11,544,953	114,403	4.06
Loans, net of unearned discounts	12,089,586	123,856	4.15	11,497,523	113,939	3.99
Total Earning Assets and Average Rate Earned	28,007,364	255,676	3.68	25,943,307	232,053	3.63
Cash and due from banks	532,541			531,617		
Allowance for loan losses	(153,810)			(139,178)		
Premises and equipment, net	524,640			557,357		
Accrued interest and other assets	1,233,469			1,188,017		
Total Assets	\$30,144,204			\$28,081,120		
Liabilities:						
Non-interest-bearing demand deposits:						
Commercial and individual	\$9,958,059			\$9,132,927		
Correspondent banks	284,592			356,098		
Public funds	483,382			570,132		
Total non-interest-bearing demand deposits	10,726,033			10,059,157		
Interest-bearing deposits:						
Private accounts						
Savings and interest checking	6,315,152	273	0.02	5,114,262	255	0.02
Money market deposit accounts	7,478,330	1,136	0.06	7,453,163	1,190	0.06
Time accounts	786,763	307	0.16	821,191	292	0.14
Public funds	514,354	152	0.12	508,357	50	0.04
Total interest-bearing deposits	15,094,599	1,868	0.05	13,896,973	1,787	0.05
Total deposits	25,820,632			23,956,130		
Federal funds purchased and repurchase agreements	905,002	139	0.06	685,169	56	0.03
Junior subordinated deferrable interest debentures	136,136	908	2.67	136,078	750	2.20
Subordinated notes payable and other notes	64,184	368	2.29	99,888	287	1.15
Total Interest-Bearing Funds and Average Rate Paid	16,199,921	3,283	0.08	14,818,108	2,880	0.08
Accrued interest and other liabilities	163,079			246,347		
Total Liabilities	27,089,033			25,123,612		
Shareholders' Equity	3,055,171			2,957,508		
Total Liabilities and Shareholders' Equity	\$30,144,204			\$28,081,120		
Net interest income		\$252,393			\$229,173	
Net interest spread			3.60 %			3.55 %
Net interest income to total average earning assets			3.64 %			3.58 %

For these computations: (i) average balances are presented on a daily average basis, (ii) information is shown on a taxable-equivalent basis assuming a 35% tax rate, (iii) average loans include loans on non-accrual status, and (iv) average securities include unrealized gains and losses on securities available for sale while yields are based on

average amortized cost.

Table of Contents

Item 3. Quantitative and Qualitative Disclosures About Market Risk

The disclosures set forth in this item are qualified by the section captioned “Forward-Looking Statements and Factors that Could Affect Future Results” included in Item 2. Management’s Discussion and Analysis of Financial Condition and Results of Operations of this report and other cautionary statements set forth elsewhere in this report.

Refer to the discussion of market risks included in Item 7A. Quantitative and Qualitative Disclosures About Market Risk in the 2016 Form 10-K. There has been no significant change in the types of market risks we face since December 31, 2016.

We utilize an earnings simulation model as the primary quantitative tool in measuring the amount of interest rate risk associated with changing market rates. The model quantifies the effects of various interest rate scenarios on projected net interest income and net income over the next 12 months. The model measures the impact on net interest income relative to a flat-rate case scenario of hypothetical fluctuations in interest rates over the next 12 months. These simulations incorporate assumptions regarding balance sheet growth and mix, pricing and the repricing and maturity characteristics of the existing and projected balance sheet. The impact of interest rate derivatives, such as interest rate swaps, caps and floors, is also included in the model. Other interest rate-related risks such as prepayment, basis and option risk are also considered.

For modeling purposes, as of March 31, 2017, the model simulations projected that a 100 and 200 basis point ratable increase in interest rates would result in positive variances in net interest income of 1.0% and 2.2%, respectively, relative to the flat-rate case over the next 12 months, while a decrease in interest rates of 100 basis points would result in a negative variance in net interest income of 9.9% relative to the flat-rate case over the next 12 months. The March 31, 2017 model simulations were impacted by the assumption, for modeling purposes, that we will begin to pay interest on commercial demand deposits (those not already receiving an earnings credit rate) in the second quarter of 2017, as further discussed below. For modeling purposes, as of March 31, 2016, the model simulations projected that a 100 basis point ratable increase in interest rates would result in a negative variance in net interest income of 0.1% and a 200 basis point ratable increase in interest rates would result in a positive variance in net interest income of 0.7%, relative to the flat-rate case over the next 12 months, while a decrease in interest rates of 50 basis points would result in a negative variance in net interest income of 5.9% relative to the flat-rate case over the next 12 months. The March 31, 2016 model simulations were impacted by the assumption, for modeling purposes, that we would begin to pay interest on commercial demand deposits (those not already receiving an earnings credit rate) in the second quarter of 2016, as further discussed below. The likelihood of a decrease in interest rates beyond 100 basis points as of March 31, 2017 and 50 basis points as of March 31, 2016 was considered to be remote given prevailing interest rate levels.

The model simulations as of March 31, 2017 indicate that our balance sheet is more asset sensitive in comparison to our balance sheet as of March 31, 2016. The shift to a more asset sensitive position was primarily due to a decrease in the assumed interest rates paid on projected commercial demand deposits and an increase in the relative proportion of federal funds sold to projected average interest-earning assets. Federal funds sold are more immediately impacted by changes in interest rates in comparison to other categories of earning assets.

As mentioned above, financial regulatory reform legislation entitled the “Dodd-Frank Wall Street Reform and Consumer Protection Act” (the “Dodd-Frank Act”) repealed the federal prohibition on the payment of interest on demand deposits, thereby permitting depository institutions to pay interest on business transaction and other accounts beginning July 21, 2011. To date, we have not experienced any significant additional interest costs as a result of the repeal; however, we may begin to incur interest costs associated with certain demand deposits in the future as market conditions warrant. If this were to occur, our balance sheet would likely become less asset sensitive. Because the interest rate that will ultimately be paid on these demand deposits depends upon a variety of factors, some of which are beyond our control, we assumed an aggressive pricing structure for the purposes of the model simulations discussed above with interest payments beginning in the second quarter of 2017. Should the actual interest rate paid on demand deposits be less than the rate assumed in the model simulations, or should the interest rate paid for demand deposits become an administered rate with less direct correlation to movements in general market interest rates, our balance sheet could be more asset sensitive than the model simulations might otherwise indicate.

As of March 31, 2017, the effects of a 200 basis point increase and a 100 basis point decrease in interest rates on our derivative holdings would not result in a significant variance in our net interest income.

The effects of hypothetical fluctuations in interest rates on our securities classified as “trading” under ASC Topic 320, “Investments—Debt and Equity Securities,” are not significant, and, as such, separate quantitative disclosure is not presented.

Table of Contents

Item 4. Controls and Procedures

As of the end of the period covered by this Quarterly Report on Form 10-Q, an evaluation was carried out by management, with the participation of its Chief Executive Officer and Chief Financial Officer, of the effectiveness of our disclosure controls and procedures (as defined in Rule 13a-15(e) under the Securities Exchange Act of 1934). Based upon 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. No change in our internal control over financial reporting (as defined in Rule 13a-15(f) under the Securities Exchange Act of 1934) occurred during the last fiscal quarter that materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

Table of Contents

Part II. Other Information

Item 1. Legal Proceedings

We are subject to various claims and legal actions that have arisen in the course of conducting business. Management does not expect the ultimate disposition of these matters to have a material adverse impact on our financial statements.

Item 1A. Risk Factors

There has been no material change in the risk factors disclosed under Item 1A. of our 2016 Form 10-K.

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

The following table provides information with respect to purchases we made or were made on our behalf or any “affiliated purchaser” (as defined in Rule 10b-18(a)(3) under the Securities Exchange Act of 1934), of our common stock during the three months ended March 31, 2017. Dollar amounts in thousands.

Period	Total Number of Shares Purchased	Average Price Paid Per Share	Total Number of Shares Purchased as Part of Publicly Announced Plan	Maximum Number of Shares (or Approximate Dollar Value) That May Yet Be Purchased Under the Plan at the End of the Period
January 1, 2017 to January 31, 2017	469	(1) \$ 89.02	—	\$ 100,000
February 1, 2017 to February 28, 2017	—	—	—	100,000
March 1, 2017 to March 31, 2017	—	—	—	100,000
Total	469	\$ 89.02	—	

(1) All of these repurchases were made in connection with the vesting of certain share awards.

Item 3. Defaults Upon Senior Securities

None.

Item 4. Mine Safety Disclosures

None.

Item 5. Other Information

None.

Item 6. Exhibits

(a) Exhibits

Exhibit Number	Description
-------------------	-------------

31.1	Rule 13a-14(a) Certification of the Corporation's Chief Executive Officer
------	---

31.2	Rule 13a-14(a) Certification of the Corporation's Chief Financial Officer
------	---

32.1+	Section 1350 Certification of the Corporation's Chief Executive Officer
-------	---

32.2+	Section 1350 Certification of the Corporation's Chief Financial Officer
-------	---

101	Interactive Data File
-----	-----------------------

This exhibit shall not be deemed “filed” for purposes of Section 18 of the Securities Exchange Act of 1934, or otherwise subject to the liability of that section, and shall not be deemed to be incorporated by reference into any filing under the Securities Act of 1933 or the Securities Exchange Act of 1934.

Table of Contents

Signatures

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

Cullen/Frost Bankers, Inc.
(Registrant)

Date: April 26, 2017 By: /s/ Jerry Salinas
Jerry Salinas
Group Executive Vice President
and Chief Financial Officer
(Duly Authorized Officer, Principal Financial
Officer and Principal Accounting Officer)